

The impact of midwife moderated social media based communities on pregnant women and new mothers

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Contents

Acknowledgements	x
Glossary and Abbreviations.....	xi
Abbreviations.....	xi
Abstract	xiii
Chapter 1: Supporting women during the transition to motherhood	2
Introduction	2
Transformational potential of pregnancy, birth and early motherhood	2
Personalised informed maternity care	3
21st century motherhood	4
The medicalisation of childbirth.....	4
Learning to be Mothers	7
Continuity of care	8
Information need and overload	10
Social Media and Online Communities	13
Rationale for the study	15
Structure of Thesis.....	17
Summary.....	19
Chapter 2: Communities of Practice- part of a wider learning framework.....	21
Introduction	21
Situated Learning and the Origins of Communities of Practice	21
Social Learning, Situated Cognition and Social Constructivism	22
Social Learning Theory	24
Situated Learning.....	24
Legitimate Peripheral Participation.....	26
Legitimate Peripheral Participation and Learning Situated in Motherhood	28
Communities of Practice (CoP).....	30
CoP Elements	32
Community.....	33
Practice.....	33
Praxis.....	34
Identity	35
Multiple Identities and Constellations of CoPs	36

Boundary	36
CoP characteristics	37
CoP Definition	38
Cultivated or Spontaneous Emergence	40
Knowledge	41
Explicit and Tacit Knowledge	41
Knowledge as Social Capital	42
Information.....	43
Criticisms of Community of Practice Theory	43
The Notion of Community	44
Social Dynamics, Conflict and Power Struggles	44
Meaning and Knowledge Generation.....	45
Leadership	47
Expert and Old-timers – Experienced Learners	47
Group Size and Structure	48
Web Based CoPs.....	49
VCoP Development	50
Trust.....	50
Invisible Practice	51
Asynchronous Communication	51
Codified knowledge	52
Online social learning.....	52
Online Social Capital.....	53
Online Success.....	53
Summary.....	55
Chapter 3: The Use of Communities of Practice in Healthcare: A review of the literature	57
Introduction	57
Overview of CoP Models and Theory: Business, Education and Health	58
Business	58
Education.....	58
Health	59
Method.....	60
Search Strategy	61
Sifting/Screening.....	62

Screening Tool Criteria	64
Design.....	64
Context.....	64
Healthcare Setting	65
Motherhood.....	65
Online element.....	65
CoP Concept.....	66
Quality.....	66
Evaluating and synthesising the evidence	68
Findings	70
Overview.....	70
CoPs in Healthcare Settings	70
Study design and individual quality.....	70
Conflict of Interest.....	74
Defining CoPs in healthcare.....	76
Definitions of Communities of Practice	76
Perception of membership	77
Characteristics of CoPs.....	79
Group membership, size and emergence.....	79
Measures and reports of success in CoP development	82
Facilitation.....	82
Satisfaction and Engagement.....	84
Timeframes and time	85
Discussion.....	87
Summary.....	90
Chapter 4: Methodology	92
Introduction	92
Aims and Objectives	92
Philosophical Stance.....	92
Qualitative Approaches	95
Action Research.....	98
Reflexivity – The Researcher/midwife.....	101
Methods	102
Overview of the research strategy – Cycles of Action.....	103

Setting.....	105
Bolton NHS Foundation Trust (Bolton NHS FT).....	105
Central Manchester NHS Foundation Trust (CMFT).....	105
Facebook	106
Access to Participants.....	107
Midwife Moderators.....	108
Choosing the names Facemums and Facewives	109
Developing the Facemums Site	109
Steering Group Expertise.....	111
Co-researcher.....	112
Sampling	112
Sample Size.....	113
Recruitment.....	115
Challenges with recruitment.....	115
Data Collection.....	117
Facebook activity data (FBAD)	117
Focus Groups	118
Interviews.....	121
Ethics	121
Informed Consent	122
Confidentiality	122
Privacy	122
Potential for Distress.....	123
Data Analysis	124
Focus Group and Interview data	124
Online Activity	127
Summary.....	127
Chapter 5: Cycles of Activity.....	129
Introduction	129
Focus Groups	129
Action Cycle 1	130
Attendance.....	133
Action Cycle One Findings.....	134
Facemums Bolton.....	134

Facemums Central	136
Evaluation	137
Action.....	137
Cycle 1 - Action.....	137
Engagement Training.....	137
Identifying Group Dynamics	138
Identifying own practice	138
Training Impact.....	139
Action Cycle 2	140
Action Cycle Two Findings.....	141
Evaluation	142
Action.....	142
Cycle 2 - Action.....	142
Action Cycle 3	142
Action Cycle Three Findings	145
Evaluation	146
Action.....	147
Engagement	147
Summary.....	149
Chapter 6: Findings – Demographics, Information and Learning	151
Introduction	151
Data Sources and Management	151
Focus group and Interview Data	152
Electronic Data – FBAD	152
Demographic Findings	153
Facewives.....	153
Facemums.....	154
The Themes.....	160
Information	162
The Convenience and Security Accessing Professional Information	163
The internet for information.....	166
Professional information	171
Peer based information.....	174
Learning.....	181

Information Repository.....	189
Summary.....	191
Chapter 7: Findings – Support, relationships, shared experience and positive affirmation.....	193
Introduction	193
Support	194
Professional Support.....	194
Peer Support.....	197
Relationships	205
Relationships with the Facewives	206
Relationships with Facemums	210
Shared experience	213
Safe space to share.....	222
Positive affirmation.....	236
Summary.....	240
Chapter 8: Reflexivity	241
Introduction	241
Midwife-researcher – managing dual roles	241
Site activity.....	242
Facemums disclosure and discussions.....	245
Desirability bias.....	248
Summary.....	249
Chapter 9: Discussion	250
Introduction	250
Meeting information and support needs	251
Information	251
Credibility.....	252
Convenience.....	258
Support	261
Informational support.....	263
Instrumental Support.....	264
Appraisal support.....	264
Emotional Support	265
Alleviation of fear and anxiety	266
Optimal conditions for support	266

Social relationships	266
Facemums – A Safe Place	268
Facemums - A Source of Strength.....	269
Facemums - Relational catalysts	271
Shared Experience	274
Homophily.....	276
Intelligent Kindness.....	278
Relational continuity.....	281
Facemums Bolton - A Maternal Community of Practice.....	285
Facemums and Mutual Engagement	288
Facemums and Legitimate Peripheral Participation.....	289
Facemums and Joint Enterprise	290
Facemums and Shared Repertoire.....	290
Limitations.....	296
Summary.....	297
Chapter 10: Conclusions and practice and policy implications	299
Introduction	299
Conclusions	299
Implications for Practice	303
Implications for Policy	304
A workable, sustainable model for Midwifery	306
Personal reflections.....	307
References	309
Appendix 1. Initial retrieval 228 papers	347
Appendix 2 – 19 critically appraised papers. Final 11 papers in bold	372
Appendix 3 – Data extraction table results.....	376
Appendix 4 – Papers included in the study	377
Appendix 5 – Netiquette.....	379
Appendix 6 – Participant Information leaflet.....	381
Appendix 6a – Participant Reply Slip	385
Appendix 7 – Participant Consent Form	386
Appendix 7a – Focus group/Interview consent form	388
Appendix 8 – Focus group schedule.....	390
Appendix 9 – Mind maps	391

Appendix 9a – Coding connections example	392
Appendix 10 – Initial framework with a priori themes	393
Appendix 10a – Emerging theme framework	394
Appendix 10b – Framework- themes, subthemes, groupings and codes	395
Appendix 10c – working framework example – FMB1/ FMC1	399
Appendix 10d – FMB framework working example overview.....	409
Appendix 11 – Information quotes	410
Appendix 12 – FBAD Subject matter	412
Appendix 13 – Birth Story	416
Appendix 14 – Midwifery continuity: The use of social media	419

List of Tables, boxes and figures

Table 1.	Community of Practice features	30
Table 2.	CoP characteristics	37
Table 3.	Distinctions between CoPs and other structures	39
Table 4.	Database search results	62
Table 5.	Initial Screening Tool	63
Table 6.	Inclusion/exclusion criteria	64
Table 7.	Areas for data extraction	68
Table 8.	Group types, structure, purpose and membership	77
Table 9.	Facemums Bolton (FMB) Focus Group 1 (FG1) attendance	131
Table 10.	Facemums Central (FMC) Focus Group 1 (FG1) attendance	131
Table 11.	FMC Activity and engagement following moderator training	137
Table 12.	FMB FG2 attendance	139
Table 13.	FMC FG2 attendance	139
Table 14.	FMB FG3 attendance	143
Table 15.	FMC FG3 attendance	143
Table 16.	Facewives demographic information	152
Table 17.	Demographic information FMB	156
Table 18.	Demographic information FMC	157
Table 19.	FBAD Top 20 subject matter/frequency posts	184
Table 20.	Posts generating most activity FMB	186

Table 21.	Posts generating most activity FMC	186
Table 22.	Shared experience quotes (general)	218
Table 23.	Shared experience quotes (the night shift)	218
Table 24.	Shared experience quotes (loneliness)	219
Table 25.	Private messages FMB	225
Table 26.	Private messages FMC	225
Table 27.	Positive Affirmations	234
Table 28.	Support types and behaviours	260
Table 29.	Source of Strength and Relational Catalyst support mechanisms	271
Table 30.	Mapping CoP dimensions to Facemums	285
Table 31.	Stages identified in typical patterns of CoP evolution	293
Box 1.	Sample inclusion/exclusion criteria	112
Figure 1.	Venn CoP concept diagram	55
Figure 2.	Process of searching	67
Figure 3.	Research cycles embedding data collection and evaluation	103
Figure 4.	Focus group action cycle	128
Figure 5.	Thematic model	159
Figure 6.	Thematic model – Information and learning	160
Figure 7.	Thematic model - Support, shared experience and positive affirmation	191
Figure 8.	McKenzie’s modified 2D model of Information Practices	258
Figure 9.	Campling’s Virtuous Circle	277
Figures		
10-14.	CoP development Screenshots	290
Figure 15.	Overview of study findings	300

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Glossary and Abbreviations

Glossary

Multigravida:	A pregnant woman who has been pregnant two or more times
Multipara:	A pregnant woman who has had two or more pregnancies and has given birth to a viable infant
Nullip:	A woman who has never given birth.
Preceptorship:	A period of training consolidation lasting 12-18months following midwifery registration
Primigravida:	A woman who is pregnant for the first time
Primipara:	A woman who has given or is giving birth for the first time previously
Puerperium:	the period after childbirth during which the mother's reproductive organs return to their non-pregnant condition.

Abbreviations

AR:	Action Research
CQC:	Care Quality Commission
CoP:	Community of Practice
DCC:	Delayed Cord Clamping
Em. LSCS:	Emergency lower segment caesarean section
FBAD:	Facebook Activity Data
FMB:	Facemum Bolton (the group) (FMBs: Facemums Bolton)
FMC:	Facemum Central (the group) (FMCs: Facemums Central)
FWB:	Facewife Bolton (FWBs: Facewives Bolton)
FWC:	Facewife Central (FWCs: Facewives Central)
GTT:	Glucose Tolerance test
HEE:	Health Education England
HV:	Health Visitor
IUGR:	Intra Uterine Growth Restriction
LFD:	Large for Dates
LPP:	Legitimate Peripheral Participation
LSCS:	Lower Segment Caesarean Section

NHS:	National Health Service
OBEM:	One Born Every Minute
ONS:	Office of National Statistics
OTAQ:	Occupational Therapy Australia – Queensland Division
PNMH:	Perinatal Mental Health
TMI:	Too Much Information
SLT:	Social learning Theory
S&S:	Signs and Symptoms
VCoP:	Virtual Communities of Practice
ZPD:	Zone of Proximal Development

Abstract

This PhD study examines the impact of moderated social media based groups for pregnant women on the provision of information and support. During pregnancy and early motherhood, women need information and support from health professionals, other pregnant women and mothers. Whilst women have access to overwhelming amounts of information they may not have contact with, or support from, other pregnant women and new mothers. Such relationships are fundamental for a supported transition to motherhood.

This thesis explores the concept of Communities of Practice as a framework for social learning, and seeks to explore if and how Communities of Practice can develop from online groups to improve information provision and support for pregnant women and new mothers. A qualitative methodology, with a modified action research component, was used to explore women's experiences, the concept of Communities of Practice and the potential for their emergence from an online group. Two midwife moderated online groups were created with 31 pregnant women (n=17, n=14). Data were collected using focus groups (k=8) every 3 months and individual interviews (k=28) in the early postnatal period. A thematic analysis framework, informed by Communities of Practice theory, was used to interrogate the different data at different points in time. This generated process findings on which to act; and new knowledge to understand whether and how a Communities of Practice approach could be adopted as a new model of support within midwifery.

The key findings show that women will engage with midwives and other pregnant women through social media and doing so improves their pregnancy experience. Information and support needs can be met through such groups and, furthermore, midwifery relational continuity can be achieved. Communities of Practice can emerge from online groups but they are not essential for information and support needs to be met, or for relational continuity. However, Communities of Practice can provide greater information convergence and the potential for sustained relationships. Mutual engagement is the key Community of Practice dimension which differentiated the groups and signified that one group had evolved into a Community of Practice. Midwife moderated social media based groups may provide a solution for service

providers who thus far have struggled to provide relational continuity which is vital for quality, but so often lacking from traditional models of maternity care.

Chapter 1: Supporting women during the transition to motherhood

Introduction

This chapter introduces the context, background and rationale for the research. It introduces the context of maternity care in the 21st century and the issues surrounding the transition of pregnant women to motherhood which led to the development of the research. Societal changes, which have affected the way women are supported during the childbirth continuum, include the medicalisation of childbirth, the way women access information and learn how to be mothers, and the impact of social media on support and learning. Information needs of pregnant women are not being met and it is proposed that offering peer to peer support within a moderated online community, with opportunities for women to share experiences, could provide a solution.

Transformational potential of pregnancy, birth and early motherhood

Pregnancy, birth and early motherhood is a time of significant change and transformation for women (Darvill, Skirton & Farrand, 2011). This time is critical in terms of maternal health and wellbeing and for the future health and wellbeing of the family and child (Marmot et al., 2010). Health outcomes for both children and adults are strongly influenced by factors within pregnancy and the first years of life, and the significance of pregnancy as a fundamental time for establishing the underpinnings of future health cannot be overemphasised (Shribman & Billingham, 2009). Midwives need to harness and maximise the potential of this timeframe, to influence positive maternal and family health, and deliver high quality maternity services. Indeed, it is from the perspective of a midwife (also the researcher) that this study evolved; from a passion to make the most of the significant transformation window offered by pregnancy to build on the real experiences of women to guide and inform each other regarding the realities of motherhood.

Personalised informed maternity care

The vision from the National Maternity Review is for women to have a positive maternity care experience and to receive safe, clinically effective care (National Health Service (NHS) England, 2016). The review emphasises the need for the right information and professional support so women can make informed decisions regarding their individual needs and circumstances (NHS England, 2016). Women should be at the centre of decision making about their maternity care, and need to be able to work with midwives and other health professionals to develop personalised care plans which meet their pregnancy and wider health needs (NHS England, 2016). Information seeking is a fundamental aspect of preparing for motherhood (McKenzie, 2002) but access to unbiased, evidence based information and the provision of choice remains unpredictable for most women (NHS England, 2016; Redshaw & Henderson, 2015).

Despite the call for personalised maternity care, the current strategies to improve choice, support and information provision during pregnancy are not working. National maternity surveys show that women voice frustration about the provision of information, and, in particular, are dissatisfied about conflicting advice between health professionals (Care Quality Commission (CQC), 2014; NHS England, 2016; Redshaw & Henderson, 2015;). It is, therefore, perhaps not surprising that women independently seek health related information using social media and the World Wide Web (www) (Fox, 2011; Lagan et al., 2010; Lima-Pereira, Bermudez-Tamayo & Jasienska, 2012; Rozenblum & Bates, 2013). However, faced with a surfeit of web based information and limited ability to determine its credibility, women can be left feeling more confused and less able to make informed choices (Buultjens, Robinson & Milgrom, 2012; McKenzie, 2002).

Personalised midwifery care has the potential to maximise opportunities for improving maternal health and informing positive maternal health behaviours but the current model of maternity care does not facilitate this approach. Further barriers to achieving personalised care are the medicalised approach to childbirth and the situation of pregnant women in the 21st century.

21st century motherhood

It has been argued that motherhood and wanting to have babies, are basic human instincts for women, and that childbearing is a woman's highest and yet most basic function (Dawkins, 1978; Kent, 2000; Macintyre, 1976; Symons, 1979). The transition to motherhood is a long-term process which begins with pregnancy and continues well beyond the birth of the child (Perren et al., 2005). The effect of motherhood on all aspects of a women's life is profound (McMahon, 1995) but, despite significant changes in society and the lives of women, motherhood remains central to most women's lives (Arendell, 2000). It is a biological and cultural state that is shaped by both society and tradition, so much so that it can look very different depending on the time and space in which it occurs (Small, 1999).

Improvements in education, paid employment for women outside the home and widespread use of oral contraception, mean that women have more control over how often and when they become mothers (Davis, 2012; Goldin & Katz, 2002). To meet the needs of contemporary women, it is essential that the impact of societal change is considered and relevant strategies implemented. Changes to women's support networks, and the ways in which women seek and find information about pregnancy, birth and mothering, may impact on the transition to motherhood. These needs require consideration in order that the physical, social and emotional needs of pregnant and newly delivered women are addressed during this time of significant change.

The medicalisation of childbirth

Within society there is increasing dependence on medicine to provide answers to social and medical problems (Lupton, 2012). Medical frames of reference define the limits of physiological normality and properly functioning bodies. Nowhere is this more evident than in the maternity care setting, where birth, which is essentially a normal physiological process, is now medicalised and 'managed' within a system in which medical science dominates (Cahill, 2001; Squire, 2009). Until the advent of obstetrics, birth was a social event overseen by midwives and women with experience of childbirth (Donnison, 1988; Squire, 2009). However, under the auspices of safety, obstetrics as a medical speciality has grown, and the perception

of birth as a social phenomenon has declined, with almost 100% of births occurring within medicalised environments (Office of National Statistics [ONS], 2014). Interventions in childbirth, such as epidural, analgesia and continuous electronic fetal monitoring, have become the norm in most Western countries. These have been widely introduced into low risk uncomplicated pregnancies without evidence of effectiveness (Johanson, Newburn & Macfarlane, 2002), indeed most women experience childbirth with some medical intervention. The emergence of caesarean section as an alternative 'choice' to vaginal birth illustrates the widespread acceptance of medicalised birth and demonstrates the complexity of the current discourse.

'Childbirth straddles an ambiguous divide between what some perceive as an essentially physiological event and others a pathology waiting to happen'
(Walsh, El Nemer & Downe, 2008:118)

The '*pathology waiting to happen*' perspective dominates the culture of childbirth in modern Western society and processes women through childbirth in order to minimise it. The drive to reduce risk, coupled with developments in medical technologies, has resulted in increased surveillance and health education. Nonetheless, the emphasis on screening and making the right lifestyle choices during pregnancy and birth can generate fear and anxiety (Crawford, 2004), as women struggle with the complexity of information presented to them (Bultjens et al., 2012). This may be exacerbated by the fact that midwives and doctors have different expectations and beliefs about birth, and may compete for authority, presenting facts and information from different standpoints (Hunter, 2008). This is illustrated when considering the experience against the outcome of the birth; although both are important the focus is very different (Nilsson, Bondas & Lundgren, 2010; Santos & Siebert, 2001; Waldenström et al., 2004).

Traditionally, medicalised approaches to care have placed less emphasis on the experience, focussing on a live baby. Whilst this is important, women matter too and respecting women's rights to dignity and autonomy should not be overlooked at any cost (Hill, 2015). There is little chance of women grasping the complexities of choice in childbirth when the dominant professions cannot agree on the fundamentals of

what is normal, acceptable and necessary. The consequences for women may be an increase in uncertainty and anxiety.

The effect of fear on pregnancy, labour and childbirth is well documented (Davis-Floyd, 1993; Dick-Read, 2013; Gaskin, 2011; Odent, 2015) and the iatrogenic effects from obstetric interventions are reaching epidemic proportions, with suggestions that women may be losing their ability to birth (Odent, 2015). The overemphasis on potential pathology may be a contributory factor in the cultural dependence on professional healthcare, the way birth is perceived and expectations of its management (Beech, 2011; Davis-Floyd, 1990). The perception of safety and avoiding risk has coerced women into accepting medical control of their bodies during pregnancy to achieve a healthy baby (Clews, 2013). The focus of attention has shifted from the childbearing woman to the intensely surveilled pregnancy, the growth and normality of the developing fetus and the impending birth event. Therefore, it is not surprising that pregnant women have become increasingly dependent on health professionals.

The transition from woman to mother is largely overlooked with the physiology and physicality of pregnancy and birth dominating modern discourse. The emphasis on risk can be disempowering and can undermine a woman's confidence in her ability to birth (Symon, 2006). Women who are empowered during childbirth take this confidence into parenthood (Pairman, 2006), and it is therefore important to create opportunities for women to feel supported and empowered. Often, medical expertise takes responsibility for outcomes in childbirth so much so that maternal responsibility is diminished to simply accepting or refusing medical advice (Kringeland & Moller, 2006). This model of assumed medical responsibility is not maintained beyond the pregnancy when women lose their access to health professionals and can find themselves isolated and lacking in confidence as new parents (Leahy-Warren, McCarthy & Corcoran, 2012). If women feel unable to trust their bodies in pregnancy, or to be able to give birth without intervention (Savage, 2006), it follows that they may also doubt their ability to mother their babies without guidance.

This medicalisation, and control and dominance exerted by health professionals within the birth process has been criticised (Davis-Floyd, 2009, 2004, 1994, 1990; Downe, 2008; Downe, Finlayson & Fleming, 2010; Leap, 2000; Odent, 2015). Medicine has redefined birth as dangerous, proposing it can only be described as normal in retrospect. This has led to increased intervention in childbirth, iatrogenic harm, loss of choice and control for childbearing women and a failure to improve the physical or emotional outcomes of birth (Davis-Floyd, 2009; Downe, 2008; Johanson, Newburn & Macfarlane, 2002; Symon, 2006). However, risk and its associations are socially and culturally defined (Bryers & Van Teijlingen, 2010; Kringeland & Moller, 2006) and because they inherently belong to society, women are subjected to a paradoxical choice about their pregnancy and childbirth. The paradox: the belief that medical intervention equates to safety, reduced risk and positive outcomes, when the evidence suggests it is associated with increased anxiety, disempowerment and a loss of choice and control (Nolan, 1997). Pregnancy could provide a unique opportunity for individualised, positive health promotion and endorsement, and for women to feel positive and confident about their bodies. However, it is dominated by medical surveillance, screening and risk aversion leading to a reliance on time constrained health professionals for information and reassurance.

Learning to be Mothers

Fox and Worts proposed that, despite increasing medicalisation, medical support in childbirth is *'at arm's length – to the body and nothing more'* (1999:333) and that medicalised childbirth offers support and guidance which relates to fetal growth and wellbeing during pregnancy, but input is withdrawn after birth (Fox & Worts, 1999). Feminist theory proposes that the relative medical abandonment of women during this time occurs because society views women as important 'vessels' during pregnancy, but post birth they are assigned almost total and sole responsibility for childcare (Rich, 1976). The discourse that motherhood is a private responsibility is illustrated in the period following birth when the professional support and input received by new mothers is reduced significantly, and women are expected to 'be' and know how to 'be' mothers. In order to do this, however, women need to redefine who they are, transform their identities, and possess and demonstrate the practical mothering skills required. Other major role transformations, associated with 'working'

lives are commonly supported with training, mentoring, peer support and ongoing guidance (Lave & Wenger, 1991). Mothers, however, can find themselves relatively unsupported during this transition which is considered to be one of the most stressful in life (Leigh & Milgrom, 2008).

Mothers are now less likely to have the strong mother-daughter bonds, familial or social support experienced by earlier generations (Young & Wilmott, 2011; Davis, 2012). Changes to social and working lives and the establishment of paid childcare, have evolved such that today's mothers are less likely to have daily contact with, and opportunities to talk to, other mothers about mothering. This affects women's opportunities to socialise and learn from one another. Almost a quarter of families are headed by single mothers (ONS, 2014), with even fewer opportunities to socialise and to observe mothering in action. The social opportunities for intentional and unintentional learning about mothering have been significantly reduced as women have become part of the paid workforce, choose to have smaller families and have relinquished child care to be the remit of paid professionals.

Women learn to be mothers by watching their own mothers mothering and by playing at being mothers as children (Winnicott, 1988). It is through the regular observation of more experienced mothers that women learn to become mothers themselves (Young & Willmott, 2011). These theories, which form part of social learning theory, fail to explain how learning occurs in the absence of maternal role models, which suggests there may be a gap in the theory or in the preparation and learning of new mothers. In contemporary Britain, women may find themselves without role models to observe or the support networks necessary to support them as they become new mothers. Given that the smooth transition to motherhood is facilitated by social support and by women's beliefs in their ability to mother, these potential shortfalls or gaps in community learning need addressing (Leahy-Warren et al., 2012).

Continuity of care

Many models of maternity care currently exist in the UK, but most are broadly based on the concept of 'shared care' where responsibility for the delivery and organisation of maternity care is shared between health professionals, usually a midwife and

obstetrician, with the midwife leading the care in low risk pregnancies (NHS England, 2016). The philosophy underpinning a midwife led model of care, is that pregnancy and birth are normal physiological events and women have the natural ability to give birth without routine intervention (Sandall et al., 2016).

Continuity of midwifery care is achieved when a known midwife follows a woman through her pregnancy, birth and postnatal period regardless of the complexity of the pregnancy and irrespective of where care is provided. Continuity models acknowledge that women's health needs are not isolated events and should not be managed as such. Health needs should be addressed over time and should allow for a relationship between the woman and those caring for her to develop (Reid, McKendry & Haggerty, 2002).

Freeman et al., identified three aspects to continuity: management, information and relationship (2007). Management continuity enables the seamless communication of facts and judgements between women, health professionals and health institutions; informational continuity concerns the timely access to relevant information; and relational continuity refers to a therapeutic relationship with a health professional maintained over time (Freeman et al., 2007). The relational aspect of continuity has been shown to have the greatest effect on experience and outcome, and ongoing relationships cannot be substituted by information and management continuity (Guthrie et al., 2008).

Pregnant women, at low risk of complications, who receive continuity of midwifery of care are less likely to receive interventions in labour and are more likely to be satisfied with the care received (Sandall et al., 2016). Continuity of midwifery care confers benefits for mothers including experiencing a greater sense of agency and control (Walsh & Devane, 2012). Despite the improved clinical outcomes, increased satisfaction and presumed economic benefits of continuity models, the majority of women do not receive continuity of midwifery care (NHS England, 2016). The reasons for this are multifactorial and complex, but are broadly related to working directives, shift patterns, the current centralisation of NHS maternity services and a reluctance to shift the focus of maternity care from secondary to primary care

settings. This results in large teams of midwives providing fragmented care to most women (NHS England, 2016; Page & McCandlish, 2006). Nonetheless, the importance of personal relationships cannot be underestimated and are fundamental to the concept of high quality care.

The National Maternity Review recommends that women:

'... should feel supported to make well informed decisions through a relationship of mutual trust and respect with health professionals... The woman will have an honest, open and unbiased dialogue with health professionals, supported by evidence based information being available about their choices which are easily accessible. There must be sufficient time to have this dialogue.'

(NHS England, 2016:43)

To improve quality, continuity of care must be improved (NHS England, 2016). Alternative ways of providing continuity for women locally may be a part of a step change to improving both continuity of care and fostering a culture of self-care and responsibility. Women, who have not experienced ongoing relationships with midwives, may be able to reap the benefits of continuity by accessing midwives in a more contemporary manner.

Information need and overload

Mothers themselves have suggested that motherhood and mothering is grounded in common sense and something akin to biological instinct (O'Reilly, 2010). Yet most mothers seek explicit information and advice about childrearing, suggesting that it is not as innate as intimated (Lagan et al., 2010). Hrdy (2011) has challenged the concept of a fundamentally biological maternal instinct, but despite this, the notion of a 'good mother' prevails and is perpetuated through discourse and interaction amongst mothers (Guendouzi, 2005, Hadfield, Rudoie & Sanderson-Mann, 2007). The illusion of the good mother pervades and women strive to achieve good mother status (Madge & O'Connor, 2006; Bobel, 2004). Consequently, during pregnancy, women become motivated to examine and modify their beliefs, conceptions and behaviours to adapt to their changing status (Deutsch et al., 1988), resulting in an increased need for information. The information need of pregnant women is well documented (Walsh & Devane, 2012; Kirkham, 2004; Green, Coupland & Kitzinger,

1998) and is twofold: to avoid the perceived risks incurred by pregnancy, and to prepare for their changing identity.

Traditionally pregnant women have sourced information from family and friends, health professionals, specialist literature and the media (Lagan et al., 2006; Song et al., 2012; Song et al., 2013). The information received is constrained by the knowledge, expertise and belief system of the person giving the information, the time frame they have in which to deliver the message and their ability to check the understanding of the recipient. This can lead to misinterpretations and misunderstandings, in addition to some accurate exchanges of information (Hämeen-Anttila et al., 2014; Sayacot & Carolan-Olah, 2016; Song et al., 2013). Women expect their antenatal care to provide opportunities for asking questions and to seek information and advice (Hildingsson & Radestad, 2005) but communication between midwives and mothers is often one directional and does not provide mothers with the dialogue they require (Olsen, 1996). Women do not receive the level or type of information they require from health professionals (CQC, 2014; NHS England, 2016; Redshaw & Henderson, 2015) and health professionals do not feel they have adequate time to provide information or to answer queries (Gonzalez–Gonzalez et al., 2007; Haase & Loiselle, 2012). Whilst women are aware there are finite maternity resources, they expect to be given accurate and non-conflicting information (Hildingsson & Radestad, 2005). Regardless of whether or not this is provided, they seek alternative sources of information (NHS England, 2016).

Widespread access to the internet has fundamentally changed access to health information (Kiley, 2002). Information can be retrieved by anyone with the incentive to seek it out and pregnant women are highly motivated to do so (Lagan et al., 2010; Olson, 2005). Women seek information to satisfy an information need which is not fully met elsewhere and to gain more control in pregnancy related decision making (Lagan et al., 2010; Larsson, 2009). Access to online health based information affords mothers greater flexibility and autonomy, in that they are not obliged to travel to health centres or to wait for health professionals to become available. Instead they can choose where and when to access information without incurring any significant costs, as and when the need arises (Coffin, 2016). Accessing information online can

reduce power asymmetry between mothers and health professionals, as previously restricted information is available to all (Van de Belt et al., 2010). Informed choice can become a reality as women are able to access information and make choices based on evidence, rather than professional opinion or health policy (Lagan et al., 2010, NHS England., 2016). In addition to being able to access significantly more pregnancy related evidence and research through the internet, women can also access web based applications and online groups. There has been an explosion in such applications specifically targeted at pregnant women and new mothers leading to innumerable internet options for women. These include applications such as Pregnancy Tracker, Sprout Pregnancy and What to Expect and numerous online groups with mass membership such as Mums.net and Netmums and Babycenter. This thesis however was not looking at the technologies underpinning pregnancy and motherhood related applications, nor was it looking at ways in which information has traditionally been provided to pregnant women such as parent groups. The study was specifically looking at social media based communities of practice. Therefore programmes, applications and online groups which did not demonstrate CoPs were not examined in detail nor are they discussed within the thesis. Groups which identified as CoPs, or which were recognised and displayed features of CoPs are systematically reviewed as discussed in Chapter 3.

Satisfying health care information need is a challenge (Al-Ubaydli, 2005; Clarke et al., 2016). Although traditional web pages are easily accessed, information presented is limited in the same way as the printed word: it is one directional. There is no capacity for discussion, checking understanding or exploring concepts further. Furthermore, it can be difficult to determine which information on the internet is commercially driven (Gao, Larsson & Luo, 2013) and the volume of information can be overwhelming (Buultjens et al., 2012; Lima-Pereira et al., 2012). Evidence based information is widely available but often it is not intended for a general audience and has been shown to be incomprehensible to many of the population (Sacks & Abenheim, 2013). Without knowledge of how to filter or interpret evidence, there is the potential for harmful decision making to occur (Kelton, Fleischman & Wallace, 2008).

The internet has been described as *'the easiest and fastest way to become informed and drive away one's worries'* (De Santis et al., 2010:156). However, in isolation, the internet is not a panacea for information need during pregnancy and early motherhood, and should be an adjunct to other sources.

Social Media and Online Communities

Social media is the second generation of the informational web and is commonly referred to as Web 2.0 (Hansen, 2008). It allows user generated content to be added and its success is dependent on interactions between people through sharing or receiving information and facilitating collaboration and interactive dialogue (Kaplan & Haenlein, 2010; Van de belt et al., 2010). Social media has transformed health care by enabling open access to health information, including options for care and treatments and the quality of care provided (Atkinson & Castro, 2008; Chretien & Kind, 2013; Hawn, 2009). The use of social media is not significantly affected by demographics and as such is a great equaliser in information access (Boulianne, 2015; Friedman & Friedman, 2013; Zickuhr & Madden, 2012). Social media also has the potential to address a further need of pregnant women, which is the need for continued support during the childbearing continuum.

Tufekci (2008) classifies different types of internet use into social and non-social, or expressive and instrumental use. Expressive use relates to social interactions and furthering social ties, whereas instrumental refers to information seeking and knowledge gathering. Pregnant women have needs which straddle both types of use. Although little is known specifically about the internet use of pregnant women, social media use amongst women generally is well documented, with 80% of online women reporting regular use. The reasons for the almost ubiquitous use of social media are the ability to connect, create, consume and control (Hoffman & Novak, 2012). People can connect and re-connect with each other, distance is not a barrier and creativity and creation are realised through uploading and posting content, which is consumed by readers (Hoffman & Novak, 2012). Individuals can control their social space through design options and profile and privacy settings (Hoffman & Novak, 2012). Social media can empower individuals through gaining knowledge (Madge & O'Connor, 2006), connections can increase feelings of support and wellbeing and are

a way of maintaining connectedness (Hoffman & Novak, 2012). Online communities are the cornerstone and product of social media; they are made up of individuals with common interests, who meet and share experiences, offer social and emotional support, and ask and answer questions (Eysenbech et al., 2004).

Online communities may have the same functions as self-support groups and can be considered a social support intervention but there is little empirical evidence to support their use (Eysenbech et al., 2004). Nonetheless, they have proliferated over the past decade and one of the areas of significant growth is pregnancy and motherhood (Pederson & Smithson, 2013). Societal structure, the geographical dispersion of families, and the familiarity of modern mothers in seeking both information and support online, means that virtual communities related to mothering can provide mothers with social support and an increased sense of empowerment resulting from parenting related knowledge (Madge & O'Connor, 2006). However, the widespread use of online communities does not necessarily mean they are good sources of online support. Mums.net is less known for social support and better known for entertaining its increasingly middle class, erudite and affluent membership (Pederson & Smithson, 2013). As online communities are made up of like-minded individuals, they may unintentionally attract or deter certain others, thereby reducing the opportunities for diverse information sharing and possibly creating silos of biased information and misinformation.

Social media use is as unregulated as any part of the internet and the peer to peer nature of online communities may confer risks for those less able to distinguish between opinion and evidence. Social media users may have expert knowledge and information to share, or they may be accessing and paraphrasing information from any one of the 136 million websites relating to pregnancy (Sacks & Abenhaim, 2013). Just as the content and accountability of website information is unverified, social media channels are not obliged to demonstrate accountability or reference sources. Social media may be invaluable for providing a sense of connectedness, but women need support to discriminate between reliable and less reliable information, and to interpret the findings from evidence. Established groups such as Netmums and Mums.net do not signpost or validate information posted. Whilst they are moderated

they do not have named registered midwives overseeing the site to validate information or to facilitate the development of relationships between members. In view of this and the large size of the user base these groups were not examined as part of this study. Health professionals need to be part of the support for advising and signposting women to quality sources of information. Working with women to help them discriminate between sites could improve opportunities for women to exercise informed choice and foster good relations between midwives and mothers thereby improving care quality (Hämeen-Anttila, 2014).

Rationale for the study

There is a strong evidence base that maternal health is crucial for the health and wellbeing of the family and wider community (Mensah & Kiernan, 2011). Pregnancy presents a unique timeframe of heightened health awareness, information seeking and increased motivation to adopt healthy behaviours and lifestyle choices not previously considered (Crozier et al., 2009; Kelly & Bartley, 2010; Olson, 2005; Waylen & Stewart-Brown, 2010). Pregnant women value continuity of care during pregnancy and its associated benefits (Sandall et al., 2016). Personalised maternity care is the care model of choice for women, with a focus on timely access to information and support provided by the right people when it is required (NHS England, 2016). This model is recommended and aspired to by those commissioning maternity services and is based on feedback from mothers, health professionals and service providers (NHS England, 2016).

My experience as a clinical midwife corroborates the findings from recent maternity reviews and audits (CQC, 2014; NHS England, 2016; Redshaw & Henderson, 2015). The women I meet clinically expect to be given a wide range of information from multiple sources to understand their options and to make choices. When I have shared information with women, they have questioned the evidence and have wanted to discuss alternatives they have learned about, often online. When I answer maternity triage telephone calls, this confirms that women want definitive answers about all aspects of pregnancy, childbirth and health and wellbeing generally. Women want to ask questions when it is convenient for them and not necessarily when it is time critical, or convenient for the midwife. Many of the questions raised

have not required the specialist knowledge of a midwife and at times it has appeared as if women have been looking for approval from a health professional for personal decisions for which there is not a single 'right answer'.

During hospital appointments, women have wanted opportunities to discuss issues relating to pregnancy and childbirth but the standard 10-minute appointment times do not provide such opportunities. The current structure of maternity care does not enable meaningful exchanges to take place between health professionals and women without creating significant delays. As such, potential opportunities to capture the enthusiasm and interest of pregnant women as health advocates are lost.

Women need to be able to access health professionals but it is not essential that all information and support stems directly from them. The NHS Five Year Forward View (2014) clearly identifies the need to more effectively utilise resources that are already present in communities, and envisions peer to peer communities with the potential to improve health and wellbeing, whilst moderating rising demands on the NHS (NHS England, 2014).

This study responds to the weaknesses in maternity care by seeking to understand whether it is possible to redress the over-reliance on health professionals for information and reduce the confusion created by an overabundance of web-based information. The intervention under study exploits the potential of social media to positively transform access to health care information, and to encourage the sharing of knowledge, support and experiences of a community of pregnant women. By fostering a sense of community and a culture of self-care and learning amongst pregnant women and new mothers, the intervention aim was to meet the vision recommended in the National Maternity Review; to provide a positive maternity experience and for women to receive safe, effective and informed care (NHS England, 2016). The study aimed to explore how such an intervention developed and the experiences of women who participated.

Structure of Thesis

This thesis explores the design and feasibility of social media based groups moderated by midwives. It aims to see if Communities of Practice (CoPs) will evolve from such groups and if they can provide a framework for information, support and learning for women, during the transition to motherhood.

The thesis is structured into 10 chapters:

Chapter 1 - This chapter introduces the context, background and rationale for the research. It introduces the context of maternity care in the 21st century and the issues surrounding the transition of pregnant women to motherhood which led to the development of the research. The issues centre on the changes in society which have affected the way women are supported during the childbirth continuum. They include the medicalisation of childbirth, the way women access information and learn how to be mothers, and the impact of social media on support and learning. Information needs of pregnant women are not being met and it is proposed that facilitating the sharing of experiences of women, offering peer to peer support within a moderated online community could provide a solution.

Chapter 2 - This chapter explores the theory underpinning the research. It critically examines the Social Learning Theory behind the concept of Communities of Practice (CoPs) to explore, inform and direct the study. CoPs as part of a wider theory of social learning and the structure in which Legitimate Peripheral Participation takes place are explored. The underpinning theory in this thesis is largely restricted to the works of Lave and Wenger (1991) and Wenger (1998) and the rationale for this is discussed. Elements of CoPs are explored and the difficulties in clearly identifying unique characteristics of CoPs are discussed. Virtual CoPs are explored to understand the factors that influence online group learning; size and structure, social dynamics, conflict and group power struggles are examined. CoP theory draws together a framework for learning, social engagement and support which map to the aims of this study.

Chapter 3 - Chapter three is a systematic review of the evidence for virtual communities of practice in healthcare. The review includes extractions of the

definitions of CoPs, community characteristics, operating processes such as community facilitation and moderation, and evaluation methods and outcomes. This in-depth interrogation of previous studies informed the development and method of creating and sustaining an online community of pregnant women. It also identified a gap in current evidence which this study fills, and discusses the challenges of researching and utilising a term which has been interpreted in many ways. Finally, the factors which have been reported as influencing the success or failure of CoP development are established.

Chapter 4 – Chapter four formalises the aims and objectives of the research and describes the methodological approach. The study predominantly adopts interpretative and qualitative methods with an action component, gathering data using focus groups, interviews and online activity to understand the experiences of pregnant women engaging in moderated online communities. The setting, characteristics of the participants and midwife moderators are described in addition to the security, privacy and ethics of developing the online groups.

Chapter 5 – This chapter details the early operationalisation of the research, namely the ‘action’ component in the form of focus group interviews, which were an intervention and a method of data collection, to shape and develop the research, the groups and the midwife moderators. The concurrent nature of the Action Research (AR) cycle made it difficult to separate out methods, as this phase of the research was simultaneously developmental and evaluatory. As such they are presented together in this chapter ‘Cycles of activity’ which is entirely focused on the action within the research’.

Chapter 6 – This chapter presents the first of two findings chapters. This chapter is structured into three sections. The first part reviews the sources and presentation of data and explains how the themes were identified. Demographic findings are then presented to provide background and context to the subsequent thematic findings. Finally, the first of four themes “Information”, and its subtheme “learning” are presented.

Chapter 7 – This chapter presents the remaining themes “Support”, “Shared Experience” and “Positive Affirmation”. “Support” is presented in three main sections: “professional support”, “peer support” and the sub-theme “relationships”. The importance of the shared experience, for both support and relationships, is presented as a separate theme. Finally, the overwhelming positive affirmations, which were evident throughout the data, are presented.

Chapter 8 – This short, reflexive chapter explores some of the challenges and tensions linked to undertaking a large, funded study and more specifically challenges related to operationalising the groups, which resulted from my dual role as both midwife and primary investigator. This includes the possible effects of my presence but non-engagement in online activity, on both the midwives and mothers and the challenges conducting interviews with new mothers as a midwife and researcher.

Chapter 9 – This chapter draws the findings of the study together and discusses them in relation to relevant underpinning theories. The discussion focuses on the four main themes and theory relevant for understanding and analysis: information practices and the concept of cognitive authority, support, relationships and relational continuity, shared experience and the theory of homophily and positive affirmation and intelligent kindness. Finally, the findings are related to CoP theory and the existing theory is refined using the new knowledge generated from this study. The chapter concludes with an overview about the limitations of the study methodology and methods.

Chapter 10 – This chapter ends the thesis by drawing conclusions from the findings and discussion and making recommendations for practice, policy and further research.

Summary

In contemporary society, for many women, pregnancy and transitioning into motherhood is hampered by fear and anxiety. Many fears stem from the medicalisation of childbirth and the lack of peer support in the 21st century. Midwifery and other obstetric services have yet to respond to these needs. The advent of social

media provides a platform for changing the way that information and support is given to pregnant women. Midwife moderated, social media based groups may provide a solution for addressing these issues to contribute to more positive pregnancy experiences for women and smoother transitions into motherhood.

Chapter 2 explores the notion of social learning within the theories of communities of practice to examine how social media based groups may be used to generate environments of peer support and shared learning for pregnant women.

Chapter 2: Communities of Practice- part of a wider learning framework

Introduction

Chapter one set out the context for the study within the field of maternity care; exposing gaps in information provision and support, reduced availability of motherhood role models, and opportunities for social learning. This chapter explores the concept and origins of Communities of Practice (CoPs), and social learning theory (SLT) that may offer a way of harnessing peer support for pregnant women and new mothers. The anticipated benefits of bringing women together in an online community can be summarised as:

- improved information sharing enabling informed choice
- improved sense of social and emotional support
- a greater sense of empowerment
- increased agency and control for women during what is considered to be a stressful period

This chapter discusses the literature about how such communities evolve and provide a framework for learning, and their potential importance for pregnant women and for maternity service providers.

Discussion will focus on SLT, and the situated learning that occurs in CoPs. The interpretative framework that creates CoP theory is explored as described by Lave and Wenger (1991). In addition to CoP concepts, legitimate peripheral participation (LPP) and learning without formal instruction are examined because CoPs provide the structure in which such learning occurs. The effects of LPP on the individual, in terms of their perceived and actual identity, and the importance of sharing knowledge and understanding during times of identity transition, are investigated. The potential relevance of CoPs and SLT in relation to pregnant women and mothers is considered and the challenges that result from ambiguities in the CoP concept are discussed.

Situated Learning and the Origins of Communities of Practice

The concept of CoP was first introduced by Lave and Wenger (1991). Their seminal work about situated learning was based on the observation that learning took place through social relationships and everyday interactions that happen in a variety of contexts (Lave & Wenger, 1991). The CoP model moved away from traditional learning theories such as cognitivism and behaviourism (Hughes, Jewson & Unwin, 2013; Skinner, 1978; Thorndike, 1913; Watson 1925; Zimmerman & Schunk, 2012) and the philosophy that learning is something that is 'done' by an individual to acquire a body of detached knowledge for future recall and application. Wenger (1998) identified that learning was richer when groups of people, within shared contexts, interacted together suggesting that people learn how to do things 'better' through their interactions. The term CoP was coined to describe groups of people learning together this way (Lave & Wenger, 1991). Although Lave and Wenger (1991) coined the term CoP, they did not consider the concept in detail or in isolation; instead CoPs were viewed as part of a wider theory of social learning, situated cognition and social constructivism (Lave & Wenger, 1991).

Social Learning, Situated Cognition and Social Constructivism

SLT is built on the work of activity theorists/social constructivists (Bruner, 1966; Dewey, 1997; Leont'ev, 1978; Vygotsky, 1978). It contends that the activities of person and environment are part of a mutually constructed whole (Hung & Chen, 2001) and that it is not possible to study the individual, or how the individual learns, without studying the context in which the individual is learning, and the relations amongst individuals and their social groups. This theory is important when considering how mothers learn to become mothers because, whilst the ways in which mothering is learned may not be fully understood, 'good' mothering is primarily a social construct learned through social interactions (Guendouzi, 2006).

The main principle of constructivism is that individuals construct knowledge from their experiences. In relation to learning, there is a shift of focus from the instructor to the learner and learning becomes contextual and associated with social interaction. Social constructivists believe that knowledge and meaning are created in the social sphere; knowledge is constructed when individuals engage in shared activities and meaning comes through dialogue. This is relevant to all pregnant women and

mothers, but particularly primigravid and primiparous women who have no personal experience of mothering. Pregnant women and mothers may acquire some knowledge about pregnancy, birth and mothering through formal instruction (Nolan, 1997) but, in the main, mothers learn about pregnancy, childbirth and mothering from watching their own and other mothers in the act of mothering and from talking to other women (Guendouzi, 2005; Nolan, 1997; Young & Willmott, 2011; Winnicott, 1988). Constructivist theory emphasises the importance of learners setting their own pace for learning and for coordinating their learning with others in real world environments, thus questioning the value and relevance of traditional teaching and learning theory (Huang, Rauch & Liaw, 2010). The current lack of empirical evidence to support the use of formal parent education programmes and the reality of mothers 'learning on the job' aligns with this (Bergström, Kieler & Waldenström, 2009; Catling et al, 2015; Gagnon & Sandall, 2007; Jaddoe, 2009). Arendell (1997) argues that parenting is more of a social construct than a biological one and, despite having a clear physiological timeframe to prepare mothers for motherhood i.e. birth, the full transition to motherhood takes longer to establish (Buultjens et al., 2012; Perren et al., 2005). Motherhood is deeply entrenched in social and cultural practices and as such is more socially constructed than biologically determined (Ross, 1993). Thus, learning about motherhood, and indeed learning to be a mother, aligns with constructivist theory.

The dominant theories of learning, behaviourism and cognitivism, contend that learning happens to individuals as a result of stimuli (behaviourism) or as a result of storing and processing information (cognitivism). The learner is viewed as being essentially passive in the process and the teacher is fundamental to successful learning. Under the auspices of social constructivism, Vygotsky (1978) proposed an alternative to the individualistic, passive-recipient acquisition model of learning. Vygotsky's (1978) theory of social cognition proposed that children achieve their highest cognitive development by engaging in social behaviours with adult support and/or peer collaboration. This optimal development and engagement process was referred to as the '*zone of proximal development*' (ZPD) (Vygotsky, 1978:82). The ZPD refers to the gap between development that can be achieved by the child in isolation and that which can be achieved with guidance or collaboration with adults or

peers. It emphasises the importance of interactions with 'practised' individuals and underscores the theory of situated learning.

Social Learning Theory

In the early twentieth century, learning theories stemmed predominantly from different psychological orientations. Behaviourist theorists defined learning as response to a stimulus that results in behaviour modification (Skinner, 1978; Thorndike, 1913). Cognitive theorists concentrated on the internal mental processes that take place for learning to occur and focussed on the transmission and processing of information (Bruner, 1965; Gagne, Briggs & Wager, 1992). Humanistic theory argued that learning is more than behavioural or cognitive, and is driven by individual motivation, responsibility and choice (Maslow, 1970, Rogers, 1983).

Early social cognitive theories had a strong behaviourist influence arguing that learning resulted from observation, imitation and re-enforcement (Miller & Dollard, 1941). The emergence of Bandura's work, shifted social cognitive theory away from a behaviourist approach to a theory that considered the interaction between the individual, the social setting and the resultant behaviour (Bandura, 1977). Bandura contended that learning occurs as a result of an ongoing reciprocal interplay between the individual and the external environment.

Dissatisfied with prevailing learning theories and their inability to explain learning in the absence of formal education or training, Lave and Wenger (1991) used a social theory perspective to explain how new activities, knowledge and skills are learned. They argued that when learning is viewed as a process of transmission and assimilation, it does not consider the learning that takes place when individuals participate in activities. Their initial challenge to the dominant cognitive and behaviourist theories was centred on 'situated learning'.

Situated Learning

Situated learning is about learners applying skills and knowledge by engaging in a process where context is vital for learning and understanding, with knowledge not simply acquired in a mechanical way (Handley et al., 2006; Hanks, 1991).

The concept of situated learning was borne out of Lave's ethnographic studies of tailor apprentices in Liberia. She observed that the apprentices learned not only the garment making skills they were 'taught', but also the much broader, subtler skills of being a tailor and becoming an expert 'master' tailor. She presented a view of learning as a sociological-anthropological phenomenon, a complex and '*quintessentially contextualised, socially organised activity*' not fully explained by a '*school centric, simplistic dichotomy*' (Lave, 1982:181). Lave rejected the dualistic notion of learning as an individual activity which is separate from the world arguing that the two cannot be separated (Lave, 1991)

Brown, Collins & Duguid (1989) presented a model of situated learning, which they termed 'cognitive apprenticeship'. Acknowledging that mathematics students in the classroom had difficulty applying school based learned solutions to real world problems, and recognising that learning is not exclusively cognitive, they proposed that teaching and learning methods should:

'try and enculturate students into authentic practices through activity and social interaction in a way similar to...cognitive apprenticeship' (1989:37)

The emphasis being on the importance of the learning environment and the interactions taking place within it.

Orr's ethnographic study of photocopier repair technicians (1990) described how 'learning' between workers occurs through social interaction. Unlike the apprenticeship model explored by Lave (1982), whereby novices learned from experts, Orr's photocopier repair technicians learned from each other, largely through storytelling and anecdotes, illustrating and emphasising the power of peer-based teaching and learning within a model of situated learning.

Lave and Wenger's subsequent work (1991) built on Lave's studies of apprenticeship (1982) and challenged the perception that apprenticeship was simply 'learning by doing' arguing that this did not explain how learners move from novice to expert, or how learning processes change as learners develop knowledge and skill (Lave, 1982). Lave and Wenger (1991) observed how learning was shared between

members of communities with a common interest. The communities, which included midwives, tailors, meat cutters and recovering alcoholics, demonstrated how members, through their interactions with each other, learned to fully engage in their respective practice and became transformed as individuals by doing so (Lave & Wenger, 1991). Mothers may also learn through their interactions with other mothers and as such situated learning has relevance to their transformation. This concept is discussed further under the subsequent heading Legitimate Peripheral Participation and Learning Situated in Motherhood.

Legitimate Peripheral Participation

Lave and Wenger (1991) coined the term 'legitimate peripheral participation' (LPP) for the concept of newcomers moving from the peripheries of practice to full immersion. This concept explains how learning occurs and identity forms without formal instruction or even recognition that learning is occurring. LPP takes place within a community of practice. LPP describes how newcomers are positioned in practice and the gradual development of a novice within a community moving from the margins into the mainstream. LPP explains how members grow, develop and change within the group through dialogue and interaction.

LPP is intended to be considered as a whole (Lave & Wenger 1991) and the constitutive elements are not intended to be considered in isolation. Nonetheless it is useful to unpick the phrase in relation to CoPs to better understand them. Legitimacy refers to the member belonging to the community. Peripherality is the member's location and perspective within the community which is constant but changeable over time, moving centripetally. Participation is the member's engagement within the community. Although members are acknowledged as being peripheral and moving centripetally, the CoP does not have a 'centre' towards which members are working, experts are not at the centre of the community any more than is the newcomer. The 'centre' that the member reaches by moving centripetally, relates to the individual's transformation, to the point that the member has a new identity which is recognised by members as being 'central' for the CoP. Thus, the concept allows for members of the community to be on the margins without being marginalised, they can be

peripheral but are legitimate nevertheless. Members do not have to be visible or active to be members, or for learning to take place.

Although an important concept of LPP is that no member is more or less legitimate than another, there is recognition that there is a difference in knowledge and experience amongst members and LPP is dependent on the more competent members of the community sharing their knowledge and expertise. Competence, however, does not imply that the member is an expert or teacher; it simply means that the knowledgeable individual knows something that another member does not yet know.

LPP requires neither 'teaching' nor apprenticeship and, regardless of the members' knowledge, skill and experience in the area of interest, or whether the member appears to be moving centripetally or not, learning occurs and activity within the group is valid (Lave & Wenger 1991). LPP is a way of understanding how simultaneous individual learning takes place, within a group, at different rates of progress. Members choose how much they want to engage; newcomers (and old-timers) can observe, listen and thus learn until they feel ready to actively contribute. Participation may be tangential initially but, over time, the individual assumes the identity of full membership. LPP provides a rationale as to how members learn about the language, the colloquialisms, the expected behaviours and the issues fundamental to the community, which enables them to develop the 'identity' of a full participant. This sociocultural transformation is the changing identity of the member from newcomer to old timer, novice to expert, a new identity is constructed, which is recognised by the group but not necessarily recognised by those outwith.

Although Lave and Wenger's original work is largely focused on formal apprenticeships, the inclusion of recovering alcoholics demonstrates how LPP occurs outside of the recognised apprenticeship/learning model and illustrates the formation and transformation of 'identity' as a consequence of LPP. This is important in relation to the proposed study because later research, and subsequent application and interpretation of CoP theory, has focused exclusively on professional learning (see Chapter 3) and not on social learning about social issues. The inclusion of recovering

alcoholics illustrates social learning outside professional or work-related domains, firmly linking LPP with social identity transformation.

Legitimate Peripheral Participation and Learning Situated in Motherhood

Pregnant women may engage in some elements of formal parenting instruction in the form of antenatal education but much of their learning is situated in the practice of being a mother. It can be argued that pregnancy, birth and motherhood cannot be taught, nor is learning shaped simply by the physicality of pregnancy and birth. It occurs as a result of interactions and experiences which take place in the context of real life.

Motherhood and mothering can be viewed as an apprenticeship. Women undertake the role initially as complete novices and, in most cases, learn 'on the job'. Generally, women have been mothered and learn from that experience, but they don't learn solely from their personal experience; they look to others for guidance, advice and support. The individuals they seek support and knowledge from may, or may not, be expert or more experienced, but they are trusted and accessible to the women seeking support (Davis, 2012).

The notion that learning can be optimised through collaboration with practiced individuals sharing stories and histories (Lave & Wenger, 1991), is similar to Vygotsky's ZPD (1981), with emphasis placed on relationships with practised others. In relation to pregnant women, only those who are pregnant or who are already mothers can be considered to be practiced individuals. Whilst they may not be expert or even be very experienced, they are practised.

Without access to other 'practised' mothers, the potential for optimal development in mothering may be impaired. Although it is well documented that social support is fundamental for a positive transition into motherhood (Balaji et al, 2007; McDaniel, Coyne & Holmes, 2012, Meadows, 2011), it is unknown if support, specifically from other mothers, improves the experience of transition into motherhood or enhances learning. This study aims to explore this concept further.

The concept of LPP is clearly recognisable in relation to motherhood. In the same way that children are legitimate peripheral participants in the adult social world (Wenger, 1998), pregnant women are legitimate peripheral participants in motherhood. The primiparous woman is no less of a mother than a grand-multiparous woman, all mothers are legitimate participants. There isn't an end point or centre of motherhood, nonetheless as time passes, without trying, women become more identifiable as mothers and their perception of their own identity transforms. Inevitably some aspects of motherhood will be experienced by some mothers, and not others. This does not mean that some mothers are experts and others are not, there is no promotion of maternal status. There are potentially so many different experiences which shape and influence motherhood, and therefore mothers' knowledge and understanding, that it is logical that learning about motherhood be shared amongst a community of mothers.

However, not all social learning is helpful. Accessible, factually correct information is vital for improvements in health and wellbeing, and for social learning to be valuable. Social learning is not just about learning, it is about social engagement and participation which are fundamental to emotional health and wellbeing (Leahy-Warren et al, 2012; Uchino, Cacioppo & Kiecolt-Glaser, 1996). As identified in chapter one, today's society does not facilitate face-to-face opportunities for social learning about pregnancy and motherhood as it has previously. Moreover, smaller families, female employment, single parenting and isolation from extended families have restricted opportunities for learning in this way.

The concept of situated learning and LPP aligns well to the learning which occurs during motherhood. It is a type of experiential learning that is more than simply learning by doing: knowledge, learning and context are inextricably linked and learning is a fundamental element of social practice. Motherhood is firmly situated in a social context, and without that context, knowledge about motherhood may be worthless.

Communities of Practice (CoP)

‘Collective learning results in practices that reflect both the pursuit of our enterprises and the attendant social relations. These practices are thus the property of a kind of community created over time by the sustained pursuit of a shared enterprise. It makes sense to call these kind of communities ‘communities of practice’.

Wenger (1998:45)

CoPs are fundamental to the learning and the existence of knowledge because they provide the interpretive framework necessary for knowledge to make sense (Lave & Wenger, 1991). However, whilst CoPs explain extemporaneous learning and provide a context for LPP, they are not clearly defined. Wenger (1998) attempted to address this by exploring and refining the CoP concept.

‘...when I use the concept “Community of practice “ in the title of this book, I really use it as a point of entry into a broader conceptual framework of which it is a constitutive element.’

(Wenger, 1998:5)

Wenger argued that CoPs were universal and timeless, formed out of a need to solve real world problems, and existed wherever groups exist (1998). Learning within CoPs may appear to start with individual learning but shifts to the community through participation. Learning adapts to the needs of individuals and the group, through the natural social activity and discourse.

CoPs realise a social constructivist theory of learning, whereby individuals share and trade knowledge in non-competitive and supportive environments. The exchange of knowledge with newly constructed meaning is added to the knowledge base of the group as a whole, thereby developing both the individual and the group.

The unique dimensions of CoPs: mutual engagement, joint enterprise and shared repertoire (See Table1), distinguish CoPs from other configurations (Wenger, 1998). However, in developing CoPs further Wenger moved away from viewing them as a framework through which to understand learning to a knowledge management tool suitable for commercial use (Wenger, McDermott & Snyder, 2002). Theoretical concepts were not developed, instead a practical guide on how to cultivate CoPs was created (Wenger, McDermott & Snyder, 2002). This was a significant change of stance from Wenger who had previously suggested that CoPs were spontaneous and self-emerging (Wenger, 1998). The shift resulted not only in a change of focus

but also a in a change of terminology. The dimensions of CoPs were no longer identified as mutual engagement, shared repertoire and joint enterprise, but were replaced with the broader concepts of domain, community and practice (Wenger, 2002, 1998, see Table 1). Wenger moved away from developing CoP theory as part of SLT and in doing so generated uncertainty about the theoretical concepts (Fuller et al., 2005).

Wenger’s development of CoPs as a knowledge management strategy for the workplace has little relevance in the context of this thesis and, therefore, work dated post 2001 is not examined in detail, or used to theoretically underpin this study. The theories explored in this thesis pre-date Wenger, McDermott & Snyder (2002) and focus largely on Wenger’s (1998) seminal work which explores the theory of CoPs in relation to the dimensions of mutual engagement, joint enterprise and shared repertoire. These dimensions are explained in Table 1: the later terminology is included for reference as many authors use the terms interchangeably.

Table 1. CoP Dimensions (Wenger, 1998, 2002)

1998	Mutual Engagement	The social interaction and involvement between and amongst members which is necessary for participation to occur
	Joint enterprise	The shared understanding, interest and common endeavour that binds the members together
	Shared repertoire	The ongoing development of shared resources such as stories, language, symbols and history (similar to Vygotsky’s psychological tools of mediation)
2002	Community	The members who interact with one another and by pursuing their interest share and learn, without the interactions and learning they are not a community of practice.
	Domain	The specific and shared topic of interest that the community focuses on and shares an ongoing commitment to.
	Practice	The Practice denotes the particular knowledge created and shared by members. The practice characterises the identity that the members have are or want to become fully integrated in.

CoP Elements

Meaning results from interpretations and experiences of the world according to community members. When referring to meaning in the context of CoPs Wenger (1998) explains meaning does not relate to dictionary definitions, nor to the answer to a philosophical question. Meaning is located in a process of negotiation (Wenger, 1998). This process explains how community members make sense of interactions from the past, present and future and explains how meanings can change and be reinterpreted as they are dependent on the experiences of the individuals negotiating them. Knowledge flows between individuals and collectively, and during these exchanges acquires new meaning as it is constructed and reconstructed in social participation.

To understand this process the example of homebirth for low risk women can be considered. Homebirth rates currently stand at less than 3% of all births (ONS 2014); home is not the birthplace of choice for the majority of women and is viewed largely as a fringe activity for a certain type of mother (Armstrong, 2010). The perception is that homebirth is not safe but this belief is not based on evidence (Cheyney et al., 2015; Olsen, 2012; Rogers, Yearley & Littlehales, 2012). Nonetheless most pregnant women have subscribed to it. However, small communities in Oldham in the North West of England have changed the meaning of homebirth for their community. It has been reinterpreted from being an extreme 'fringe' activity to being an acceptable alternative option to hospital birth. A total of 11% of women within the Royton and Shaw community experienced a homebirth (Chadderton, 2016) compared to a national figure of 2.3% (Birthchoice, 2015). Against the tide of popular opinion, the meaning of homebirth has been reconstructed through what may be considered a maternal CoP.

Negotiation of meaning is socially produced and involves the reciprocal interplay of two constitutive processes between members; *participation* and *reification*. *Participation* is the engagement and dialogue between the group members as explained in relation to LPP. Individuals and the community participate and consequently participation affects the individual and the community as they influence and shape each other. Meaning emerges from the social process of learning which

would not happen in isolation. *Reification* is the way in which meaning, through experience and interaction is given a tangible form 'thingness' (Wenger, 1998:58). It explains how the implicit is made explicit and how knowledge is articulated and made real by community members. Participation and reification are co-dependant in that they require and enable each other. A stable core of domain knowledge is required for members to share (*participation*), however there has to be dynamism to that knowledge which allows for innovation and transformation (*reification*) (Polin, 2008).

Through participating in homebirth, and sharing knowledge, experience and understanding, mothers in Royton and Shaw have negotiated and reified its meaning. They have spontaneously and unknowingly become a CoP who have negotiated a change in meaning.

Community

As with the term LPP, Wenger argues that the components of the term 'Community of Practice' should not be separated because in the context of a CoP, the constitutive parts are co-dependant; practice is synonymous with community and essential in order for the community to exist. The community is not a community without the practice that generates shared interest. In this respect, it is relatively simple to distinguish the community component in a CoP from other communities. Other communities, groups and networks such as neighbourhoods, schools or hospitals may be grouped together or share a sense of belonging but the absence of shared practice means they are not a CoP. The essential relationship between practice and community creates the community in CoP, the community is created by and resides in practice.

Practice

The concept of practice and the communities defined by practice are explained by breaking practice into different aspects; practice as meaning, practice as community, practice as learning, practice as boundary, practice as locality and knowing in practice (Wenger, 1998). Despite this detail and the use of the term practice throughout the literature, practice is not clearly defined. Practice for the maternal CoP in Royton and Shaw is related to their shared understanding of birth as a social event and the practice of preparing and planning to give birth at home.

Practice is the *'the action or process of performing or doing something'* (Merriam - Webster, 2004). In maternity care this could relate to apparently simple actions such as feeding a baby, but this simplistic definition does not align with Wenger's detailed reflection on practice with multiple meanings (1998). Practice is often viewed as something that is inferior to theory and is perceived as *'atheoretical'* thereby suggesting it is less valuable than theory (Rolfe, 2005:41) but considering practice as praxis may redress this perception.

Praxis

Praxis denotes a *'doing action'* that represents the unity of theory and practice, a form of enlightened practice (Carr & Kemmis, 2004:144). Praxis

'...is informed action which, by reflection on its character and consequences, reflexively changes the 'knowledge-base' which informs it'

(Carr & Kemmis, 2004:33)

As such, praxis is more than the exhibited or observed action, it is the combination of the action and the knowledge and understanding that has led to it. This description fits with the notion of practice as detailed by Wenger (1998) within a CoP; practice is not simply a functional activity i.e. doing, but is historically and socially situated doing which results in the development of structure and meaning (Wenger, 1998). Theory and practice are mutually interactive and integrated, they cannot be separated. This resonates with the *'doing action'* of mothers; When new mothers interact or act with their newborn, they are not simply doing, they are integrating the theory they know and the actions they are learning, or have already mastered. They learn from the activity and it informs and shapes their knowledge, for example rocking a crying baby or holding it in a certain way soothes the baby effectively and consequently the mother adds this to her repertoire of baby care skills.

Some practice is unthinking and based on *'tacit'*, subconscious, instinctive and natural actions and CoPs are the main situation in which tacit knowledge and practice are explored and understood (Wenger, 1998). For example, the custom of picking up a crying baby and rocking may be instinctive, but may also be learned behaviour from observing other mothers. The notion that some practice is unthinking suggests that the terms practice and praxis cannot be used interchangeably and demonstrates they are significantly different in that subconscious and instinctive

actions are not fundamentally linked with knowledge. Nonetheless, Wenger's concept of practice is consistent with Freire's (1986) seminal notion of praxis, in that both have the ability to transform. Freire contended that praxis is informed action which has the ability to change the world (Freire, 1986; Taylor, 1993) similarly Wenger's CoP theory is also characterised by transformation; the transformation of knowledge to have new meaning, and the transformation of individuals through the creation of new identities. The transformation of women into mothers relies on praxis; the combination of action and knowledge relating to mothering which results in new understanding and meaning which underpins individual transformation.

Identity

'A way of talking about how learning changes who we are and creates personal histories of becoming in the context of our communities.'

Wenger (1998:5)

Whilst negotiating meaning and participating in their communities, members are also making meaning of themselves. Identity is transformed into one which has specific meaning to and within the CoP. Learning involves the individual acquiring knowledge, skills and understanding, but also becoming part of broader systems of relations which give meaning to the area of interest (Lave & Wenger, 1991). Through learning the individual becomes a different person who simultaneously defines and is defined by the relations related to the CoP (Lave & Wenger, 1991). There is 'connectedness' between members of a CoP and by being part of the identity of the larger group, members also assume full individual identity (Wenger, 1998).

Participation is a constituent of identity, members don't stop participating when they are not actively engaged in CoP activities (Wenger, 1998). This is illustrated in the analysis of the community of practice of alcoholics (Lave & Wenger 1991) in which it is contended that the main business of Alcoholics Anonymous (AA) is the reconstruction of identity;

'By 'identity' I mean the way a person understands and views himself, and is viewed by others, a perception of self which is fairly constant ...'

(Cain, 1991:81)

The construction of a new identity is evidence of the movement of members from newcomer to old timer. Pregnant women transform from being pregnant, to being mothers, with the knowledge, skill and practice that motherhood brings.

Multiple Identities and Constellations of CoPs

Just as CoP theory does not exist in isolation, nor do CoPs. They exist side by side and at times their boundaries overlap. Members can belong to many different CoPs (*multi-membership*) and legitimately participate in several simultaneously. Identity within one CoP does not form the complete identity of the individual. However, at times the co-existence of multiple identities may require the individual to carefully negotiate tensions between identities and/or communities of practice. Nonetheless, multi-membership and identity are fundamental to the core concept of identity (Wenger, 1998). Community members don't just learn about their area of interest through their participation, they learn to how to become a fully immersed member. They learn to 'be'.

CoPs exist in close proximity to each and may be co-located geographically or interrelated through domain, practice or affiliations, in the form of '*constellations of interconnected practices*' (Wenger, 1998:127). Constellations of practice are not simply an overarching CoP because their configuration is too dispersed to retain the features of mutual engagement, joint enterprise and shared repertoire. Attempting to view constellations of interconnected practice as a single CoP would negate the significance of boundaries which are an intrinsic feature of CoPs. To view 'mothers' as a CoP would fail to recognise the diversity in mothering, the stages of motherhood, demographic differences and the differences between families. Mothers of twins may have very different needs to mothers of singletons, mothers of children born with chromosomal abnormalities may belong to several different CoPs each fulfilling different needs. Mothers may straddle multiple groups, each informing and supporting unique and specific needs not met elsewhere.

Boundary

CoPs have boundaries which distinguish members from non-members;

'Lines of distinction between inside and outside, membership and non-membership, inclusion and exclusion'

(Wenger, 1998:120)

The demarcation occurs at the juncture where mutual engagement, joint enterprise and shared repertoire are no longer viable due to evident diversity in practice. The boundary is a distinguishing component of the CoP and allows it to be defined as such.

CoP characteristics

The difference and value of CoPs in comparison to other groups such as work based teams or social networks is the members shared learning and practice which is specific to their community. This sets them apart from other social formations but the difficulty lies in identifying the unique features which distinguish them from other groups, features which identify groups as CoPs are listed in Table 2. Despite identifying these defining characteristics, CoPs are poorly defined and it is difficult to be explicit about what makes a CoP a CoP. It is unclear in the literature if CoPs need to exhibit any, some or all of the features listed in Table 2, or whether one characteristic interplays with another. This study aims to identify which dimensions are necessary for CoP formation and how the dimensions relate to each other.

Table 2. CoP Characteristics

Dimension	Characteristics of CoPs
Mutual Engagement	<ul style="list-style-type: none"> • Continuity of mutual relationships • Shared ways of engaging in activities/practice • Rapid and ongoing flow of information (grapevine) • Absence of ceremony or order (informality) • Ongoing and easily resumed conversations
Joint enterprise	<ul style="list-style-type: none"> • Overlap in members descriptions of who belongs • Problems identified quickly without extensive background • Awareness of member’s strengths, weaknesses, competence, expertise. • Shared evaluation of effectiveness and appropriateness of actions
Shared repertoire	<ul style="list-style-type: none"> • Common tools, stories and language • Behaviour patterns and interactions recognisable as a sign of membership • Common standpoint about the relevant external environment

Combined ideas from Kerno (2008), Murillo (2011) and Wenger (1998).

CoP Definition

Although there is no precise definition of CoPs, by examining the purpose, membership, motivation and boundary margins of social group formations, CoPs can be distinguished from other groups (Table 3) (Wenger, 1998). Many features are shared but there are some unique differences. The structures which are most similar to CoPs are communities of interest and informal networks, neither of which are commonly associated with work based groups where CoP theory has most often been applied. When used to explain individual learning in a group context that has evolved organically, the concept is feasible. However, when a group is brought together and called a CoP without evidence of the dimensions detailed in Table 1, the CoP concept loses potency (Storberg-Walker, 2008).

Wenger's shift in perspective between 1998 and 2002 altered the original notion of learning as praxis shaped by critical dialogue, to one of learning as expertise which can be harnessed through regulated, organisational dialogue (Wenger, 1998, 2002; Davenport & Hall, 2002). This fundamental shift in stance explains the range and extent of interpretation about CoP theory and application. CoPs have been interpreted and utilised in multiple ways, facilitated by Wenger's nonspecific definition, and fluctuating interpretation and application of the concept (Lave & Wenger, 1991; Saint-Onge & Wallace, 2012; Wenger, 1998; Wenger, McDermott & Snyder, 2002; Wenger & Snyder, 2000). Irrespective of the underpinning reason, the lack of clarity does not aid understanding. Wenger counters that there is a lack of clarity by suggesting that the notion of a CoP is not 'true or false' it is just one way of thinking about the negotiation of competence and as such that there doesn't need to be a strict definition. However, theories require definitions and parameters for effective theory building, application and understanding; without this further development is difficult (Storberg-Walker, 2008). All CoP studies cite Wenger's work, but the date range of the work cited differs, and as such the theory is inconsistent, hard to understand and ill-defined (Johnson, 2001).

Table 3. Distinctions between CoPs and other structures (Wenger, 1998)

Structure	Purpose	Membership	Boundary clarity	Maintenance of cohesiveness	Longevity
CoP	Create expand and exchange knowledge to develop individual capabilities	Self-selection based on enterprise or interest or passion for topic(s)	Fuzzy	Passion, commitment, cognitive identification with the group and its interests, goals and knowledge	Start, evolve and end organically (last as long as the topic relevance, value, desire to learn communally)
Formal Department	Product of service delivery	Groups manager and subordinates reporting	Clear	Job requirements common goals and objective hierarchal	Relatively permanent (lifespan typically related to product or service)
Operational team	Ongoing operation or process care and maintenance	Organisational fit assigned by management	Clear	Shared responsibility for ongoing process or operation	Ongoing (lifespan typically related to relevance or necessity of process or operation)
Project team	Accomplish pre-determined task or objective	Those who bear direct responsibility for accomplishing the task	Clear	Team acknowledgement of the projects goals milestones, progress	Specific (ending exists typically occurs when project is acknowledged as complete)
Communities of interest	Informational	Self-selection based on individual interest	Fuzzy	Information access, sense of like-mindedness	Start, evolve and end organically
Informal networks	to be in an 'information loop' to validate relevant people in life, collect and share common information	Friends and business acquaintances, friends of friends, those who possess and provide information of value	Not defined	Mutual needs, relationship, regard toward others, perceived value in belonging and participating	Ambiguous (exist as long as contact between individuals continues or memories remain intact)

Wenger (1998)

Cultivated or Spontaneous Emergence

A critical component of CoPs is their emergent nature combined with voluntary, self-selecting membership, participation and management (Wenger, 1998).

Wenger, McDermott and Snyder's later work (2002) which focuses on organisational CoPs created with the specific intention to share expertise is at odds with this, as the driver is the organisation and not the individual members thus undermining the original theory. This '*popularisation and commodification*' is not a change in tone or stance but is '*simply a different idea*'. (Cox, 2005:9). The cultivation of CoPs may be possible; CoPs may organically evolve from within externally organised groups. However, that does not mean that they are CoPs at the outset, even if they are given the title (Li et al., 2009). It is paradoxical that there are attempts to create CoPs for organisational benefit as the evidence suggests that when established, organisations cannot control what happens within CoPs, because members set the agenda (Probst & Borzillo, 2008; Thompson, 2005).

Lave and Wenger stated

'the commoditization of learning engenders a fundamental contradiction between the use and exchange values of the outcome of learning'.

(1991:112)

And yet the commercialised version of CoPs risks becoming exactly the type of commoditised learning Lave and Wenger reacted against (Hughes et al., 2013).

The original theory has been modified to such an extent that it has sabotaged its analytical and critical purpose (Hughes et al., 2013; Storgberg-Walker, 2008).

However, it could be argued that if the CoP and the learning which occurs within it, is not emergent, spontaneous and inevitable, the CoP is not a CoP, it is simply an informal network. Theoretical potency is irrelevant because the group being studied has been misnamed and as such the theory is not applicable. Given this paradox, it is important for this thesis to return to the original concept to provide a theory for understanding situated learning and identity transformation, to restore CoP credibility, and provide a platform for further theory building.

Knowledge

There are three main ways of viewing knowledge (McLure-Wasko & Faraj, 2005):

- *Positivist*: knowledge as an object which is independent of human action and perspective, which can be acquired or exchanged as a commodity.
- *Embedded*: knowledge residing in the individual mind, and acquired and shared through individual interactions.
- *Collective*: owned and shared by communities for public good.

The concept of knowledge as being collectively owned, and a resource to be shared is fundamental to the concept of CoPs, and forms the part of the foundations for this study. Embedded maternal testimony, when shared has the potential be an important source of knowledge for pregnant women and new mothers. However, relying on maternal testimony may be problematic if the source of knowledge is incorrect or misrepresents information (Pinkham, Kaefer & Neuman, 2014).

Explicit and Tacit Knowledge

An agreed definition of knowledge remains elusive but there is consensus that knowledge is either explicit or tacit (Collins, 2010). Explicit knowledge is that which can be easily articulated and shared. It can be explained, understood and once codified can be stored in many different formats. Thus, explicit knowledge is reified and long lasting. However, although explicit knowledge can easily be codified, for example in the form of books and manuals, it is static and can become outdated and incorrect (McLure-Wasko & Faraj, 2000).

In contrast, tacit knowledge is knowledge which may or may not have the potential to be explained but in its current form has not been articulated, codified or reified. Tacit knowledge is knowing more than we can tell (Polyani, 1966) and is embedded in action and context (Nonaka, 1994). Birth knowledge is both explicit and tacit; the physiology of birth is detailed in medical, midwifery and lay texts, but whilst midwives and mothers may share birth stories, knowledge about birth depends on context and cannot be understood by simply translating codified

knowledge. Tacit knowledge is not found in manuals or academic journals, and is arranged according to content, context (local or global) and orientation (pragmatic or ideal) (Smith, 2001). Fitting a seat onto a bicycle and following the manufacturer's instructions is an example of using explicit knowledge, but the knowledge required to ride the bicycle when the seat is fitted is tacit knowledge (in that it cannot be effectively explained in a written context). Both are required for comprehensive understanding;

'the explicit and the tacit always need each other to be effective'.

Wenger (2001:236)

As a result of actual and potential growth and development in different fields of all knowledge, it is difficult for individuals to master and maintain expertise. The complexity of certain situations means that multiple approaches to problem solving are required. This is evident when seeking pregnancy, birth and parenting expertise and information because each pregnancy, birth and family situation is unique. Consequently, knowledge that is explicit and tacit, needs to be continually updated by those who understand the issues, developments and progress in their field (Wenger, 2001).

Knowledge as Social Capital

Involvement in social groups reaps benefits and rewards, called social capital (Portes, 1998). It brings benefits mediated through access to networks which may not be accessed otherwise (Bourdieu, 1986) and traditionally women have accrued social capital through fulfilment of motherhood (Guendouzi, 2005). One such benefit of belonging to a community is sharing the knowledge resource that the community collectively possesses. This concept is fundamental to CoPs with the belief that the community holds more knowledge than individuals in isolation leading to advancing knowledge in individuals and the community (Gherardi & Nicolini, 2000; Johnson, 2001; Wenger, 1998). CoPs exist at the intersection of both intellectual and social capital, because knowledge is created by and transferred through social networks, and social networks generate the social capital which is essential for the creation, sharing and use of knowledge (Koliba & Gadjia, 2009).

Information

Knowledge is commonly understood to be derived from information and experience. Information is that which can be shared or converted into a format so that it can be simply distributed, whereas knowledge is more complex and is not always easily codified (Terra & Angeloni, 2003).

Information can be turned into knowledge and vice versa, knowledge can be made into information, but they are not one and the same thing. Information can be meaningless without context and CoPs can offer a structure for providing context and thereby providing a structure for knowledge creation. Not all knowledge is based on correct information but that does not mean it is not shared or transferred, thus myth and folklore are generated. 'Old wives' tales' relating to pregnancy, birth and mothering are widespread, and pregnant women and new mothers may be particularly vulnerable as they may not have the ability to discriminate between information and misinformation or knowledge and misunderstanding. It is therefore vital that that maternal groups and CoPs share trusted information and can negotiate meaning relevant for members.

Criticisms of Community of Practice Theory

Much of the literature around CoPs emphasises the positive effects they generate, but increasingly the rose-tinted view is being challenged and caution is urged in viewing CoPs as a solution for best practice (Kerno, 2008; Pemberton, Mavin & Stalker (2007:63). CoPs have 'downsides' and disorders, which can be '*remedied by fine tuning*' (Wenger, McDermott & Snyder, 2002:159). The suggestion that fine-tuning can remedy CoP disorders emphasises the development of CoPs as a tool or knowledge management strategy rather than a learning theory.

Nonetheless, the concept of CoPs has weaknesses which have resulted in the theory being criticised. This moves from criticism that the term CoP is so broad that it can be applied to almost any type of group (Egan & Jaye, 2009), to more specific criticisms about areas lacking sufficient explanation or examination such as the notion of community, social dynamics and meaning and knowledge generation.

The Notion of Community

Jewson et al. (2007) argue that there are theoretical assumptions about 'community', throughout Wenger's (1998) work which undermine the theory. Primarily the criticism is that the term 'community' is poorly defined conceptually and is subject to multiple interpretations. In addition to being poorly defined most associations with the term are overwhelmingly positive (Jewson et al., 2007). Nonetheless Wenger (1998) emphasises that the term 'community' should be viewed as part of the 'community of practice' phrase and not deconstructed, because the constituent terms specify each other. Community is described as the cohesion which is developed through mutual engagement, shared repertoire and joint enterprise (Wenger, 1998), therefore it appears there was no intention for the term community to be isolated as a theoretical concept and consequently the meaning of community in isolation is irrelevant, the only important understanding is that of the CoP.

Social Dynamics, Conflict and Power Struggles

Wenger's original theory offers little discussion or insight into the potential for power struggles or into effects of conflict within CoPs (Contu & Willmott, 2003; Cox, 2005; Fox, 2000). Social dynamics and issues of power in both local and broader contexts are not explored and as such CoP theory fails to explore fundamental aspects of human relationships. Wenger suggests that the novice is as important as the expert, but fails to acknowledge that although both may be equally important there may still be power imbalance. A primiparous woman is no less of a mother than an experienced grand multiparous woman, however the experienced mother may assert more influence and power due to an assumed expertise, which may or may not exist. Members will possess status for reasons other than being a newcomer or old timer, including experience, expertise, personality and authority (Roberts, 2006). All have the potential for power difference. Members wielding greater power, such as mothers with previous experience of birth and parenting, may have the potential to influence the negotiation of meaning disproportionately. Consequently, meanings may only reflect the dominant source of power (Roberts, 2006). This may be one of the ways myths and folklore are perpetuated. CoP moderators may address the risk of

myth perpetuation to some extent, but it cannot not be assumed that moderators' have infallible knowledge.

CoP theory fails to explain how members can actually change practice or innovate when there is resistance (Fox, 2000), or expert opinion dominates (Yanow, 2004). Power relations create context for the CoP and that context affects the sharing and learning that takes place (Contu & Willmott, 2003). Power relations can also affect access to the group by enabling or restricting membership thereby constraining individuals' potential for LPP and learning (Contu & Willmott, 2003). Whilst acknowledging that relations of power exist in all social structures, CoPs are presented as stable and cohesive environments (Fuller et al., 2005; Lave & Wenger, 1991). There is a recognition that old-timers within CoPs may feel threatened by newcomers thus creating a dynamic tension which is essential for CoPs continuation (Lave & Wenger, 1991), but by failing to explore this and other tensions, there may be assumptions that they do not exist, or alternatively that power struggles and conflict are atypical or anti-social, when in fact disagreements, challenges and criticism are part of creative relationships (Cox, 2005).

Extremely close relationships amongst members can act as barriers to newcomers and prevent their full integration. Similarly, strong relationships can dominate the community so that the relationships become the focus of concern as opposed to the joint enterprise. Overbearing relationships may also discourage new members from joining which will lead to CoPs becoming inactive as a learning forum (Li et al., 2009).

Meaning and Knowledge Generation

Social dynamics within CoPs can affect their growth and development (Li et al., 2009). If the power base is so dominant that negotiation of meaning is only developed from there it will affect learning and the generation of new knowledge. Members may be unable to move beyond peripheral activity or contribute to the CoP with their own stories or meaning (Li et al., 2009), and as such the shared

knowledge would not be socially constructed or challenged. This powerbase could emanate from moderators.

Nonetheless, it can be argued that most personal social experiences are individual and are influenced through subjective beliefs and values. As such the opportunities for negotiating shared meaning are likely to be remote (Billett, 2007). The significance of this is that when meaning is negotiated, it happens within a CoP, thereby illustrating a CoP characteristic and possibly confirming the group as a CoP.

When members perpetuate the stories of the powerful rather than adding their own experiences and insight, negative CoPs can result. Negative CoPs are identifiable when the community no longer learn from one another and moves forward, instead they simply repeat messages and perpetuate commonality of thinking (Eraut, 2003) with CoP members supporting knowledge and practice which reinforces the current identity and practice of dominant members rather than those which challenge it. Such CoPs may support incremental change but will be less likely to embrace radical innovation (Roberts, 2005). Radical innovation however is not a characteristic or dimension from original CoP theory. It has relevance when using CoPs as a tool for knowledge sharing and generation, but less significance when applied to non- work/organisation based CoPs without a business or goal orientated agenda. There is a risk of recycling knowledge within CoPs, rather than critically challenging or extending it (Elkjaer, 2009), and conservatism and protectionism existing within CoPs may stifle the potential for creativity but when the CoP is used as a lens to view learning as opposed to creating learning this can be a feature for analysis rather than a criticism.

Empowerment of members is a positive feature of CoPs (Pemberton et al., 2007) as members are able to express themselves without fear of admonishment. This freedom brings with it the risk that the CoP becomes a recycling bin for negative thoughts and becomes '*a source and container of anxiety*' (Pemberton et al., 2007:69). Emotional containment is important in order for the group to function effectively, but members need to trust one another, provide support to one another

and the CoP should provide a protected space where members can engage in dialogue freely and safely (Ardichvilli et al., 2003; Pemberton et al., 2007). This containment is particularly important for pregnant women who may feel more sensitive and emotional than their non-pregnant counterparts. If the CoP is not merely a group of people erroneously called a CoP, these elements will be evident because they are the conditions which allow the CoP to evolve.

Leadership

Preserving the protected and safe space is a responsibility of all members but may require leadership for maintenance of it, if emotions are charged. Wenger et al. (2002) recognise that leadership must be present in CoPs as communities without internal leadership rarely survive as they lose momentum and focus. This may be the case with new groups evolving into CoPs, as energy and stimulation is required for the group to establish, but CoPs which form spontaneously have done so to meet a need that is unmet elsewhere, as such the impetus is intrinsic and maintained by the individual members. The role and importance of leadership is untested in this thesis as the online groups are not spontaneous and are professionally moderated, thus in the first instance the group leaders are the moderators.

Expert and Old-timers – Experienced Learners

LPP focuses on the learning, progression and transformation of newcomers in practice and the omission of including experienced 'old-timers' imported into new CoPs has been criticised for leaving a significant gap in CoP theory (Fuller et al., 2005; Hodkinson & Hodkinson, 2004). Fuller et al. (2005) argue that Lave and Wenger's theory of learning has developed beyond its original intention i.e. novice learners, to include all learning situations and does not identify or explain how learning differs between newcomers and old-timers. However, this is disputed by Kernó (2008) who notes that experienced community members also continue to learn as a result of their engagement, regardless of their prior expertise. This notion relates well to women who have previously been pregnant and are already mothers when they learn from women pregnant for the first time, as they discuss

issues relating to modern maternity care or which they have not encountered previously.

Hodkinson and Hodkinson (2004) argue that not all CoP members move centripetally, some will move progressively from full immersion and 'expert' to the peripheries i.e. marginal to the CoP. Therefore, although CoP theory can be a useful component of learning theory, it does not adequately explain learning in all contexts (Fuller et al., 2005). This criticism assumes that centripetal movement refers to mastery of something, as opposed to a transformation of identity. When identity is transformed, movement from the peripheries and beyond is less relevant as the transformation has occurred. The learning within CoPs is not about the acquisition of knowledge and skills,' it is about

'the process of becoming a certain person in a social context.'

(Farnsworth et al., 2016:145)

The emergence of identity through LPP within a CoP is a fundamental component of Lave and Wenger's situated learning theory. However, there is little explicit reference to theories of identity construction within the original work and given that individuals belong to many CoPs (constellations) and are shaped by multiple values and beliefs systems, the identity transformation theory presented appears too simplistic (Handley et al., 2006). Tensions generated by individuals as they attempt to negotiate different CoPs may not be fully resolved and identity development may actually occur in the spaces between CoPs rather than solely within them (Handley et al., 2006).

Group Size and Structure

Egan and Jaye (2009:112) argue that although it is possible to apply CoP theory to *'just about any group of people'*, CoPs lose analytical power when applied to groups which are too large or small. Group size is not specified in Wenger's work indicating that groups can be any size but the value in CoPs lies in the ability of members to share information which may otherwise be difficult to access. When a CoP becomes extremely large members may have difficulty in trying to identify the information which relates to them and their needs. Comments posted online in a

'virtual' CoP can be diluted to such an extent that its value is lost, or it becomes difficult to ascertain the level of participation of the contributing member (McLure, Wasko & Faraj, 2000). Netmums (www.netmums.com) and Mums.net (www.mumsnet.com), which are two of the largest online groups for parents (Pedersen & Smithson, 2013), illustrate the potential problems of growing communities which become so large interactions are depersonalised and opportunities for learning are lost. There may also be issues relating to trust if the group is too large and members don't know each other. However, if a group is too small, the potential for learning may be restricted such that there is no potential for negotiating meaning or simply there is not enough participation for the group to be social. The size of CoPs may be an important feature in their development which has not yet been ascertained; certainly, this may be an important factor in a CoP of pregnant women with a diverse range of information needs. Before developing his concept of CoPs as a knowledge management tool, Wenger (2000) clearly stated

'People must know each other well enough to know how to interact productively and who to call for help and advice. They must trust each other, not just personally, but also in their ability to contribute to the enterprise of the community so they feel comfortable addressing real problems together and speaking truthfully.'

(2000:230)

The clear message in this statement appears to have been lost as CoPs have grown in size (see subsequent literature review, Chapter 3).

Web Based CoPs

As there is a lack of consensus about what constitutes a CoP, there can be no clear definition of a Virtual CoP (VCoP) other than in a VCoP the relationships and links occur in a virtual rather than a physical space (Correia, Paulos & Mesquita, 2010). Through their online communications members of the VCoP learn and help to both share and develop knowledge about the shared area of interest (Gannon-Leary & Fontainha, 2007). They do this without the constraints of a physical space or timeframe (Bourhis, Dube & Jacob, 2005).

Wenger extended the meaning of CoP to include web based communities in his seminal work (1998) whilst carefully pointing out that most online communities are not CoPs (1998, 2004). Social media has transformed online space, and the information technology revolution has made online communities proliferate. Nonetheless, the growth of online communities does not necessarily mean that there has been a similar growth in VCoPs as the determining feature of CoPs is socially driven learning, intentional and unintentional, which is not evident in all online communities. VCoPs are similar to CoPs situated in a physical environment, but because of the lack of physicality and face-to-face interactions, there are some differences worthy of exploration.

VCoP Development

Online communities can be developed very quickly but VCoPs may take longer to emerge because VCoPs are more than online discussion boards and human social bonds take time to develop (Hanson-Smith, 2013). CoP members feel connected (Wenger, McDermott & Snyder, 2002), but this sense of connectedness may not be as noticeable online as it is in a physical space as members can observe each other without any obvious interaction taking place.

Trust

Trust is essential for CoPs to function effectively (Ardichvilli et al., 2003) and the lack of face-to-face interactions and shared physical space may also curb the potential for trusting relationships to develop (Gannon-Leary, 2007). However, trust is a complex concept and it is possible for trusting relationships to develop without any physical interaction (Usono et al., 2007). This may in part be due to the high level of visibility and openness i.e. everyone can see what is being said, which is unavoidable in VCoPs, and the fact that this results in higher confidence levels which can foster greater levels of mutual cooperation (2007). This high level of visibility and openness combined with a reduction in physically evident influencing factors such as voice, accent, stature or class, factors which can inhibit trusting relationships, may mean that VCoPs can emerge more readily from virtual communities (Johnson, 2001).

Invisible Practice

CoPs are notably different to other learning environments as the learning takes place within the actual situation, which includes the social environment rather than in a learning space i.e. a classroom or lecture theatre. When considering VCoPs the web (www) is the base for the community and there is not a physical place for practice which occurs out of sight of VCoP members. This results in a significant difference between VCoPs and physical CoPs; the latter facilitates passive membership (Cook-Craig & Sabah, 2009; Lathlean & Le May, 2002), whereas VCoP members have to actively engage to participate. Without active engagement, they cannot be a member i.e. they have to actively log into the virtual space, they cannot be present without intending to be. Nonetheless they can engage without 'being seen'. Members can log on, but can then lurk or listen in the virtual space, without contributing but still learning. This is analogous to LPP (Lave & Wenger, 1991) whereby members can choose the extent to which they actively contribute, but they are still learning and therefore are still members of the CoP. The member can lurk or participate on the periphery until they want to contribute. This lurking is facilitated, not only by the lack of visibility but also the asynchronous nature of discussions within VCoPs, which allow members to choose when to contribute without any negative implications. Whilst lurking is possible in physical CoPs it is unlikely that members would not be seen at all and as such lurking in online CoPs differs and is a different form of passive membership.

Asynchronous Communication

Whilst dialogue is ongoing it does not necessarily take place in the same time frame or time zone. Asynchronous discussion can be both a positive and negative feature of VCoPs. It allows for individuals to engage in discussion and contribute when they choose and as such can be an equaliser, but asynchronicity can cause discussions to be fragmented and to lose their sense of being a 'discussion' (Hammond, 1998; Johnson, 2001).

Time is a critical factor in the success of VCoPs; they may be disadvantaged by the time it takes to post questions and answers (Pemberton et al., 2007) but

asynchronous communication may well counter balance the perceived disadvantage. Time is cited as the most constraining factor in the success of VCoPs (Correia, Paulos & Mesquita, 2009; Barnett et al, 2014) but most evidence is from organisation based VCoPs in which members are already time constrained by the activities demanded by their professional role. This may not be the case in VCoPs which are not focused on professional or workplace activities.

Codified knowledge

Teigland (2000) suggests that although online CoPs demonstrate many of the characteristics of place based CoPs, an important distinction is the type of knowledge shared. VCoP members are not physically together and as such they have to operate through 'codified' knowledge (Teigland, 2000). This clearly challenges the understanding that CoPs typically share tacit non-codifiable knowledge which is hard to articulate, and may infer that VCoPs are no more than virtual communities. Del Rio and Fischer (2007) describe virtual communities as online-communities who do not foresee learning as their main purpose. They regard the development of relationships and shared interest as the main driver for the formation of such groups and the learning is generated as a side effect. This perfectly fits Wenger's (1998) early description of CoPs and his acknowledgement that some CoPs do not even recognise they are CoPs. Regardless of whether they recognise themselves as CoPs or not, if learning takes place, Wenger's CoP criterion is met.

Online social learning

Although there is little, if no evidence regarding the use of VCoPs to support learning beyond professional or organisational structures, there is evidence which supports VCoPs of this type (Coakes & Smith, 2007; Correia, Paulos & Mesquita, 2009; Hanson-Smith, 2013; Saigi-Rubio & Gonzalez-Gonzalez, 2014; Tarmizi & Zigurs, 2006; Wenger, 2001). CoPs can provide instant expertise from multiple sources thus facilitating a type of apprenticeship which takes place in a safe and social environment, for as long as the 'apprentice' wishes (Hanson-Smith, 2013). VCoPs can enhance access to information and other services for members who

might not otherwise be able to access such services (Ellis, Oldridge & Vasconcelos, 2004).

Several online communities which focus on pregnancy, birth and mothering exist e.g. Mumsnet.com, Cafemom.com, Babycentre and Mamapedia. These online communities do not appear to share the fundamental characteristics of CoPs, their primary purpose is for information exchange and not the growth or development of individual capabilities. As such these communities are more and are more in line with Communities of Interest than CoPs (see Table 2 and Table 3).

Online Social Capital

People take part in VCoPs largely out of a sense of moral duty and community interest, because they present an opportunity for general sharing and exchange, and to demonstrate positive social behaviour (McLure-Wasko & Faraj, 2000). In short, the incentive to exchange knowledge is based on the belief that 'it is the right thing to do' and reciprocity is based on a general feeling of 'giving back' rather than an expectation to receive (McLure-Wasko & Faraj, 2000). It is not known if this reciprocity would translate to VCoPs which are not affiliated to an organisation. Motivations to share are not necessarily linked with an affiliation to the host organisation (Gannon-Leary & Fontainha, 2007) and in view of McLure Wasko and Faraj's (2000) analysis of social capital and knowledge contribution, there is little reason to think that sharing would not occur.

Online Success

Several critical success factors for VCoPs are identified and viewing technology as an accepted means of communication is one such factor (Gannon-Leary & Fontainha, 2007). This means that the use of online communications must be the norm for members. A VCoP must have a sense of purpose (Campbell & Uys, 2007) and this requires support from a leader (Bourhis, Dube & Jacob, 2005; Wenger, 2002) or facilitator (Gray, 2004; Tarmizi, Vreede and Zigurs, 2006). The role of the facilitator is particularly important in ensuring the language is user friendly and members are welcomed in and encouraged to participate (Gannon,

Leary & Fontainha, 2007). However, the facilitator role is not identified in physical space based CoPs presumably because when people are physically co-located, interactions occur without thought or pre-planning, they are to an extent inevitable. The facilitator (moderator) in VCoPs, clearly has an important role in generating interest and building and sustaining participation until the community is well established.

Social learning does not take place in a specific environment, it occurs by participating in life (Wenger, 1998). Information technology has broken down physical boundaries by allowing social interactions to take place in virtual environments, and has exposed the potential for CoPs to evolve in virtual spaces. Given that all CoPs are unique and develop to meet previously unmet needs the environment in which members meet may be of little significance. Whether the space is virtual, physical or a combination of both, in the context of this thesis, CoPs are determined by the dimensions of mutual engagement, joint enterprise and shared repertoire, not by the space its members occupy. Consequently, throughout this thesis CoP is used to denote both physical and virtual communities.

Through the medium of social media, using pregnancy related information provided by midwives to initiate and facilitate social engagement between mothers, intentional and unintentional learning may occur (social learning). A CoP may develop and be recognisable as the framework through which mothers transform their identities and learn at their own pace about motherhood (see Figure 1).

Figure 1 – Concepts to create a Maternal CoP

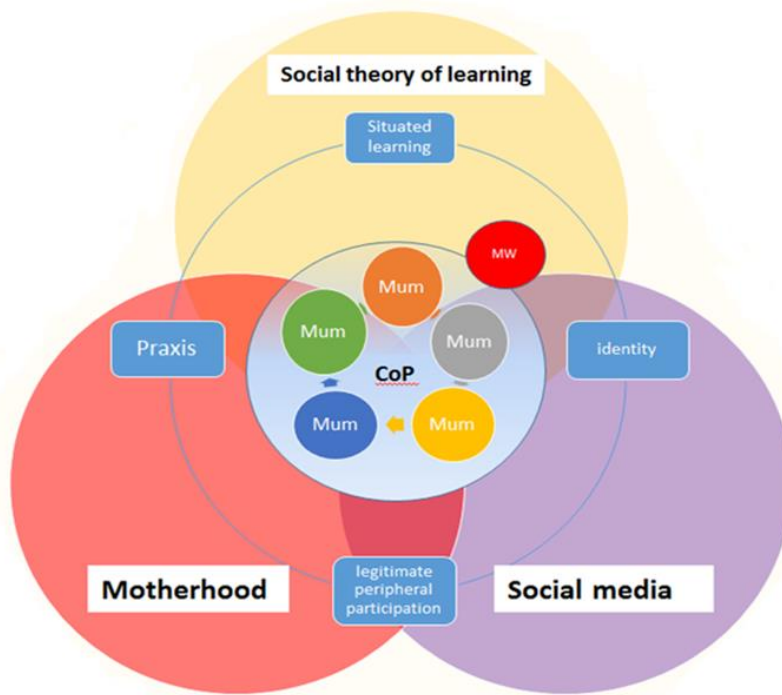


Figure 1 illustrates the concepts of social media, social learning theory and motherhood which when drawn together have the potential to create a CoP in which social and situated learning occur and women can transition from pregnancy to motherhood in a safe, informative and supported environment.

Summary

This chapter has discussed the concept and theory of CoP and the ways in which situated interactions can explain intentional and unintentional learning. CoP theory provides a mechanism, LPP, to explain how peer and expert knowledge have equal value in informal learning and how learning occurs incrementally at a pace set by the learner. CoPs are not informal learning groups nor are they an educational strategy by which to facilitate learning; they are a way of explaining how learning takes place without informal instruction. Despite significant diversity in their structure and format CoPs may provide a way of explaining learning and how context is vital for understanding. Context is provided by CoP members who share the same area of interest, and resources for learning are created by and held within the group. The unique bond which holds CoPs together is the members shared area of interest (joint enterprise), participation in the group and

with each other (mutual engagement) and repository of stories, language and artefacts which have meaning for members (shared repertoire). These characteristics are evident in all CoPs. They may be evident in some groups and networks but that does not mean that all groups or networks are CoPs. The unique and distinguishing feature of CoPs is that learning is an outcome of CoPs, regardless of intent, and fulfils a need that is not met elsewhere; hence the original understanding that CoPs are spontaneous and self-emergent. The concept of CoPs has been applied in numerous different situations, but the difference in understanding and interpretation of what constitutes a CoP has resulted in such diversity that the strength of the theory is challenged.

The use of CoP theory to explore learning in non-organisation based CoPs (open CoPs) is deficient with the exception of Lave and Wenger's non-drinking alcoholics; a clear gap in the literature which will be addressed in this thesis. The potential for maternal CoPs to emerge from groups of mothers connected via social media is unknown. Pregnant women share a time-critical interest in pregnancy and birth (joint enterprise), they look to each other for advice, support and encouragement (mutual engagement), mothers share an understanding, a history and a language that is unknown before pregnancy and birth, and can be specific for their particular demographic context (shared repertoire). But it is unknown if CoPs of women can evolve from online groups and be recognisable as such by the learning taking place within. This thesis aims to see if CoPs will emerge from moderated online communities of pregnant women and if the support and information needs of women are met through this framework.

Chapter 3 systematically explores the evidence relating to CoP theory and application with a focus on healthcare.

Chapter 3: The Use of Communities of Practice in Healthcare: A review of the literature

Introduction

The literature relating to CoPs is vast and the ways CoPs in which have been described, used and evaluated is so diverse that the body of literature is too immense to be reviewed in the context of this thesis. Therefore, this review is made up of two parts. Firstly, a general overview of the sectors where CoPs have been most widely used is provided. This is followed by a more detailed study of the evidence relating to CoPs in healthcare using a systematic approach. The review has been presented this way in order to provide context and to highlight the gaps in the literature that the study intends to fill.

Whilst the underpinning theory of CoPs is discussed in Chapter 2, this chapter explores how CoPs have been researched and utilised. CoP theory and more commonly CoP application has been embraced by commercial organisations, academia and to a lesser extent healthcare organisations as a tool for managing knowledge, and to facilitate sharing and learning (Diaz-Chao et al., 2014; Kimble, Hildreth & Bourdon, 2008; Kislov, Harvey & Walshe, 2011; Li et al., 2009; Lin & Ringdal, 2013; Ranmuthugala et al., 2011; Roberts, 2006; Wenger, McDermott & Snyder, 2002). CoPs have been adopted in formats which bear little resemblance to the original concept suggesting that the original theory has been undermined and diluted. This has led to ambiguity and an inability to robustly evaluate CoP theory or application, and has resulted in ongoing criticism (Billett, 2007). Consequently, CoP theory has not been rigorously developed, instead it has grown into a theory which can be applied to most groups of people thus reducing its effectiveness and limiting effective application (Egan & Jaye, 2009; Storberg-Wlaker, 2008). Despite this, the literature broadly endorses CoP application and theory and is largely positive.

Overview of CoP Models and Theory: Business, Education and Health

Business

CoPs have been used in business as a way of capturing individual knowledge for corporate benefit. They have been recognised for improving business outcomes and professionally developing the individuals involved in them (Rivera & Carlos, 2011; Anthony et al., 2009). Their perceived success in managing and harnessing knowledge within the business sector may have positively influenced the introduction of CoPs within healthcare despite the fact that in the context of British healthcare there is limited applicability/transferability. NHS healthcare is not primarily focused on holding onto knowledge which has potential value.

Shareholders and profit margins do not drive the NHS agenda and consequently knowledge management is more of a professional and individual responsibility. Nonetheless, there is a plethora of literature regarding the success of CoP s in business, and business models have been imported and applied in health care contexts (Barnett et al., 2012; Probst & Borzillo, 2008).

The key CoP themes identified within the business sector are based around knowledge management and the ability of organisations to harness and share the knowledge of its workers. However, despite their widespread implementation, there is little robust evaluation of their impact in terms of empirical evaluation. Much of the literature is based on opinion and supposition and is written by or in conjunction with its original proponent (Ardichvili, Page & Wentling, 2003; Hildreth, Kimble & Wright, 2000; Saint-Onge & Wallace, 2012; Wenger, 2001, 2004, 2009, 2011; Wenger & Snyder, 2000; Wenger, McDermott & Snyder, 2002). This raises questions about the integrity of the evidence in addition to its suitability and transferability to healthcare contexts.

Education

CoP theory has also been embraced within educational settings and used as a model for development, reflection and support, often within the context of healthcare education (Kirschener & Lai, 2007; Ng & Pemberton, 2013). This is not

surprising as CoPs are part of a wider theory of teaching and learning (SLT) and may be seen as part of a tool kit for educationalists to understand and facilitate different types and structures for learning (Barab & Duffy, 2000; Hildreth, Kimble & Bourdon, 2008; Ng & Pemberton, 2013). Despite this, few empirical studies have been undertaken to establish what CoPs are, how they work or how to make them sustainable within an educational context (Asoodar et al., 2014; Ekici, 2017; Kirschener & Lai, 2007). In relation to this review CoPs established in educational settings or contexts have been excluded as their primary aim is education and therefore focused on teaching and learning. Unintentional learning occurring as a result of social engagement forms the focus for this thesis and as such literature focused singly on education and educational environments are not included in this review.

Health

CoPs have been used widely in health care as a means for learning, for knowledge and information exchange, and as a tool to improve practice and to implement evidence based care (Ranmuthugala et al., 2011). Within healthcare, the term CoP has been used synonymously with groups and teams, focused on workbased improvements or tasks and the social learning concept has been overlooked (Li et al., 2009). The most recent systematic reviews have attempted to establish how and why CoPs have been established and how they have been used in healthcare, but have failed to draw conclusions (Li et al., 2009; Ranmuthguala et al., 2011). Shared characteristics have been identified but these have not been present in all of the groups (Li et al., 2009) and as yet there is a lack of clarity about the concept of CoPs in health care.

A brief examination of the three sectors above highlights that there is virtually no consensus as to what constitutes a CoP (Hughes et al., 2013; Johnson, 2001). Consequently, evaluating the effectiveness of such communities is difficult (Cox, 2005). There is significant variation in understanding of what CoP means to individual authors. Some groups operating as CoPs are unrecognised as such (Wenger, 1998) but equally some groups which are referred to as CoPs bear little resemblance to the original concept (Cox, 2005; Storberg- Walker, 2008). This

ambiguity has been exacerbated by Wenger's changing stance, and the resultant diversity in understanding, application and use of CoPs, makes it almost impossible to compare and contrast research. The remainder of this chapter, therefore focuses on a smaller body of literature, CoPs in Healthcare using a virtual platform for communication. The literature is approached systematically to answer the following questions;

1. How and what defines a CoP in healthcare?
2. How have CoPs been developed in healthcare settings i.e. how and why was the CoP brought together?
3. What has been measured and reported as successful in the development of CoPs?
4. Is it possible to create a successful, online CoP in healthcare?

These questions are important to establish current evidence and to shape and inform the study.

Method

This review broadly took a systematic approach in that it followed a strict and predefined protocol to ensure that specific research questions were answered and the approach taken was explicit and rigorous (Aveyard, 2014). As noted above, the literature in relation to CoPs was vast, so it was important to make choices regarding the exact focus of the search and the questions that the literature review within this chapter is seeking to explore. An important part of undertaking a literature search within a PhD context is to demonstrate the gaps in the literature and ensure that a unique contribution is being made. More general searches regarding information provision to women in pregnancy were undertaken and this material was incorporated into chapter 1 as appropriate.

The search strategy to identify all applicable literature was methodical and attempted to be exhaustive, and was agreed before the search commenced following discussions with the supervisory team following scoping searches of the literature. These scoping searches also provided an opportunity to check that the study was filling a gap within the literature and that no similar studies existed

within a midwifery or similar context. Each of the selected papers was critiqued by the researcher according to pre-determined criteria to assess the quality of the research and finally the qualitative findings of the papers were combined using a systematic thematic approach.

This synthesis is essential for higher analytic goals to be reached and to enhance the transferability of qualitative research findings (Sandelowski et al., 1997). This provides a meta-synthesis which can take many forms and can help to explain why interventions succeed or fail, and can inform the design and implementation of future studies (Atkins et al., 2008).

Given the overarching aim of facilitating the emergence of a CoP from an online community and the requirement to answer specific research questions, a systematic review of the literature with synthesis using a thematic approach is the most suitable methodology. Due to the paucity of quantitative data included in CoP research, from which conclusions could not be drawn, this review focusses on qualitative papers which have been analysed in detail. The diversity of methodologies in the field of inquiry into CoPs, the variation in structure and purpose of CoPs, combined with the largely qualitative nature of studies means that this approach is both pragmatic and justifiable.

Search Strategy

A systematic search of the literature in the area of Communities of Practice in healthcare was undertaken.

The following international databases relating to medicine, nursing and midwifery were searched (see Table 4).

- MEDLINE IN-Process & Other Non-Indexed Citations OvidSP
- MEDLINE, 1948 to November Week 3 2011, OvidSP
- British Nursing Index and Archive (BNI), 1985 to May 2011, OvidSP
- CINAHL, 1981 to present, EbscoHost
- Maternity and Infant Care Ovid
- Google Scholar

Table 4. Database search results

Database	Date searched	Search re-run	Retrieved
Medline	16.05.16	4.10.17	2403
BNI	13.05.16	6.10.17	419
CINAHL	16.05.16	4.10.17	1654
Maternity and Infant	19.05.16	4.10.17	977
Google Scholar	19.05.16	4.10.17	99
TOTAL			5551

These databases were the most likely to identify relevant literature relating to CoPs in a healthcare context. Google scholar was included to add a broad focus to the search. The following key terms were used; community of practice, communities of practice, health and healthcare. The search was internationally broad and aimed to gather all of the literature relating to CoPs in healthcare in order that an initial screening could be undertaken to ensure the studies related to the same substantive phenomena. The search was restricted to papers in English because it would be too time consuming and costly to get full text translations of qualitative studies for inclusion in this review. 5551 papers were retrieved from the initial search

Sifting/Screening

All duplicates were removed and titles were used to screen the papers whose title did not include the full term community (ies) of practice, and health or healthcare. The abstracts of papers with ambiguous titles were examined to ensure no relevant papers were missed. This revealed papers that included the search terms but did not relate to the community of practice concept and instead related to geographically or professionally related communities e.g. a community of practice development nurses working in rural Australia.

Initial sifting and screening resulted in 5282 papers being removed because they were duplicates or did not include CoP in full along with health or health care in the title. On the basis of their title a further 41 papers were removed. The abstracts of the remaining 228 papers (see Appendix 1) were reviewed using an initial data screening tool against the title and abstract and initial screening tool (Table 5).

Table 5. Initial Screening Tool

Q1	DESIGN	Y	N
	Does it have primary data Any data qualitative or quantitative included; opinion pieces without any primary data or systematic reviews excluded (although studies arising from them will be included in the searches)		
2	CONTEXT		
i	Is it in a health setting –clinical health setting with qualified health professionals		
ii	It is related to motherhood or parenting, pregnancy or birth.		
iii	Does it have an online element – not just email communications an online element that develops the CoP. Can be online entirely or be some online and some in person		
3	COP CONCEPT		
	Is there evidence of learning or teaching or growth of knowledge Evidence that this was the purpose OR the outcome of the intervention		
4	QUALITY		
	Is there a peer review of the paper? Can include unpublished as long as there has been review (i.e., PhD or Masters theses) but not conference abstracts		

This stage was important to ensure that the review was manageable, clearly bounded and relevant to the research questions. The screening tool was based the inclusion/exclusion criteria and focused questions on the research design, context, inclusion of CoP concept and the quality of the paper (see Table 5). The inclusion and exclusion criteria were developed to answer the literature review

questions and to ensure that the original meaning of the research was **not** lost, thus only primary research papers were included. This was considered to be particularly important as CoPs have been subject to multiple interpretations.

Table 6. Inclusion and Exclusion Criteria

Inclusion	Exclusion
Qualitative or quantitative primary research papers	Opinion pieces Systematic reviews
Set in a clinical health setting with qualified health professionals or	Studies focusing on health professionals in an educational environment Studies focusing on health professionals in training/in a student role
Studies relating to motherhood, pregnancy, labour, birth midwifery or maternity care	Studies which do not look for evidence of teaching, learning or growth of knowledge
CoPs with an online component	Papers which have not been part of a peer review process CoPs without an online component

Screening Tool Criteria

Design

Due to the heterogeneous nature of the CoP literature and the broad interpretations of CoP, only primary research was included to ensure that the original meaning of the research was not lost. All primary research regardless of study design was included. 157 papers were rejected because they were not based on primary research.

Context

Healthcare Setting

To be included for a full text review, the context of the CoP needed to be in a clinical health care setting. This did not include non-clinical healthcare environments such as simulation suites, research centres or training institutions. The focus in healthcare is the clinical interaction between the patient or user and the healthcare provider, for patient or user benefit. Teaching and learning, although a fundamental element of the health professional's role is not the focal point. Therefore, papers which were set in educational settings or non-clinical practice environments with a primary educational aim were excluded as it would be difficult to differentiate between learning resulting from the CoP intervention and otherwise. A further 26 citations were excluded because the context of the paper was not clinical healthcare. Most of the excluded papers were set in an educational context and focused on education and training of health professionals with a primary focus on education and not health care provision.

Motherhood

Research papers outside healthcare settings were screened to see if they related to motherhood, pregnancy, birth or parenting. These contexts, which are relevant to this thesis and the literature review questions, may not fit under the umbrella term health or healthcare. Two papers met this criterion: Freed (1999) and Turnbull et al., (2009). Freed (1999) related to women's pregnancy stories and CoPs which had influenced their pregnancy experience. This paper was ultimately removed because it did not have an online element and did not meet the CoP concept criteria (see below). Turnbull et al., (2009) was included in the final papers for review.

Online element

Web based CoPs have similarities to CoPs set in a physical environment but due to the lack of a shared physical space and face-to-face contact there are differences. Therefore, CoPs which were not online or did not have an online component were rejected and 21 further papers were removed.

CoP Concept

To be included in the review it was important that the fundamental concept of a CoP as supporting structure for social learning was evident. Therefore, evidence of teaching, learning or growth of knowledge as an intention or outcome of the CoP intervention was required. Three papers did not demonstrate the CoP concept and were removed (Coleman, 2012; Dong et al., 2015; Lacasta Tintorer et al., 2015). The focus of these papers was on the factors that influence membership and use of clinical CoPs.

Quality

Peer review was taken as an indicator of quality with all research designs. No papers were excluded on the basis of their quality but to avoid including papers which are fatally flawed only those which were published in peer reviewed journals were included. The rationale for this is that the papers will have undergone a review process previously and a degree of quality assurance is assured. This is particularly important as the literature review in this thesis has been undertaken by a single researcher. All of the remaining papers were published in peer reviewed journals.

A total of 19 papers identified as potentially relevant according to the screening tool were retrieved for a full text review (see Appendix 2). Eight of these did not meet the inclusion criteria. These papers and the rationale for their exclusion of these papers is detailed in Appendix 2. A total of 11 studies remained which were critically appraised and included in this review. A summary of these papers is provided in Appendix 4.

One study (Murty et al., 2012) was included despite not strictly fitting the inclusion criteria. The context of this study was in social work and the participants were social workers not healthcare professionals. However, the context was palliative and end of life care which is most commonly situated in health care environments such as hospitals and hospices. The area of expertise, which constitutes the practice in the CoP is healthcare focused and the focus of the research is on the

development of a CoP as a framework to improve professional knowledge and understanding, to improve patient care. As such it was considered relevant in the context of this literature review and was included.

Figure 2 – Process of searching and inclusion

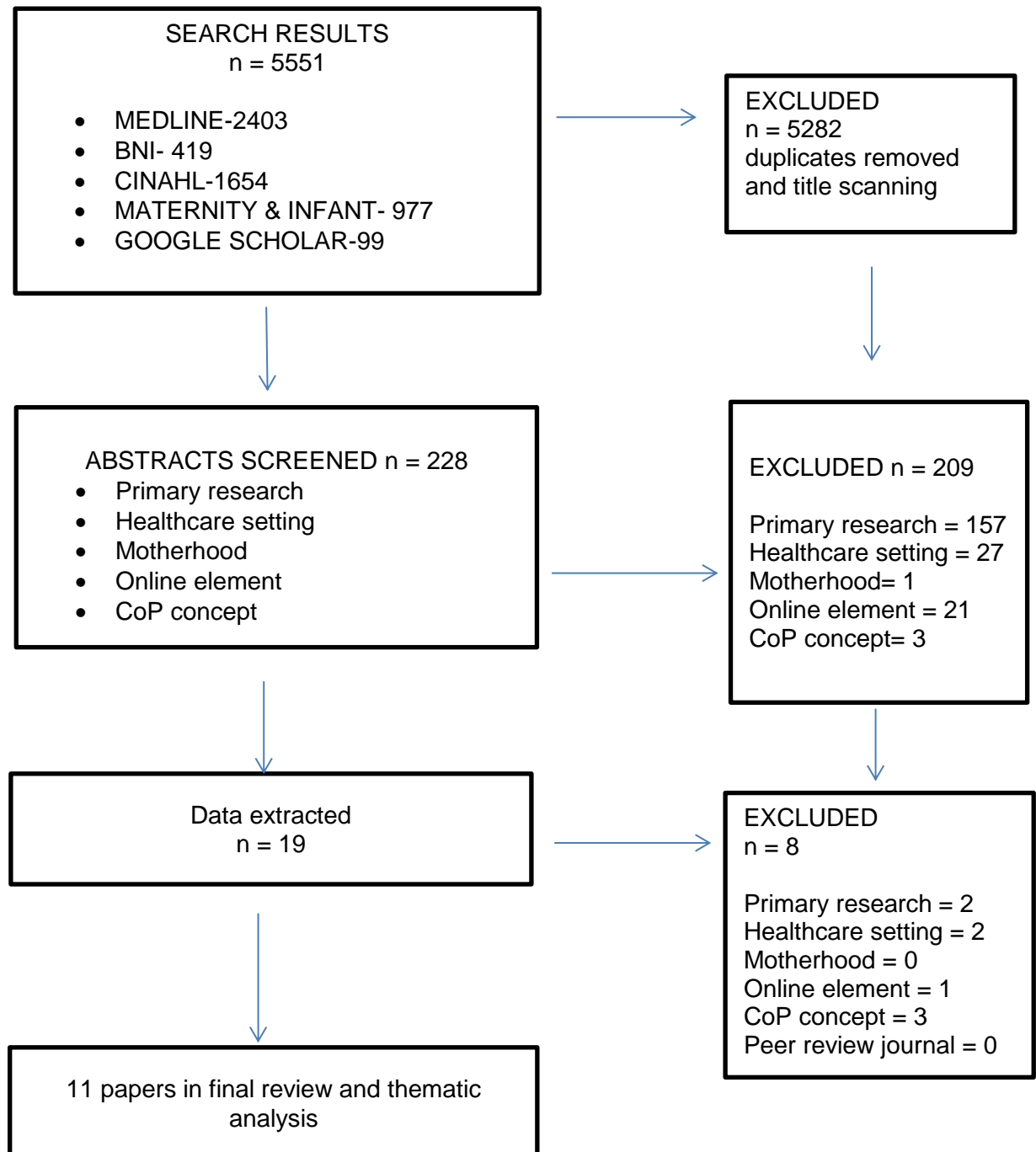


Figure 2 shows the process of extracting, identifying and reviewing articles on Communities of Practice in Healthcare or relating to motherhood.

Evaluating and synthesising the evidence

The 11 papers which met the inclusion criteria were appraised using a Critical Appraisal Skills Programme Tool for qualitative research (CASP, 1988) (CASP tool at <http://www.casp-uk.net/>) and a data extraction tool (see Table 7 & Appendix 3). The qualitative CASP tool was selected because it is straightforward and commonly used in research to appraise the quality of research papers. Not all of the selected papers were wholly qualitative but they all contained a qualitative element and this was focused on (Diaz Chao et al., 2014; Mendizabal et al., 2013; Valaitis et al., 2011). The quantitative component of studies was not significant enough in the context of this review for a quantitative tool to be utilised. The CASP tool was used to enhance the transparency of the selection process of studies included and was not used rigidly to accept or reject studies. The CASP tool was used to aid judging essential study information, and the relative overall contribution of the study (Sanderson, Tatt & Higgins, 2007).

Following CASP appraisal the data extraction tool (Table 7) was used to highlight the similarities between the papers and to form the themes for the synthesis. The areas for data extraction provided information to answer the four review questions. These criteria were based on features which are characteristic of a CoP as opposed to other types of online groups (see Tables 2 and 3). This was important in the absence of clear definitions of CoPs to provide a framework for reviewing the papers and identifying themes. The studies were compared and contrasted in relation to the key areas identified using the data extraction tool and are presented in a narrative synthesis.

Table 7. Areas for Data extraction (see Appendix 3 for data extraction results)

Research question	Data criteria	Data
Q2, 3, 4	Methodology	Case study
		Mixed methods
		Other
Q1	Group composition	Single profession
		Multi profession
		Non profession
Q1, 2	Artificial creation	Yes
		No
Q1	Size (number of members)	20
		20-100
		100+
Q1	Evidence of personal relationships	Yes
		No
Q2, 3, 4	Independent evaluation	Yes
		No
Q1	Moderation	Group member
		Expert moderator
Q2	Theory based	Yes
		No
Q2, 3, 4	Outcome measures	Yes
		No
Q1	Self-selecting	Yes
		No
Q2,3, 4	Outcome measures	Social support
		Specific need
		Not specified

Findings

Overview

Eleven articles were included and are described in Appendix 4, (Barnett et al., 2014; Curran et al., 2009; Díaz-Chao et al., 2014; Ford et al., 2015; Hoffmann, Desha & Verrall, 2011; Ikioda et al., 2014; Kothari et al., 2015; Mendizabal, Solinís & González, 2013; Murty et al., 2012; Turnbull et al., 2009; Valaitis et al., 2011). The included studies comprised of eight case studies (Barnett et al., 2014; Curran et al., 2009; Díaz-Chao et al., 2014; Ford et al., 2015; Kothari et al., 2015; Mendizabal et al., 2013; Murty et al., 2012; Turnbull et al., 2009) and four mixed method studies (Barnett et al., 2014; Hoffmann et al., 2011; Ikioda et al., 2014; Valaitis et al., 2011). Barnett et al., (2014) used mixed methods within a single case study. Three of the studies were from Canada (Curran et al, 2009; Kothari et al., 2015; Valaitis et al., 2011) two were from Australia (Barnett et al., 2014; Hoffman et al., 2011), two from the USA (Murty et al., 2012; Turnbull et al., 2009), two from Spain (Diaz Chao et al., 2014; Mendizabal et al., 2013) and two from the UK (Ford et al., 2015; Ikioda et al, 2014). All of the studies were specific to CoPs related to medicine, or professions allied to medicine with one of the studies also including service users (family members) in the CoP (Turnbull et al., 2009).

None of the articles related to maternity services, midwifery or pregnant women as service users, and as such evidence to use CoPs as an intervention to support mothers learning and support during the transition to motherhood is not available thus confirming the uniqueness of the study and current gap in the literature.

CoPs in Healthcare Settings

Study design and individual quality

Case study methodology is used in eight of the 11 studies (Barnett et al., 2014; Curran et al., 2009; Diaz-Chao et al., 2014; Ford et al., 2015; Kothari et al.,2015; Mendizabal et al., 2013; Murty et al., 2012; Turnbull et al., 2009;). Case study methodology is commonly used in social and health research as it allows for the investigation of a topic within context (Yin, 2014). Somewhat like the concept of CoPs, case study methodology is not simple to define (Pickard, 2013) and has

been used as a synonym for alternative methods such as ethnography, fieldwork and naturalist inquiry (Burns, 2000). Case study allows for a variety of data to be collected from an in depth investigation relating to an individual, a group, an event or activity (Jupp, 2006). The approach focuses on understanding the format, structure, working mechanisms and subtleties within a single setting; in the case studies reviewed the setting was the CoP. All eight case studies were based on a single case study (Barnett et al., 2014; Curran et al., 2009; Ford et al., 2015; Kothari et al., 2015; Mendizabal et al., 2013; Murty et al., 2012; Turnbull et al., 2009), Kothari et al. (2015) study consists of the year one findings of a single CoP which is part of a larger multiple case study looking at knowledge transfer through CoPs. The case study methodologies featured in this review are largely based on simple narrative descriptions based on the online data and statistics generated by webmetrics (Ford et al., 2015; Mendizabal et al., 2013; Turnbull et al., 2009). Six of the studies explored beyond online data and attempted to triangulate findings through the use of interviews (Kothari et al., 2014; Barnett et al., 2014; Hoffman et al., 2011) and/or questionnaires (Barnett et al., 2014; Curran et al., 2009; Mendizabal et al., 2013).

The limitations of single case study methodology are that the findings are not necessarily representative or transferable to other settings. The absence of a clearly defined and uniformly accepted definition of CoPs means that comparison between cases is difficult. Case studies are often viewed as low quality evidence (Evans, 2003; Guyatt et al., 2008, 2011) but Flyvbjerg (2006) argues that case studies are essential in social research which is often driven by problems rather than methodology, as the problems are addressed in a manner which best help answer the research question. Regardless, it is essential that the individual case study is a high quality (Houghton et al., 2013). Case studies need to clearly represent the particular element being researched but this clarity is lacking in the reviewed studies as the boundaries are weak and understanding of CoPs vague.

The design and methodology in Ikioda et al. (2014) study is not explicit but appears to be based on a single pilot case study. Diaz Chao et al. (2014) used an ad-hoc questionnaire for core and partial hypothesis testing about the use of a

Web 2.0 platform to support communication within a CoP. This study focuses on the CoP use of the Web 2.0 based platform and does not look at the CoP itself.

Q methodology is used to explore the major viewpoints of Community Health Nurses about their views of an online CoP to support their practice (Valaitis et al., 2011). Q methodology typically involves rank ordering a set of statements and aims to combine the strengths of both qualitative and quantitative research (Brown, 1996). A selection of participants from a CoP developed for Community Health Nurses (CHN's) working with homeless people developed Q sort statements and a further selection ranked them. The response rate for the both the statement creation and the Q sort activity are low. The study findings are limited by self-selection bias, small sample size (n16 of 114), duration of membership (from one month to one year), activity levels amongst members (8 of the 16 respondents did not post online) and single case setting. As such the generalisability and transferability of the findings from this study are questionable. The authors suggest that the number of participants was sufficient to identify major viewpoints of those who responded, but do not explain how this conclusion is drawn. Q sort activity does not enable participants to use their own words and instead restricts them to predetermined statements which may or may not capture their experience. Given the small sample size the advantages of using Q methodology in this study is not evident. Furthermore, this study focuses on the perception of CoP use and interaction using Q sort methodology and not actual use. A further weakness is that the study did not triangulate the findings by examining the online content in conjunction with the Q sort.

Ford et al. (2015) use mixed methods combining literature review and piloting 2 virtual CoPs in obesity. It is unclear if the literature review was systematic as the search strategy is not discussed and the papers are not clearly identified. The analysis of the literature is presented in a narrative format, it presents a broad overview of literature findings, is largely descriptive and there is little evidence of synthesis suggesting it was not a systematic review. The two pilot CoPs were pre-existing CoPs that were resurrected for the purpose of the study. One of the CoPs, the literature review CoP, appears to be a repository for new evidence relating to

obesity and it is difficult to ascertain how the authors distinguish or determine this is a CoP. Activity levels are low throughout the short duration of the study. The time frame for evaluation was 3 months and as such there was an assumption that the two newly resurrected online communities were CoPs. The communities were in their infancy and this limits the usefulness of the results. Membership was small and it is difficult to determine which members were part of the new obesity CoP and which members were simply included in the participant numbers because they had previously registered. It is unknown if all of the pre-existing members were aware they were part of the study, or if they had an active or passive role in the CoP.

A qualitative survey was undertaken in addition to reviewing the online data and webmetrics, but only 6 of the 145 registered members in both CoPs responded. Of the 6 respondents only 4 of the 6 stated that they had 'visited the CoPs' (Ford et al., 2015). Notwithstanding the very poor response rate, the statement 'visiting the CoPs' does not suggest a sense of belonging or membership and suggests that these CoPs are simply online web pages with a chat option. Due to the low response rate the planned content analysis of the survey responses was abandoned. The authors conclude that the study results demonstrate that CoPs are useful in enabling collaboration and information sharing but from the data presented and analysed this conclusion appears at best optimistic and is possibly misleading.

Hoffman et al. (2011) used a mixed methods study to explore the sense of clinical support available to occupational therapists (OT's) by exploring the views of CoP users and non-CoP users. Data was obtained through focus groups and a questionnaire of all the practising OT's affiliated to a professional organisation. It is unclear from the study how many of the 673 members of the professional body (OTAQ) are members of the CoP or are even aware of it. The response rate is noted as being 8% (n55) but there is no indication of group interaction, site usage or activity so it is difficult to know if this is a reasonable proportion of CoP members. This study appears to have subscribed to the belief that because the

group has been called a CoP it is a CoP when there is no evidence to support it is anything other than a group of professionals with an online connection.

Murty et al. (2012) analyse a single case study and undertake content analysis of the online data. The approach to the research is clear and the methods are explicit. This study appears to be unique in that the concept of the group CoP emerges from the data analysis and is based on evidence of the personal relationships and learning within the group, and not on the title CoP being ascribed to the group at the outset. This study does not have any evaluation from the users and this is a limitation of the study but the continued use of the group and regular interactions would suggest that the members find it valuable.

Overall the studies are largely descriptive with an absence of detail and/or rationale for analysis. The general quality of the studies reviewed is weak. The methods are not explicit and the analysis and findings have limited value. This is primarily because the studies are case studies using multiple methods; the focus is on the phenomenon being studied and not the methodology or methods. This weakness is compounded by the fact that an explicit and agreed definition of what constitutes a CoP is lacking. The studies describe different types of groups, doing different things using different methods and consequently drawing any conclusions is difficult.

Conflict of Interest

A conflict of interest can be anything that interferes with or has the potential to interfere or compromise the objective production or review of research findings. Conflicts of interests can be actual or perceived, declared or hidden, personal, professional or financial. Disclosure statements may not counterbalance the vested interest hence it is vital to rigorously review study methodology and design and determine if the findings are consistent with the data and approach.

Researchers with a vested professional and personal interest in studies may be selective with the results they publish or choose not to publish. Conflict of interest is emerging as a growing issue and is subject to increasing scrutiny (Norris et al., 2011; Roseman et al., 2012). It is important to consider factors other than

financial that may affect the integrity of the research (Cain & Detsky, 2008; Kozlowski, 2016)

Five of the 11 papers are authored by researchers who were actively involved in the study evaluated (Barnett et al., 2014; Ford et al., 2015; Mendizabal et al., 2013; Murty et al., 2012; Turnbull et al., 2009). This involvement raises questions about potential bias and conflict of interests. Ford et al. (2015), Mendizabal et al. (2013) and Turnbull et al. (2009) had a vested interest in the CoPs they were evaluating as they were actively involved in their design, day to day management, content management, facilitation and held responsibility for their continuation. The potential for the professional obligation to the CoP may conflict with the professional obligations as a researcher. Barnett et al. (2012, 2014) although not actively involved in the CoP being researched, is part owner and medical director in an online community for Australian doctors. As such there is the potential for personal gains being made from positive findings in the research study. It is unclear if Curran et al. (2009) had any active involvement or responsibility for the CoP evaluated, no disclosures are made. Ikioda et al. (2014) acknowledge the funder of the CoP pilot study evaluated but no other competing interests are declared.

It is difficult to overcome the bias caused by the effects of early information on beliefs (Young, 2009) and the integrity of the researchers in these studies may be questioned. Disclosure of a conflict of interest does not always mitigate the potential bias because authors may be less inclined to strive for objectivity because they have declared the conflict. Readers of articles with a disclosed conflict of interest may assume a greater degree of openness on the part of the authors because of the disclosure, which may or may not be there. Consequently,

‘Disclosure may result in the recipient of the biased information placing greater weight on the biased information.’

(Young, 2009:4)

It is important that conflicts of interest be fully disclosed to allow the paper to be effectively appraised. Competing interests such as the desire for professional

recognition, academic achievement or future research funding can all influence professional judgement and findings (McKenzie & Cronstein, 2006). When disclosures are not explicit the integrity of the research can be undermined and as such it is important to be aware of the potential bias a conflict of interest introduces. As Kozlowski (2016) states

'The point is to not fully discount anyone, but to be sceptical of everyone when listening carefully to all the reports one can find'.

(2016:593)

Defining CoPs in healthcare

Definitions of Communities of Practice

Eight of the papers (Ford et al., 2015; Hoffman et al., 2011; Kothari et al., 2015; Ikiyoda et al., 2014; Medizabal et al., 2013; Murty et al., 2012 Turnbull et al., 2009; Valaitis et al., 2011) referred to the definition of a CoP provided by Wenger, McDermott and Snyder:

'Groups of people who share a concern, a set of problems, or a passion about a topic, and who deepen their knowledge and expertise in this area by interacting on an ongoing basis'

(Wenger, McDermott & Snyder, 2002:4)

This description of a CoP does not give any real clarity as to what a CoP looks like, how one can be recognised or is differentiated from other groups. This ambiguity highlights the ongoing difficulties encountered when the term is used to describe a group and attempts are made to investigate the concept.

CoPs were described as part of a wider framework and seen as a structure which could help to explain social learning (Lave & Wenger, 1991; Wenger, 1998). CoPs were not intended to be a strategy or instrument to be picked up and used; instead they were described as a lens through which learning could be viewed. However, Wenger changed his stance on this as he developed CoP theory resulting in a lack of understanding about what a CoP actually is. This is evident in all of the studies which agree a broad generic understanding, but fail to be precise.

Two of the papers (Diaz Chao et al., 2014; Barnett et al., 2014) cite Wenger (1998) and quote;

'Groups of people who share a concern or passion for something they do and learning how to do it better as they interact regularly.'

This is widely cited as being from Wenger (1998), but is not from his seminal work and is actually from undated work which can be found online (Wenger, 2011). Diaz-Chao et al. (2014) describe an 'architecture of participation' which creates a network and similarly, Mendizabal et al. (2013) comment that the CoP members drew on web of connections so that over time the CoP became a network of networks. However, this is at odds with Wenger who clearly asserted that a CoP is not a network (1998). The CoP examined by Mendizabal et al. (2013) appears more like a project team because it has a clear set of objectives and a structured approach to achieving a goal. The learning is focused out with the group not within the group. Thus, again highlighting the difficulty in evaluating a concept when the terms and language used are poorly understood and open to interpretation.

Curran et al. (2009) note that the term CoP has its origins in social learning and refers to three elements of a CoP; Wenger, McDermott and Snyder's description which states that a CoP is a group of people who share a concern or interest in a set of problems or issues about a topic (2002), Sanders' (2004) explanation that interaction amongst members creates an opportunity for sharing, and Brown and Duguid's understanding that interactions are generally related to their shared practice (1991). Curran et al. (2009) understanding of CoPs appears to be the most disconnected from Wenger's original concept. The CoP appears to be a work based learning package with an accompanying discussion board. This is perhaps not surprising as their understanding of the term CoP is based on an amalgamation of ideas and demonstrates the broadest interpretation of all of the studies reviewed.

Perception of membership

It is difficult to determine if all the members of the reviewed online communities considered themselves to be part of CoPs as the number of respondents evaluating the CoPs was significantly lower than the number of purported members (Curran et al., 2009; Diaz-Chao et al., 2014; Ford et al., 2015; Hoffman et al., 2011; Kothari et al., 2015; Mendizabal et al., 2013). The exception to this is

Barnett et al. (2014) which reports a much smaller community than the other studies with a higher response rate (44%). Nonetheless Barnett et al. (2014) acknowledge that active users of the CoP were over represented in the data collection and the positive findings may not be representative of the CoP as a whole. This could suggest that there was a CoP (made up of the respondents) within an online community.

The online group described by Murty et al. (2012) differs from the other studies in that it identifies the group as an electronic discussion group which has evolved and expanded into a CoP. The development of trust, concepts of connection and engagement are identified as the features which establish this group as a CoP. None of the other studies describe or explain how their group differs from any other online group (see Table 3 and Table 8) and this leads to significant uncertainty about the CoP concept and theory in the context of the studies.

Table 8. Group types, structure, purpose and membership

TYPE	PURPOSE	MEMBERSHIP
CoP	To develop and share members' skills, expertise and knowledge	Self-selecting membership
Formal work group	To deliver a service or product	Members who report to the 'group's' manager
Project team	To accomplish a specific task	Employees assigned by senior management
Informal network	To collect and pass on business information	Friends and business acquaintances

Adapted from Wenger, McDermott & Snyder (2002)

CoP definitions are loose and open to interpretation and this is reflected in the differences in structure of the CoPs reviewed. Although it is not understood what clearly constitutes a CoP, Wenger stresses that the term is not a synonym for group, team or network (1998). However, these units are also loosely defined, with unclear boundaries and are also open to subjective interpretation.

Characteristics of CoPs

All of the CoPs reviewed comprised of members from single or multiple health professions and in this respect fit the criteria of CoP membership. One of the ways CoPs are distinguishable from other professional groups is that they do not have a specific goal or task driving them. However, in the papers reviewed 2 of the CoPs (Diaz-Chao et al., 2014; Kothari et al., 2015) were created with a specific task in mind and another (Mendizabal et al., 2014) was created with a view to facilitating and measuring innovation. This makes these CoPs more recognisable as formal work groups or project teams (see Table 3). All of the CoPs selected for this review could be considered to be a hybrid of CoP, formal work group and project team. Their formation and membership is driven by a purpose which has not been 'group led'. The CoP explored by Curran et al. (2009) is described in a way which least resembles the early concept of Wenger's CoP (1998). This CoP was focused around 12 learning modules which each required a pre-test to be accessed. The more familiar features of an online CoP i.e. a forum for discussion and sharing were available but in only relation to the learning module completed. The informal network structure which most resembles a CoP that is self-forming, self-driven and self-led is seen in Murty et al. (2012). The other studies do not evidence these characteristics.

Group membership, size and emergence

The variation in group size in the CoPs reviewed adds further to the ambiguity in understanding what makes a CoP a CoP. Membership ranges from the largest CoP of 1627 multidisciplinary primary care workers involved in primary care practices in Spain (Mendizabal et al., 2014) to 28 GP trainees in rural Australia (Barnett et al., 2014). In the studies reviewed it is unknown how community members identified each other, or indeed if there were any mechanisms for identification. It is unclear if the members were known to each other professionally or personally but this would seem to be very unlikely as membership spanned wide geographical areas. In a single professional group, there is possibly a higher chance that the group members would know each other but this not revealed in the studies reviewed. Barnett et al. (2014) limited size CoP, with single profession

membership, at the same stage of training, means that these CoP members had the most potential to be able to recognise each other and identify with each other as being members of the same CoP. However, although this group was relatively small, there was no discernible knowledge gradient and consequently some members felt it did not meet their needs. The CoP did not provide the learning framework, therefore as the essence of a CoP is that learning takes place within a social context, it is difficult to see how this group can be defined as a CoP.

The importance of community members being identifiable by the community is emphasised by Herranz et al. (2012) who state that being recognisable is fundamental for CoP success. They suggest that knowing personal information such as name, age and location, and professional information such as skills role and profession is essential for trusting and accepting information posted. With CoP sizes generally being in the hundreds, even with accompanying short biographies it is difficult to know how members can really know who to ask and who to trust in the way that Wenger originally described (1998). Murty et al. (2012) identify that trust is important for feeling a sense of belonging and connection in an online group. This sense of being an insider is what leads Murty et al. (2012) to suggest a CoP has developed. It seems unlikely however, regardless of the life cycle of the group which in this case is more than 10 years, that the 580 members know and trust one another. Further scrutiny may reveal the presence of several smaller CoPs within this online community. Knowledge of this group is by word of mouth and subsequent membership is by request. The spontaneous emergence, growth and development in this group is unique amongst the studies reviewed. The organic nature of this group may foster trust more than a group which has been put together for a specific purpose; nonetheless it is questionable if genuine and trusting relationships can be developed with 580 people.

CoPs are dependent on the development and maintenance of personal relationships, it is difficult to accept or understand how personal relationships are developed or sustained in the context of a large online CoP. The practical aspect of messages being lost among a large volume of posts and the relative anonymity

of the users (to each other) is not conducive to creating sustainable personal bonds.

Within single professions there are sub-groups with different perspectives and values and as such it is difficult to believe that a large group of individuals would be so 'like-minded' that they spontaneously become a CoP. This element of 'like-mindedness' is not explored in the CoPs reviewed. There is an assumption that belonging to a profession or sharing an interest in an aspect of work results in homogeneity and like-mindedness. Using an analogy of politicians sharing a particular interest in immigration demonstrates that sharing an interest does not denote like-mindedness. Similarly, amongst health professionals there are those professionals who are at opposite ends of a spectrum or range of beliefs. That is not to suggest that this 'knowing' couldn't be achieved over a period of time but it is not instant and as such these large groups don't meet Wenger's original CoP criteria.

CoPs are more likely to be successful if membership is self-directed (Probst & Borzillo, 2008; Wenger, 1998). Recruitment to CoPs reviewed for the research studies was varied. Diaz-Chao et al. (2014), Ford et al. (2015) and Kothari et al. (2015) redefined or resurrected pre-existing online groups as CoPs. Barnett et al. (2014), Curran et al. (2009), Mendizabal et al. (2014) and Valaitis et al. (2011) invited professionals working in a specific sector e.g. primary care, field e.g. working with homelessness, or department e.g. Emergency Department clinicians (ED). All users of the Beach Center on Disability were invited to join the CoP (Turnbull et al., 2009) and all Occupational Therapists in Queensland were presumed to be a member of the OT CoP because they were already members of the group (Hoffman et al., 2011). Although participation in each of these CoPs was voluntary, the members were not self-selecting. They did not seek out or become members as part of an evolutionary process. They did not identify a need or have needs met through their interactions with other individuals (Wenger, 1998) they joined an online network suggested by a third party. Murty et al. (2012) online community of social workers is the most organic in nature with members self-selecting and requesting membership (Murty et al., 2012).

In summary the current understanding about virtual healthcare CoPs is that they can be any size. This presents challenges when trying to ascertain the features that are unique to CoPs. It is difficult to accept that a group with 28 members functions or displays the same characteristics as a group comprising 1627 members.

When an online community consists of members with a common work based interest or aim to achieve a work related goal, it is difficult to ascertain how this differs from a project team or informal network. This is relevant because Wenger was clear to point out that CoPs are different, but the main body of evidence on CoPs in healthcare does not support this assertion.

Measures and reports of success in CoP development

Facilitation

The studies suggest that facilitation is linked with success in CoPs (Mendizabal et al., 2013; Turnbull et al., 2009). Ford et al. (2015) didn't have champions or facilitation and found that posting activity and new membership throughout the duration of the study was low. Facilitation allows for comments and posts to be followed up which can result in more activity. Nonetheless there is a lack of clarity about the explicit role of the facilitator which is exacerbated by the adoption of titles which appear to be referring to the same role i.e. facilitator, moderator, champion and administrator. Kothari et al. (2015) refer to knowledge brokers who may also be CoP facilitators but this is unclear from the paper. It is unknown if the knowledge brokers are members of the CoP or external agents used as a resource. If external, the concept of the CoP being the resource for its members would be undermined.

In three of the studies it is not clear if the facilitators were considered part of the CoP as they were also the researchers undertaking the study (Barnett et al., 2014; Curran et al., 2009; Mendizabal et al., 2013). This raises questions about CoPs being self-selecting, self-sustaining self-supporting groups of individuals. The

requirement for a facilitator to promote activity and to maintain the group could suggest that the community is not a CoP, as CoPs meet a need which is identified by its' self-selecting members.

Diaz-Chao et al. (2014) do not state if the CoP was facilitated. The author's comment that the online posts and comments were reviewed but it is unclear what this means. The posts may have been reviewed to check for accuracy (which is a form of moderation) or reviewed as part of the evaluation/research process. This is unclear from the paper.

Barnett et al. (2014) argue that clinically relevant facilitators were the key to success in the CoP. This echoes Barnett et al. (2012) systematic review findings which suggest that it is important to have senior facilitation in order to have authority within the CoP. This aligns with the novice-master apprentice model of learning, but less so with a CoP framework in which old timers and newcomers are equally valued within the same shared space. All of the members in Barnett et al. (2014) study were at the same stage in training and the facilitators were considered vital to the knowledge exchange component of the CoP. In view of this the community could be considered to be a peer support group addressing professional isolation rather than a CoP.

Mendizabal et al. (2013) describe facilitators as having a mission to encourage activity and to manage and store content. This mission may be related to the fact that the facilitators were also the primary investigators in this study and were collating evidence about the emergence of ideas and innovation. The need to manage and store content has not been identified by other studies but this could be due to the structure and presentation of some of the other CoPs. For example, Curran et al. (2009) base the CoP around 12 separate discussion boards linked with a discreet learning module and therefore the content is already organised. The knowledge maps and knowledge banks described by Turnbull et al. (2009) also have content which is systematised in a way that is unlikely to occur in a smaller more informal CoP.

Having a strong social element to the CoP would resolve the need for facilitation as the members would engage for reasons other than problem solving or troubleshooting. Ford et al. (2015) note CoPs have a social function but do not explore this aspect further, nevertheless Wenger is clear that the learning within CoPs occurs as a result of the social aspect. This vital component, which is a fundamental in the SLT underpinning CoPs, is not considered in any of the eleven studies and appears to be a major limitation in the literature thus far. Murty et al. (2012) identify postings on the site which are based on appreciation of relationships between participants, but these interactions appear to have been initiated by professional issues and not social interactions. The lack of social interaction raises questions about the social element of learning which is fundamental to CoP theory. Nonetheless, Murty et al. (2012) is the only study which clearly evidences a degree of personal relationships between participants.

Satisfaction and Engagement

In addition to the role played by moderators in generating activity, CoP success is affected significantly by the number of members who do not engage in regular posting activity but are valid members of the group. These members illustrate LPP and are commonly known as 'lurkers' (Gong, Lim & Zhu, 2015). CoPs consist of active and passive members who contribute in varying degrees with some being 'super users' and others who mainly observe (Ford et al., 2015). A problem can arise when the community's membership consists of more lurkers than active members leading to stasis. This is a 'chicken and egg situation' (Ford et al., 2015) with members wanting more activity and buoyancy within the group but not being prepared to make the contributions, instead preferring just to read and observe (Barnett et al., 2012). The presence and contribution (or lack of contribution) from lurkers is significant when considering CoPs as a theoretical framework to support learning because lurkers, who are reading content and are therefore engaging, clearly illustrate the concept of LPP. When CoPs are used as a tool or instrument to achieve learning the presence of passive users becomes more problematic. This is because when used as a strategy for learning as opposed to being a self-forming, self-driven group, CoPs require activity and regular contributions to achieve success (Barnett et al., 2012). Lurking is considered non-engagement

and social comfort has been suggested as a possible reason for engagement and non-engagement (Curran et al., 2009). This explanation fails to consider that passive members of CoPs may feel connected and engaged with the CoP, they may not have had the confidence to contribute in the timeframe provided by the researchers, or felt the need to contribute if more active members responded. This does not mean they are not engaged or not learning, and more evidence is required to draw this conclusion.

Diaz Chao et al. (2014) and Kothari et al. (2015) CoPs were goal orientated and use the CoP as a tool by which to achieve objectives. Consequently hidden learning is not evaluated, and individual and incidental learning which are hallmarks of the original CoP concept, appear to be overlooked, (Wenger, 1998). Mendizabal et al. (2013) use levels of participation to distinguish CoP members; the super user is classed as 'hard-core' with other users being active and peripheral, but most CoP members are 'peripheral' (Barnett et al., 2012; Curran et al., 2009; Ford et al., 2015). Mendizabal et al. (2013) refer to active users as 'real users' thus suggesting that passive users are not as 'real' undermining the principle of LPP and the underpinning theoretical concept of CoPs as a structure for social learning. In contrast to their definition of real users, Mendizabal et al. (2013) suggest that reading in an online CoP is an important aspect of learning regardless of whether a follow on posting is made but this is at odds with their notion of 'real' users.

Turnbull et al. (2009) note that although the members provide the entire site content they only make up 3% of the total visits to the site, possibly suggesting that the contributing members are a sub-group within an online community. It is difficult to determine what makes the CoP members different to the visitors. This may be particularly relevant when considering those members who are classed as lurkers because it is unclear how they differ from visitors.

Timeframes and time

Time is noted to be a barrier to participation in several of the CoPs reviewed (Barnett et al., 2014; Ford et al., 2015; Hoffman et al., 2011; Ikioda et al., 2014)

but not all of the studies explore how time potentially affects CoP success. Ford et al. (2015) note that CoPs require 'considerable time', but do not explain if this refers to their instigation, facilitation or evaluation or a combination of the three. The impact of time on CoP activity is not discussed. Kothari et al. (2015) do not consider the element of time as a barrier or facilitator to CoP success. This research focuses on the success of the identified practice challenge rather than the success of the CoP itself as a community for sharing and learning. Barnett et al. (2014) conclude that time is a barrier to usage but explain that if the CoP is considered to be useful this barrier is overcome, thereby reinforcing Wenger's stance that CoPs fulfil a need that is not met elsewhere (1998). In contrast Diaz-Chao et al. (2014) note that electronic health solutions have produced good results in terms of effective use of time and note the CoP is perceived as being an E health solution. The findings from Valaitis et al. (2011) were mixed and were dependant on the type of respondent identified. Respondents were categorised into 2 types; tacit knowledge warriors and tacit knowledge communicators. The warriors were agreed that time was a factor in their participation levels; they were too busy and their working lives made it difficult to participate, but the communicators did not agree and suggested that a lack of discussion and content were the factors that influenced their decisions to engage. Time may influence activity for some but if the CoP value is high, time is unlikely to be a barrier to participation (Valaitis et al., 2011).

Time, in terms of the duration and longevity of the CoP, is raised in several of the studies. Li et al. (2009) argue that bringing a group of people together and calling them a CoP does not make them a CoP. CoPs take time to develop and do so as members get to know one another and trust one another. It is through regular interaction and the continuity of mutual relationships that CoPs emerge. The communities in the studies reviewed were mainly created for the purpose of the study, or were pre-existing groups which were described as CoPs by the authors. The time frames of the studies reviewed ranged from 3 months (Ford et al., 2015) to 11 years (Murty et al., 2012). Ford et al. (2015) identify the 3 month time frame of their as a study limitation. It is not possible to give an arbitrary timeframe as to when a CoP has formed, however it is not unreasonable to suggest that after only

3 months of minimal activity the CoP reviewed by Ford et al. was in fact an online group, with a shared interest in obesity. However, the interest was not sufficient to generate activity and/or the group members did not know each other well enough to participate. This lack of engagement undermines the concept of the group being a CoP.

Diaz-Chao et al. (2015) study ran for over a period of 13 months but this is identified as a limitation (Diaz Chao, 2015). The duration of Valaitis et al. (2011) CoP is unclear, but membership to the CoP amongst the respondents ranged from 1 month to greater than 12 months. Ten of the eleven studies considered the group to be a CoP from their inception. Changes which may have indicated the development of a CoP from an online community are not identified, as the community is defined as a CoP from the outset. Murty et al. (2012) do differentiate between the online group and the development of an online CoP. This community of social workers was well established and had the longest duration of any of the studies reviewed. The authors suggest that its' longevity encouraged the emergence of CoP characteristics. The other groups which were set up for a specific purpose but were identified as CoPs from the outset, do not consider that there are different stages in CoP development (Yeoman, Urquhart & Sharp, 2003) (see Table 32). Nonetheless, it is not clear at what stage the CoP becomes a CoP, thus it is difficult to draw conclusions about the duration of time it takes for a CoP to form or to continue to exist.

Discussion

The original concept of CoPs was an informal group of like-minded people which evolved from a desire to share and learn with each other. In relation to the virtual world, CoPs differ from other online communities because their membership consists of practitioners and experts belonging to a particular field and not merely individuals who have an interest in an area or topic (Nazem, 2012). However, this difference is subtle and it is difficult to clearly differentiate between types of groups. Wenger's original position which suggested that CoPs spontaneously emerged within groups or communities of people validated the concept that CoPs are unique and provide the framework for social and situated learning. By moving

away from this stance and suggesting that CoPs can be cultivated and more importantly are CoPs at the point of creation, this unique and distinguishing identifying feature was lost. Consequently, it is difficult to identify what distinguishes CoPs from other groupings. Without this differentiation Egan and Jaye's (2009) criticism that the term CoP can be applied to almost any group of people is valid.

CoPs can emerge from any group of individuals with shared interests and social connections if the interactions lead to sharing and unintentional learning, but to use the term CoP at the outset, to describe groups of individuals with shared interests and social connections, without demonstrating unintentional learning, renders the term meaningless. In the main, the CoP literature reviewed appears to have done exactly this and has applied the term CoP without clearly identifying what makes CoPs or explaining how they differ from other on-line groups.

The reason for this appears to be because the CoPs reviewed were identified as a CoP for the primary purpose of answering a research question and were not analysed as a framework in which individuals learn. Constructing CoPs for a specific purpose, within a fixed time frame does not align with the concept of self-forming, self-driven and self-regulating groups in which learning takes place. This results in tensions throughout the literature. Identifying themes in the studies was difficult for several reasons; the difference in interpretations about the concept of CoPs, the differences in the way the intervention was designed, and the fundamental differences as to what constitutes a CoP. None of the studies focus on the transformation of, or benefit to the individual, or how the CoP creates a framework for individual learning. The social aspect of the CoP appears to have been lost in all but two of the studies (Barnett et al, 2014; Murty et al., 2012) and in Barnett et al. (2014) the focus was on overcoming isolation more than general social engagement. Consequently, it is difficult to identify the studies similarities with Wenger's (1998) concept of CoPs, but it is relatively easy to identify their differences.

Using the literature on virtual CoPs within healthcare, the aim of this review was to answer the following four questions;

1. How and what defines a CoP in health care?
2. How have CoPs been developed in healthcare settings?
3. What has been measured and reported as success in the development of CoPs?
4. Is it possible to create a successful CoP in healthcare?

In relation to question 1, the review highlighted that in the literature CoPs are defined by researchers and the definitions are based on Wenger's descriptions of CoPs from 1998 and 2002 (Wenger, 1998; Wenger, McDermott & Snyder, 2002). As both the original and subsequent definitions of CoPs are nebulous, their translation and application into practice are diverse.

In response to question 2, CoPs have been developed in healthcare for specific and pre-determined purposes including answering research questions, with all but one of the studies created artificially. The communities did not spontaneously evolve to meet a previously unmet need, they were constructed and given the title of CoP and were analysed as case studies. Even those studies which claimed different methodologies and methods formed part of a case study presentation. As such, using Wenger's original concept criteria (1998), whilst these groups may be online communities, they are not CoPs. Therefore, whilst online communities have been developed there is little evidence to suggest that CoPs have been developed in healthcare.

In terms of the third question, that of measuring the success of CoPs, the outcome measures for CoPs are as ambiguous as their definition; the outcome measures are not clearly defined aspects of CoP theory. When outcome measures are identified they relate to specific aims for the CoP as a whole group and do not reflect the understanding that CoPs are a framework by which to understand individual learning in social contexts. CoPs according to Wenger's (1998) criteria are not tools to be used to achieve project or work based goals, but this is how success is reported in the literature. The research papers in this review have attempted to assess the impact of CoPs on improving aspects of healthcare, but

the unique nature of each community means that what is reported as success in one CoP may be unreported, have no relevance or even be a hindrance in another. Creating supportive environments, facilitation and active engagement by users are the most commonly reported measures of success which are intrinsic to CoPs, as opposed to outcome measures associated with healthcare improvements.

Finally, in response to question four, only one of the studies (Murty et al., 2012) appears to have facilitated the emergence of a CoP from an artificially created online group, thereby suggesting that it is possible for CoPs to evolve online. However, it is important to note that the original format of a group itself does not constitute the CoP. A CoP can be recognised by the development of personal relationships, ongoing and meaningful social interactions, shared learning and an appreciation of the CoP members' contributions to individual learning. Other CoPs may have emerged from the groups studied, but as the subtle differences between CoPs and other online groups have not been adequately explored within the literature reviewed, these have not been identified.

Summary

The healthcare CoPs examined in this literature review meet the broad description of CoPs originally provided by Wenger (1998). However, this description was not intended to define or delineate CoPs, nor was it intended to set parameters or limits as to what constitutes a CoP (Wenger 1998). The description provided by Wenger was a way of explaining a conceptual framework and to inform a perspective for understanding learning, to explain CoPs '*...to make it more useful as a thinking tool*' (1998:7).

The conceptual framework, which should be recognisable by its facilitation of social learning and other indicators, has become an actual model for learning, adopted by those needing an educational tool. As an educative model its' structure is not adequately defined and this has resulted in CoP meaning, both as a concept and social structure, which is confused and largely meaningless.

CoPs can be identified and characterised by their features and by what occurs within them, as opposed to how they are configured or the healthcare outcomes achieved. Initial searches revealed that CoPs, both physical and virtual have not been studied in a midwifery or pregnancy setting. Nor have CoPs been studied in relation to the interactions between members or their individual learning. Therefore evaluating the impact of a midwife moderated social media based community on pregnant women and new mothers, and establishing if CoPs emerge from the groups, is unique. The literature lacks evidence about what constitutes a CoP, how CoPs can be recognised and what makes them different to other communities. All but one of the studies (Murty et al., 2012), suggest that groups are CoPs at their inception because they have been given the title and because the members have shared goals. The dimensions of mutual engagement, joint enterprise and shared repertoire are not considered with Wenger's later CoP definition based on the dimensions of community, practice and domain establishing the groups as CoPs. These broad dimensions and nebulous definition have resulted in significant diversity in CoP interpretation relating to both theory and application in practice. The responses to the four questions posed in this review suggest that by adhering to Wenger's original concept the proposed study will differentiate between online communities and CoPs. In doing so it will add to CoP theory and provide clarity about what makes CoPs recognisable and different to other online groups.

Chapter 4 presents the key aims and objectives of the study, the researchers' philosophical position and rationale for the methodological approach selected. Methods used to conduct the study, to explore women's experiences of a midwife moderated social media based community are presented and discussed.

Chapter 4: Methodology

Introduction

This chapter explores the decision making processes for selecting a qualitative methodology with a modified action research component. The methods used for undertaking the project, in relation to setting up and running the online groups and collecting data for analysis are detailed. The context for the research is described; the geographical location of the two study settings, NHS Trusts and social media platforms. This chapter guides the reader through the study methodology.

Aims and Objectives

By bringing together women in a safe online environment to share information, give support and learn about pregnancy, motherhood and childbirth and by promoting engagement and participation within these groups, this thesis aimed to:

1. Explore to what extent a moderated, social media based community can meet information and support needs of women during pregnancy and childbirth
2. Examine CoP theory and define a CoP in this context.

The research programme objectives were to:

1. To bring women together in an online environment to share information and learn about pregnancy, motherhood and childbirth.
2. To enhance individual and group engagement and participation and to develop a group which meets women's needs.

Philosophical Stance

The philosophical paradigm of researchers, underpinned by the concepts of ontology, epistemology and methodology shape and influence research processes (Wainwright, 1997). My overriding philosophical stance in relation to social science is one of constructivism, I reject the notion of an objective truth, and that the reality being observed exists independently of the researcher. I believe the concept that

truth and meaning are constructed by and in individual minds, based on their knowledge, understanding and personal experience from engagement in and with the world. Reality exists independently but the meaning of reality does not exist independently or without a human mind, and multiple socially constructed versions of reality exist (Crotty, 1998). I believe knowledge and meaning are created specifically in the social sphere when individuals engage in shared activities with meaning coming through the dialogue.

I do not accept that one version of reality is more valid than another and believe that all interpretations have the potential to contribute to a greater understanding of society as a whole. My ontological belief is one of realism; that is a real world exists and is separate to our knowledge or understanding of it. This is in contrast to relativism which argues that there is no real world and reality is socially constructed and subject to individual interpretation (Blaikie, 2007). Adopting a constructivist stance does not necessarily mean that an anti-realist ontological position has been taken (Gough & Price, 2009). Constructivism disputes that positivism has more accuracy or legitimacy in describing social realities, but it does not dispute the existence of a real world per se.

Constructivist philosophy reconciles the paradoxes associated with midwifery practice and research. I believe we make sense of the world through and by participating in social constructs and that these are open to interpretation (social constructivism). A constructivist stance recognises that the same event can be viewed differently by the individuals observing it or taking part in it. Nowhere is this more evident than in childbirth where mothers, midwives, obstetricians and birth partners may all take part in or observe the same event but because they are viewing it with different lenses their interpretation about what happened may be very different. Their reality is shaped by the nature of their interaction, which is affected by their knowledge, experience and understanding; nonetheless the physical birth itself occurred. The physiological act of birth itself is not a social construct, but the narratives around birth are socially constructed.

As a clinical midwife, aspects of my practice such as medications, suturing and infection prevention and control are all underpinned by rigorous, positivistic, scientific research. However, a large part of midwifery is not about science, it is about women, midwives, their relationships and their experiences throughout pregnancy, birth and motherhood. Attempting to understand these aspects of midwifery using a positivist approach is inappropriate. Positivist research does not attempt to interpret or find meaning in descriptions of individual social realities which are vital for effective midwife-mother relationships and to improve care within maternity services. Women's experiences are as important as outcomes, and the rise in perinatal mental health issues and their impact in terms of maternal morbidity and mortality, are an area to examine more closely to support maternal health (Knight et al., 2014; Knight et al., 2015). Women are repeatedly told that a healthy baby is all that matters (Hill, 2015) but the increase in perinatal mental health issues clearly suggests that a healthy baby is not all that matters to women, their experiences matter too (Apter, Devouche, & Gratier, 2011; Bauer, 2015; Cantwell et al., 2015). Respect, choice and dignity in childbearing are important issues for midwives to understand and these types of issues cannot be fully understood using quantitative, positivist approaches. Qualitative methods are most appropriate to uncover this type of information and to construct/interpret the meaning within it (Miller, Whalley & Stronach, 2011).

Pregnancy, birth and motherhood are exclusively female; they sit within an NHS health care agenda which is dominated by medicine, in a male dominated society, as such the political relevance and implications, not least about power and control cannot be overlooked (Cahill, 2001; Harding, 2004). Critical theorists argue that reality is created and shaped by social, political and economic factors. The focus is on power, who gains and holds power in social and political interactions and how this affects the interpretation of knowledge (Mutch, 2015). The ontological assumptions in critical theory are that an independent reality exists, but reality is fallible because the ordering, categorisation and relationships in the world are subject to criticism and disagreement from those with alternative views and propositions (Scott, 2005). Feminist theory maintains that the contributions women have made to social and cultural life have been marginalised and this

marginalisation is reflected in research and research practice (Oakley, 2000). Scientific research has accepted and normalised male dominance and reflects a desire to control both the social and natural worlds (Hornscheidt & Baer, 2011).

Often, the purpose of feminist inquiry is to explore women's lives (Oakley, 2000) to raise women's consciousness, to give them voice and advance their ways of knowing (Choucri, 2010). Feminism celebrates women's strengths and resistance strategies and seeks to address the forces that lead to oppression (Maguire, 2006). Although this research gives women voice, it is not underpinned or driven by a theoretical feminist stance. It is not intended to be a piece of feminist research; the key focus is experiences of social learning and the frameworks which support social learning. Nonetheless, it is about a group of women and their experiences of using social media for support and information during pregnancy, birth and beyond. Therefore, it aligns with Stacey's conception of feminist research,

'Primarily on, by and especially for women...which grounds theory contextually in the concrete realm of women's everyday lives.'
(Stacey, 1988:21)

Midwifery itself is inherently feminist; the domains of midwifery are heavily gendered, with the profession being predominantly female and childbirth being exclusively female. The reason for midwifery is to be 'with women' (Lundgren & Berg, 2007; Kirkham, 2010; Pairman, 2006). As such this research is underpinned by feminist values which champion the midwifery model of care, based on meeting individual women's needs, advocacy and empowerment (Leap, 2000).

Qualitative Approaches

There are numerous qualitative approaches and these were considered to determine the most appropriate method.

Ethnography studies the culture and beliefs of different groups to develop an understanding about a phenomenon, particularly how it is experienced within a culture or environment (Hammersley & Atkinson, 2007). It usually involves the researcher taking part in and observing people's daily lives, either overtly or

covertly to gather data about the issue in focus. In the context of this research the culture within the social media group was not the focus of the research. Observing the online interactions between the participants from a cultural perspective could explore if a CoP was emerging through the group characteristics. However, this single focus would fail to capture the wider lived experience of participants, not just being part of the group culture, but whether and how online support and learning through social media influenced their experiences in pregnancy and early motherhood.

Case study methodology would facilitate the investigation of a phenomenon in a real-world context such as midwifery care (Yin, 2014). Case studies can be formed around single cases (individual women through pregnancy), or single cases with embedded units (individual women within the social media group), or multiple cases (more than one social media group). Case studies usually examine individuals, groups, programmes or processes, and draw on both qualitative and quantitative data collection methods (Baxter & Jack, 2008). Often this method is used when the focus of the research is to find out how, why, and when the behaviours and variables of those in the study cannot be manipulated or controlled (Yin, 2014). Case study methods can be used to develop theory and to develop and evaluate interventions, consequently it is often selected when complex health care issues need to be explained in context. The literature review highlighted that case study methodology is a commonly selected method in CoP research and the features of this study would align well with a case study approach. However, the underpinning philosophy of the research; to work in partnership with women, to identify, address and meet their needs for support and information using the online group could be compromised if case study methodology was adopted. The collaboration could result in the researcher manipulating variables within the case study sites and thus be subject to criticism.

Grounded theory investigates social processes and interactions, and develops new theory through the collection and analysis of data about specific phenomena (Glaser & Strauss, 2009), the focus is to uncover basic social processes so that professionals can intervene and respond to the participants concerns (Glaser,

1978). Understanding is built on consequences and knowledge is formed retrospectively (Nolas, 2011). This position is maintained throughout the grounded research process as theory is generated through data analysis using constant comparison. Two fundamental components which identify research as grounded theory are; drawing on the data to develop new conceptual categories and developing abstract analytic categories from the data analysis (Charmaz, 2014). As part of a funded study with predetermined ideas and concepts to draw on and to add to, grounded theory methodology is not appropriate.

The interpretative phenomenological approach (IPA) seeks to understand how participants make sense of their experiences in context (Braun & Clarke, 2013). IPA is underpinned by ideas from phenomenology (the lived experience), hermeneutics (the theory of interpretation) and idiography (an individual in-depth detailed focus). Reasons for selecting IPA are to undertake detailed explorations of lived experiences whilst simultaneously trying to make sense of the participant trying to make sense of their world (Smith, Flowers & Larkin, 2009). The focus of IPA tends to be on significant life events (such as pregnancy) that have implications for identity (Braun & Clarke, 2013) and these are explored in detail (Shinebourne, 2011). IPA is an attractive and flexible methodological tool but in this study, support and learning realised through an online community is the focus of the research, not the significant life event of pregnancy or impending motherhood. Consequently, IPA was considered too in-depth and imprecisely focused to meet the scope of the proposed study.

Discourse analysis examines the connections between language, communication, knowledge, power and social practices (Jupp, 2006; Holt, 2011) and can demonstrate how knowledge is socially constructed. The online data collected in this research lends itself well to discourse analysis but the research questions are not seeking to explain how information and support needs are constructed by women or health professionals, they are aiming to explore the impact of being a member of a social media group and the experiences of the participants. Discourse analysis could be useful to explore communication by midwives in relation to health promotion and support and how it is shared by non-health

professionals but this is not an aim of the research. Similarly, narrative analysis approaches focus on stories of experience and explores how individual stories are selected, organised, connected and evaluated as meaningful for audiences (Jupp, 2006). Narrative analysis explores how storytellers choose to connect events and make them meaningful for the listener (Reissman, 2008). Storytelling is a longstanding, influential and traditional way that women have learned about childbearing (Savage, 2001). Birth stories are a clear illustration of how individuals are selective when telling stories; women choose which aspects of the narrative to share, a story is constructed according to the position of the teller and the listener. This is exemplified by the newly delivered woman graphically sharing her birth experience with other new mothers, but cautiously withholding detail from those women who are yet to birth. However, whilst meaningful and apt for midwifery research generally, this approach would not have answered the key research questions without disrupting the narrative.

The research sought to work collaboratively and in partnership with women to improve their access to information and support during pregnancy, whilst exploring the potential for a maternal CoP to emerge. The importance of working with women and listening to them throughout the research process was important to prevent them from being reduced to objectified sources of data (Oakley & Roberts, 1981). Working in this democratic way to achieve greater effectiveness led to scrutiny of Action Research as an approach (Adelman, 1993).

Action Research

Action research (AR) shifts the balance of control from the researcher to the researched, resulting in a collaborative process which is undertaken by or with members of a community, but not to them (Herr & Anderson, 2015). It is:

‘...a participatory, democratic process concerned with developing practical knowing in the purpose of worthwhile human purposes, grounded in a participatory worldview.’

(Reason & Bradbury, 2006:1)

AR stems from the belief that knowledge should be created from finding solutions to real life problems and change implemented in a series of discrete episodes

(Adelman, 1993). It is research in action, and not research about action; it adopts a scientific approach to study social issues, with those who are experiencing the issues directly (McNiff, 1993). AR assumes democratic, collaborative partnerships which mean that the participants are equally co-researchers taking part in iterative cycles of data collection, feedback, analysis, action and evaluation. Each cycle leads onto the next cycle allowing for solutions to problems to be sought, actioned and evaluated until the researchers determine that the study findings and outcomes can be published. Throughout the process the research runs concurrently with the action, and as such change is engendered and a body of knowledge is developed simultaneously (Coghlan & Brannick, 2014). AR is typified by a general set of characteristics whereby it is;

- A social process and focuses on the relationship between an individual and their social environment
- Participatory, and participants work on themselves and examine the relationship between knowledge, identity, agency and practice.
- Practical and collaborative, and involves participants investigating in relationship their practices.
- Emancipatory and helps participants address social structures that limit their self-development and self-determination.
- Critical and encourages participants to challenge the particular ways they are positioned to view the world.
- Reflexive in that the object of the research is to change the world for the better in multiple ways

(Kemmis & McTaggart, 2005).

Encompassing this set of guiding principles and considering the broad overarching aims of the research, a modified AR approach was developed for the study. Modified, because of the following key characteristics; the initial intervention developing the social media groups was based on research evidence about women's use of social media and not by the participants. The platform, the social media site, was shaped by the participants' opinions of it and in this respect the research became increasingly collaborative. Action was based on participant/co-researcher's evaluation, however in the conceptual phase of the research the

intervention to solve the problem (lack of support, inconsistency in sources of information in pregnancy and information overload) was determined by the researcher based on the researchers' beliefs, and the time frame for the research was based on pre-determined time lines. The group could be emancipated by the research (in that the women will have open access to expert information to inform their decision making) but involvement in the research will not actively encourage the participants to be critical of their position in society. The object of the research is to change the way women access information and to improve the support women have during pregnancy. In addition to providing a novel way of providing information and support for pregnant and newly delivered women, this research seeks to discover if a theoretical concept, the CoP, can evolve from an online support community for childbearing women. The study has been driven by research questions and as such does not strictly fit the AR model of inquiry (Kemmis & McTaggart, 2005). With this principal element of AR missing, the methodology is fundamentally qualitative with action research components.

AR components are evident in both the cyclical nature of the research and the collaborative partnership between the researcher and participants. In this way AR can be seen as less of a methodology and more as an approach or stance that the researcher takes towards both the research process and participants (Herr & Anderson, 2015). Those involved in the research are given a sense of belonging and agency (Somekh, 2005). The research and action proceed in parallel with repeated cycles of planning, implementation, evaluation and reflection. Researchers and participants are more equal in relation to the research because both have the potential to shape and change the research and the project (Stringer, 2013).

The AR partnership resonates well with the midwife-mother relationship, based on an equal and collaborative partnership which is fundamentally woman centred (Kirkham, 2010). Without this democratic approach, there is the potential for power imbalance between the midwives and mothers which could undermine the woman centred focus of the research. The action components facilitate authentic collaboration by enabling informed changes to be made throughout the project,

based on the collective knowledge and understanding of the participants including educationalists, midwives and mothers. As problems are identified and solutions found they can be addressed, implemented and re-evaluated. The problem solving approach is responsive, adaptable and led by the participants involved in the process and as such reflects a midwifery model of care (Fahy, 2012; Hatem et al., 2008; Sandall, 2012). It is widely accepted that the midwifery model is underpinned by the principles of equality, choice and control in childbirth for women and this research seeks to push and apply this philosophy in real practice settings.

The methodology draws on AR principles to provide pragmatic solutions which allow aspects of the research to be shaped by the participant's thus reflecting both a midwifery and feminist stance.

Reflexivity – The Researcher/midwife

Researchers need to be aware of the ways in which their own lives shape and influence research. It is vital to not only consider my values and standpoints, but also my intersectional identities which will shape how I interpret the research. Doing this will help me to situate myself (Braun & Clarke, 2015). Overlapping identities affect all interactions and contribute to how identities are formed (Atewologun, Sealy, & Vinnicombe, 2015). I have numerous social identities with the potential to impact the construction of knowledge generated from the research.

I am a mother; I have been pregnant and have given birth. I have personal experiences of pregnancy and transitioning to motherhood. However, I am a midwife, and I was a midwife when I became a mother, my position was not the same as the women participants in the research as I already had 'insider' knowledge (Coghlan & Brannick, 2014). My prior knowledge was constructed through my experiences of working in in several University Teaching Hospitals and was biased to a certain type and experience of pregnancy and birth. Nonetheless it gave me an authority that most women do not have and that the research participants do not have. My experience of pregnancy and birth was of two normal, uneventful pregnancies, culminating in two uneventful and positive births, one in

the hospital where I worked and one at home. I was familiar with and comfortable in both environments, I knew the people around me and I could anticipate events and make sense of what was happening. I bring my own identity of mother, midwife and educationalist into this process and these identities trigger meaning making (Atewologun et al., 2015). Furthermore, I am female, heterosexual, white, British and have a professional status; these characteristics firmly situate me and possibly position me further away from some of the women in the research. It is vital that these issues remain in focus throughout the research, as I believe knowledge is co-constructed; a consequence and outcome of prior knowledge, understanding and experience.

Relationships between the researcher and the research location, the participants and their experiences impacts and shapes the analysis and in turn the authenticity of the research findings. Throughout the research I maintained an awareness of my own position as an insider and outsider, of the sameness and differences between myself and the participants to achieve 'clearsightedness' within the research (Le Gallais, 2008). This reflexivity is not separate to the process and although I have drawn attention to it here, it is ongoing and an embedded element of the study. It has been encouraged and facilitated through supervision, steering group input, through a critical friend relationship with a co-researcher and the use of a reflective diary.

Methods

Congruous with an interpretive approach, the study methods were inductive, subjective and largely unstructured, although the AR principles provided an organisational framework.

The methodology is presented in two parts: this chapter provides an overview of the planned approach identifying the setting, sample, activity cycles of modified AR, data collection and evaluation methods. In Chapter 5 the operationalisation of the activity cycles, methodological feedback and emergent findings which influenced the progression and development of the research are presented, prior to presentation of the study findings in Chapters 6 & 7.

Overview of the research strategy – Cycles of Action

To realise the study objectives, a cyclical approach was taken to implementation and evaluation with four distinct cycles over a 36-month time frame (See Figure 3).

1. Recruitment, initiation and expectations (0-9 months)
2. Initial review and meeting needs (9-12 months)
3. Post-delivery group review and evaluation (12-18 months)
4. Individual user experience evaluation, data analysis and writing up (18-36 months)

Cycle one involved selection and engagement with Trust sites, formation of the Steering group, recruitment of the Midwife Moderators, development of the Facemums pages, recruitment of the participants and the first face-to-face discussion group.

Cycle two was based on analysing the first focus group data, instigating operational changes and continuing to generate online activity. In cycle two an online focus group was undertaken. The data were analysed and recommendations implemented.

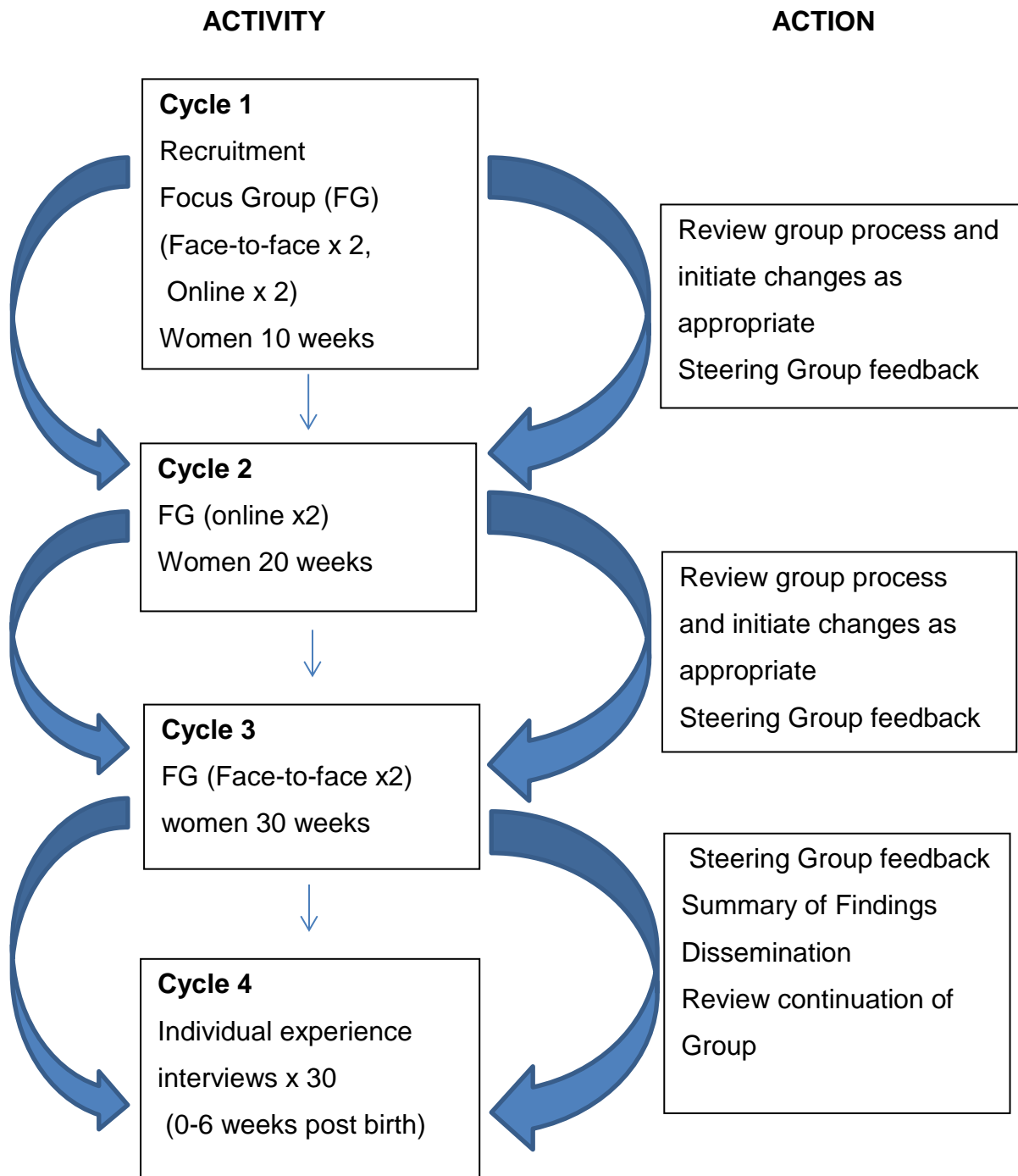
Cycle three included implementing recommendations from the online focus group in cycle two, continuing to observe and generate online activity and a final face-to-face focus group to conclude the active phase of the research and to mark the withdrawal of the midwife moderators.

Cycle four consists entirely of evaluation and analysis. Final individual interviews with participants and midwife moderators were undertaken; data analysis and report writing was commenced and completed.

Cycles one to three took place during the live, active phase of the moderated Facemums sites. At the end of Cycle three the Facewives withdrew as moderators but following amended ethical approval the site remained live and available for those participants who wished to continue using it.

Figure 3 illustrates how the action cycles embed data collection and evaluation simultaneously.

Figure 3 - Action cycles embedding data collection and evaluation



Setting

The setting for the research was mainly virtual, but women were recruited from different geographical locations served by two large National Health Service (NHS) Trusts in Greater Manchester. The two sites were selected because of prior links with both Trusts and to allow for comparisons of similarities and differences between the groups.

Bolton NHS Foundation Trust (Bolton NHS FT)

The Princess Anne Maternity Unit is situated in the main Bolton Hospital site two miles outside Bolton City Centre and nine miles from Manchester City Centre. It is a large maternity unit with over 6000 births a year and offers midwifery and consultant led care, and specialist neonatal services (Bolton NHS FT, 2016). Women booking for maternity care at Bolton live within the Metropolitan Borough which is made up of a relatively static population of white British residents (Bolton.gov.uk, 2016).

Central Manchester NHS Foundation Trust (CMFT)

St Mary's Hospital is a large teaching hospital which is part of CMFT (now Manchester University Foundation Trust). It is the largest maternity hospital in Greater Manchester and supports over 9500 births per year (CMFT, 2016). St Mary's is an inner city tertiary referral centre meeting the needs of a diverse and complex population, with a high incidence of poverty and minority ethnic groups. It also serves women with complex pregnancy needs requiring specialist services, living outside the geographical boundary (CMFT, 2016).

The units are different in terms of population demographics which adds to the diversity and richness of the data collected. I have visited both maternity units in a professional capacity; as a clinical midwife on inter-hospital transfers and as a Supervisor of Midwives and Midwifery Lecturer on university related work. Despite being familiar with the physical environments, I am not familiar with the hierarchical and social structures within each Trust and as such I do not consider myself to be an insider with privileged insider status, at either Trust. However, I do

have insider status in that I am a registered midwife and have had professional and personal relationships with many members of staff. I am aware that my identification with them as fellow professionals, colleagues, ex-students and friends may impact my reactions and responses to elements of the research (Le Gallais, 2008).

Facebook

A virtual space was selected to reflect contemporary trends in social relationships and communications (Duggan, Ellison & Lenhart, 2014). Social networking site (SNS) communications are an area of significant and rapid growth with 65% of online adults using them, compared with 8% in 2005. Young women in the age range 18-29 years are the most frequent users and usage is not significantly affected by race, ethnicity, household income, education level or location (Zickuhr & Madden, 2012). By using a virtual space mothers are afforded greater flexibility and autonomy in that they are not obliged to travel to health centres or to wait for health professionals to become available. Instead they choose where and when to access information and support as the need arises.

Facebook was selected as the optimal platform because it is the platform most used by women, with maximum use by women in the same age range as pregnant women (Duggan & Smith, 2013; Fox, 2011). Other platforms were considered but given the dominance of Facebook and the clear success of other communities established within Facebook, it was an obvious and appropriate choice. Facebook does not require specialist training or equipment prior to engagement and can be accessed via smart phones, tablets and personal computers using a free application. It is interoperable, can be accessed and provided on demand, and the content is not attached to a specific device (Bacigalupe, 2011). SNS have the potential to be accessed by large numbers of diverse groups of women. Level of education is not a barrier to social networking for health information, despite being a barrier to accessing conventional health care (Sato & Costa-i-Font, 2013). Minimal digital literacy skills are required, users need to have signed up to Facebook and be able to navigate the space to use it effectively, but this was not a factor likely to exclude women of childbearing age. Facebook facilitates

continuous participation and allows for synchronous and asynchronous interactions (Kirmayer, Raihel & Rahimi, 2013). Furthermore it is the social media platform most widely used by health professionals on an individual basis and in groups (Wilson et al., 2014).

Facebook has been criticised because of problems associated with managing privacy settings (McCarthy, 2011; Zhelever & Getoor, 2009). Confidentiality and privacy settings are discussed in detail under the subheading ethics.

Access to Participants

The Heads of Midwifery (HoMs) in both Trusts were the initial gatekeepers to accessing the participants, they needed to approve and endorse the study for access to the sample population (Holloway & Wheeler, 2002). This endorsement was particularly important as pregnant women are considered a vulnerable research population for whom the HoM has a responsibility to protect (Lee, 2005).

HoMs were approached and meetings were arranged to discuss the research proposal and potential implications of the research. Both were supportive and enthusiastic for the research to be undertaken, they were keen to employ new modes of communicating with and supporting women, and to support local midwifery research for the benefit of local service users. They brokered meetings with the Research and Development (R&D) teams at each of the Trusts. Site specific information such as timings of initial access to the participants i.e. booking appointments, demographic information about the midwifery teams and operationalisation issues were explored with the HoMs and they provided valuable information which helped refine the study proposal.

CMFT R&D team agreed in principal to allow access to women on two conditions; that NHS ethical approval was secured via IRAS, and the National Institute for Health Research (NIHR) Introduction to Good Clinical Practice (GCP) e-learning course was successfully completed by the researchers involved in the study. BFT were satisfied from the outset that if NHS approval was secured via IRAS, they would give access to their midwives and women users.

Midwife Moderators

To maximise opportunities for sharing accurate and valid information about pregnancy, birth and early motherhood, and to facilitate the development of a CoP midwives were recruited to moderate the site. Moderators are an important feature for success in online communities and CoPs (Barnett et al., 2012; Mendizabal et al., 2012; Thomas et al., 2010). They are essential for sustaining groups (Stuckey & Smith, 2004) maintaining activity (Gannon-Leary & Fontainha, 2007) and in the context of this research they were essential to filter and verify shared information. Employing midwives from each Trust, for the site specific community, reduced the risk of conflicting and misinformation associated with variations in individual hospital policies and guidelines, which do not always align with best evidence or national guidance (Prusova et al., 2016).

Rather than depending on one midwife (per site) for fifteen hours of moderation four midwives were seconded, two from each Trust, for seven and a half hours each, thus allowing for leave and absence. This was important to protect the midwives from feeling overwhelmed by potentially large volumes of activity on the sites, as moderator burnout and fatigue is reported in the online community literature (Porter et al., 2011; Eysenbach et al., 2004). Fifteen hours of moderation distributed over seven days was agreed which meant that minimum level of moderator input at each site was four times daily evenly distributed over a 24-hour time period.

Expressions of interest were sought by placing an advertisement for the role of Midwife Moderator in all main maternity areas of the Trusts. The advertisement was also sent to all Supervisors of Midwives (SoMs) within the Trusts for distribution amongst supervisees. There were six expressions of interest and the interested midwives were invited to attend the University for an informal group discussion about Facebook and online communities. The discussion, led by myself and a co-researcher, focused on the applicant's knowledge and understanding of Facebook and Facebook processes and their enthusiasm for engaging with mothers via social media as part of the research project. The success of virtual

communities is dependent on confidence, motivation and purposeful engagement, with adequate frequency, such that networks are established, maintained and strengthened over time (Leavy et al., 2013; Smith, Skrbis, & Western, 2013). The discussion was held to determine which of the midwives appeared to possess most enthusiasm and skill in these areas as the role of the moderators was to facilitate purposeful engagement and to generate activity. Four midwives accepted secondment (using pre-existing secondment agreements with the university) to the role of midwife moderator for a 35-week period.

In keeping with a modified AR and its collaborative and participatory nature (Reason & Bradbury, 2006), the role of the moderators was complex. They engaged as researchers, research instruments and participants. They, along with the women, shaped and influenced the research and as such were co-creators of the research, whilst being researched (quote). The midwife moderators had a multi-faceted role as midwives, educators (professional), group members and participants (participatory). This duality is part of the meshing of action and research, and is typical of the unique and 'messy' nature of an action-orientated approach (Reason & Bradbury, 2006).

Choosing the names Facemums and Facewives

Following their appointment, the moderators met to discuss the Facebook site format, visual appearance, and to choose a name for the groups. One of the midwife moderators described how she was explaining the concept of the research to a colleague who had commented that she (the midwife moderator) was going to be a Facebook Midwife, a 'Facewife'. This evolved into the name 'Facemums' for participants and the two groups were differentiated by the host Trusts; Facemums Central (FMC) and Facemums Bolton (FMB).

Developing the Facemums Site

Establishing a Facebook page was uncomplicated and was the first task of the midwife moderators. The moderators agreed they should establish the Facebook pages so that they were familiar with them and could navigate the different features of the site, facilitating their sense of belonging from the outset (Lin, 2008).

All four midwife moderators had existing Facebook profiles and were regular Facebook users but all wanted to develop separate professional profiles using their Facewife title to protect their free time and to safeguard the privacy of their personal profiles.

Creating additional professional 'Facewife' profiles was the subject of much debate. A researcher with expertise in online engagement strongly suggested that in order to generate activity and to develop relationships, the moderators should introduce personal aspects of themselves and their lives and that failure to do so would impede growth of the community (Vasilica, 2015). This created tension because the Nursing and Midwifery Council (NMC) (2015) guidance for social media use clearly states that registrants should not engage in certain activities on social media including;

'building or pursuing relationships with patients or service users'

(NMC, 2015:3)

and;

'It is unacceptable for nurses and midwives to discuss matters related to the people in their care outside clinical settings. If you refer to your work or study on social media you need to demonstrate respect and professionalism towards all your patients or service users by respecting their right to privacy and confidentiality. This is regardless of whether you believe that there is a risk they could be identified'

(NMC, 2015:4)

Therefore it was essential that the Facemums site was accepted as an alternative clinical setting. The Facewives were bound by their code of practice (NMC, 2015a), and the Midwives Rules and Standards (2012). They used these as a foundation for their input into Facemum site activity, in addition to observing the Guidance on Using Social Media Responsibly (NMC, 2015). Obtaining ethical approval from the NHS through the Integrated Research Application System and the University of Salford meant that these issues were scrutinised independently. After establishing professional Facebook profiles the Facewives were directed to

the Facebook 'setting up your Facebook page' tutorial (<https://www.facebook.com/business/learn/set-up-facebook-page/>) and created the Facemums Bolton (FMB) and Facemums Central (FMC) sites.

Whilst awaiting final NHS site specific approval the Facewives developed rules of engagement for the site 'Netiquette' (see Appendix 5). This basic set of rules for online behaviour focused on treating individuals with dignity and respect, maintaining confidentiality and understanding the potential difficulties and restrictions when communicating online. The Netiquette was posted on the home page of each site for participants to read and as members joined the group they were asked to read and agree to the rules of engagement. Alongside Netiquette, Facemums were reminded about how and when they should use the Facemums group and when to access traditional clinical care. They were reminded that they should not use site instead in place of seeing or speaking to a midwife because the facewives may not see messages posted for several hours. The Facemums were advised to call their maternity unit triage in the event of a sudden onset or continuous pain, vaginal bleeding or other vaginal loss, or a change in the fetal movement pattern or reduction in fetal movements.

Throughout the research each group was independent in terms of recruitment, planning, implementation, moderation and data collection.

Steering Group Expertise

The study was funded by Health Education England (HEE), and as the Principal investigator I was responsible for managing and delivering the programmatic aims of the research and the thesis aims and objectives (see p94). However, a steering group was convened to oversee the project. The steering group was accountable for overseeing study expenditure, to ensure the research met its objectives, to identify and foster relationships between the research and other relevant communities, and to monitor the progress of the research. The steering group comprised of; two senior members of HEEs local and national offices, a public health and primary care workforce lead, a Consultant Midwife, the Local Supervising Authority Midwifery Officer, senior academic supervisors from the

University of Salford, the Director of the Royal College of Midwives (RCM) (England) and two recent users of local maternity services.

The group represented individuals with the seniority to implement institutional and policy change. Individuals from midwifery and public health with a current knowledge base about clinical practice, senior academics to advise on the research strategy and service users to keep the project grounded and user friendly.

Co-researcher

To assist in the collection of large volumes of data, a co-researcher was assigned to the project. The co-researcher was an academic midwife, SoM and post-doctoral researcher. Her role was supportive; to participate in data collection, take notes during interviews and focus groups, oversee the FMC site for any time critical issues in the event of my absence and to act as a critical friend. This support enabled flexibility in respect of data collection and on two occasions when I was unable to attend face-to-face interviews the co-researcher provided direct assistance in data collection. Having a scribe in the interviews allowed me to concentrate on listening and begin the process of familiarising myself with the data. Following each interview and focus group we discussed the main issues raised and made notes about distinguishing or remarkable aspects of the research. These notes were added verbatim to the transcripts and the original note shredded.

Sampling

A purposive convenience sample, for relevant and rich data, was sought (Braun & Clarke, 2013). Qualitative research often uses non-probability sampling as there is no intention to generalise the findings from the sample population to the general population, although theoretical transferability is possible as findings from qualitative research can be applied to a wider theory (Pickard, 2013). The target population was pregnant women booked for care at one of the Trust sites and attending for a dating scan between 6 and 10 weeks gestation. The rationale for choosing women attending for a dating scan was that they had already engaged

with maternity services and were most likely to be in the first trimester of pregnancy. It was essential that the participants spoke English as there were no resources for translation services. Furthermore to foster an environment for community building it was essential that the participants could communicate with each other, as well as the midwife moderators.

Young females below the age of sixteen were excluded, because this is the minimum legal age of consensual sexual activity in the UK and these pregnant women are offered specialist midwifery services. Women with severe mental health conditions were also excluded because they require on-going support and specialist advice from a multi-disciplinary team. Whilst the potential benefits of peer support for women with mental health conditions were recognised, the risk of non-specialist advice resulting in conflicting information was considered too high. It was important that the participants had an existing Facebook profile because technical support was not available to assist women in setting up and navigating the site. The aim was to make the sample as diverse and inclusive as possible (see Box 1), but this was dictated by the target population’s willingness to participate.

Box 1 – Inclusion/Exclusion Criteria

<p>Inclusion:</p> <ul style="list-style-type: none"> • Pregnant • <15 weeks gestation • Booked for care at designated maternity hospitals • English speaking • Facebook user 	<p>Exclusion:</p> <ul style="list-style-type: none"> • Serious Mental Health Condition • <16years old.
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Sample Size

The target sample size was 15 participants in each group. The rationale for the sample size was pragmatic, *‘there are no rules for sample size in qualitative*

inquiry' (Patton, 2002:244). The aim of the study was to create an online community with the potential for a CoP to emerge, collaborating with the participants to shape and develop their communities as they directed. To explore in-depth the use, engagement and experiences of participants a small sample size was justified. CoPs are not limited by size (Wenger, 1998) but if a group is too small there is a risk interactions may become stagnant (Ford et al., 2015). Large groups risk losing the supportive relationships and intense communications that are facilitated by more familiarity (Ardichvili et al., 2006; Gannon-Leary & Fontainha, 2007). Furthermore, the group size, the interactions and volume of data had to be managed by two Facewives. Service users from the steering group were keen that Facemum groups should remain small enough so participants shared effectively and interacted with each other.

A method of engaging with the participants to facilitate discussion, promote relationships and cohesiveness, was through focus groups. Thus the size of running effective focus groups was another factor that influenced the sample size. Optimal group size was debated by the steering group and there were notable differences of opinion. Proponents of social media within the steering group argued that as the platform for the group was 'social' media, the group should be social and therefore open to membership and restrictions should not be imposed. User representatives believed 12–15 was an optimal size with 20 participants being the maximum. They based this on their previous and current use of pregnancy related social media based groups and expressed dissatisfaction when group sizes were larger. They explained that they would be less inclined to share details about themselves or information to assist others if the group was too large. This was an important consideration as one of the research objectives was to enhance individual and group engagement and participation, to develop a group which meets women's needs.

From the perspective of CoP theory, characteristics of CoPs are that the members have a continuity of mutual relationships and awareness of member's strengths, weaknesses, competence, expertise (Kerno, 2008; Wenger, 1998). Within the short time frame of this study this would have been difficult to achieve if the group

was larger than 15-20 members. The time frame was inherently constrained by the gestation period and the time frame when midwives had professional responsibility.

The midwife moderators were constrained in terms of their employed time to support the group and to respond to queries. This final consideration led to consensus that 15 participants was an optimal sample size, with an aim to recruit between 18-20 to allow for attrition and non-engagement.

Recruitment

Potential participants were informed about the study through a participant information leaflet distributed by community midwives at the initial Booking visit (see Appendix 6). This approach was recommended by HoMs as the most effective way to capture women early in pregnancy. Women interested in finding out more information about the study completed a form sharing their contact details consenting to be contacted details by the researcher (see Appendix 6a). Women who shared their details were contacted by the researcher to explain the study and to answer any queries before progressing, if agreeable, to send an electronic consent form (see Appendix 7 and 7a).

A returned consent form, which requested details of the participants' Facebook profile, enabled the participant to be invited to join the group. This final stage in the consent process gave the participant a further opportunity to decline the invitation to join without the pressure of having to respond directly to the researcher. On acceptance of the invitation to join each participant was sent another email thanking them for taking part in the research and reminding them that they could leave the group and the research at any time without consequence. It was clearly stated that it was not possible to be part of the group without participating in the research because the site content formed part of the research data.

Challenges with recruitment

In keeping with health research several challenges relating to recruitment arose (Bower et al., 2009). The aim was for community midwives (CMWs) to recruit participants because they are the first point of contact with maternity services. However, engaging with the CMWs so that they could see the value in the study was difficult. A meeting took place between the Community Matron and Community team leaders at BFT and the Community Matron at CMFT. They reported that CMWs were unenthusiastic about the prospect of giving women additional information at the first contact visit. CMWs had expressed concern that women were already overloaded with information and that there was too little time during the initial visit to discuss a research project which was not their highest priority. The CMWs were advised that if the women participated in the group they would have more opportunities to discuss pregnancy related issues, which could ultimately lessen their workload. Despite this, CMWs were reluctant to accept that there were positive aspects to the study and re-emphasised the problem of information overload and their increased workload, this possibly influenced the recruitment of women from the outset. It is essential to engage with gatekeepers from the outset to ensure they have a positive influence on the research (McFayden & Rankin, 2016) but the realisation that the CMWs were major gatekeepers was made too late and opportunities for positive personal engagement were lost.

CMFT book approximately 170 women per week and BFT book approximately 120 women. It was incorrectly anticipated that from these sampling pools of 680 and 480 women that it would be relatively straightforward to recruit 15 from each site. After four weeks of recruiting, four participants had been recruited to BFT and nine to CMFT. The researcher and the midwife moderators regularly visited the Trusts to prompt CMWs but still they were not routinely distributing information leaflets. The CMWs proved to be gatekeepers with significant influence and control over access (Broadhead & Rist, 1976). Failures to recruit can be intentional due to ambivalence or disapproval of the study or unintentional due to pressures of work or forgetfulness and there appeared to be a combination of these factors with regard to the CMWs (Bower et al., 2009). To increase recruitment the midwife

moderators agreed to attend booking and dating scan clinics to distribute leaflets and to discuss the research with women attending.

Over 110 women expressed an initial interest in joining the group, but declined joining the study because they felt the focus group commitment time was too great. Service users from the steering group suggested that potential participants may feel more able to engage in face-to-face focus groups after they had 'bonded' through a period of online activity. Therefore a major amendment was submitted to IRAS proposing that participants were offered the choice of attending either face-to-face or online focus groups to encourage recruitment. The online focus group amendment was more amenable to participants and resulted in a greater number of women being recruited in shorter timeframes.

The failure to recruit women within the anticipated time frame had implications in terms of aligning with the gestation period specified in the inclusion criteria. As time progressed, in order to ensure that the women recruited to the study were in the same trimester of pregnancy, the inclusion criteria needed to be amended to include women of less than 15 weeks gestation plus the number of weeks the study had been running. This also required a major amendment to ethical approval through IRAS. Recruitment took much longer than planned; BFT did not achieve a full cohort for eleven weeks and had 17 participants. CMFT did not reach full establishment and had 14 participants.

Data Collection

Methods of data collection were focus group interviews at ten week intervals, individual semi-structured interviews up to six weeks after the participant had given birth, and activity data from the Facebook site.

Facebook activity data (FBAD)

Data was collected through the online postings on the Facemums group page for a period of 35 weeks. The online data were used to inform the focus group and interview schedules as the research progressed. In addition to the online data generated by the participants, online focus groups were also held within the

Facebook arena. This data was not on the group page, but was accessible through the Facemums page. This data is not part of the FBAD data and is categorised as focus group data. Private messages between the Facewives and Facemums were all retrieved and included as part of the online Facebook data.

Focus Groups

Focus groups were selected as the primary method of early data collection because they are an efficient way to generate detailed insights into a defined subject area, and can foster interactions between participants whilst strengthening the social aspect of the group (Jayasekara, 2012; Krueger & Casey, 2000; McLafferty, 2004). Participants were advised during the recruitment process that they would be required to attend three focus group discussion groups at 10-week intervals, and that these discussions would be centred on their participation and use of the Facemums site.

In total eight focus groups were held. Two focus groups, (one at each site) were held approximately ten weeks apart over a 30-week timeframe. Four focus groups were face-to-face and four were online, the first focus groups were offered face-to-face and online. Written consent was obtained prior to commencing the face-to-face focus groups (see Appendix 7a). Methodologically, focus groups were the best way of engaging with participants and facilitating engagement with each other. Through focus groups participants were encouraged to have discussions amongst themselves which were not led by the researchers' need for specific information. The focus groups provided important opportunities for inter-relational dynamics within the group to be observed and to evolve (Parker & Tritter, 2006).

The initial intention was to conduct all the focus groups face-to-face but, in response to feedback during the recruitment phase, this was changed and an option of either face-to-face or online focus groups was offered. It was thought that the online group would not facilitate bonding and relationship development between the participants as effectively as face-to-face groups, but equally it was important to listen and to respond to feedback received. The primary purpose of the focus group discussion was to evaluate the format, development and

management of Facemums and to instigate changes recommended by the participants, this was still possible using an online discussion format.

The aim of the focus groups was not to reach data saturation but to inform and shape the ongoing research (see Figure 3). Three focus groups fitted well with the trimesters of pregnancy and gave an opportunity for changes to be made and evaluated. A ten week interval between focus groups gave the participants an opportunity to feedback during each trimester of pregnancy and in the post-natal period. This was significant, women's support needs change throughout pregnancy and in the early puerperium (Darvill et al., 2010), and it was important to capture this and for feedback to reflect the changing needs of the participants. Focus group size varies and there isn't consensus as to what is the ideal size. A minimum size of four is necessary to achieve diversity in opinion (Onwuegbuzie et al., 2009) but groups bigger than twelve are not usually conducive to providing opportunities for all the members to share insights and speak (Kreuger & Casey, 2009). Furthermore, less confident participants may not feel confident to speak in a large groups (Onwuegbuzie et al., 2009). Facemums and Facewives were invited to attend their groups discussion and it was planned that if the group was larger than twelve participants, they would be split into two smaller groups with a midwife moderator or co-researcher in each group.

A relaxed, comfortable and non-judgemental environment to allow the women to disclose their opinions and feelings was aimed for (Kreuger & Casey, 2009). Although hospitals can be seen as inappropriate places to gather pregnant women, the hospital sites were selected as the participants were familiar with and were able to access the hospital site without difficulty. Participants were asked where and when they would prefer to meet and the hospital was the only suggested venue. Travel and parking expenses were reimbursed up to ten pounds to ensure that participants were not disadvantaged as a result of participating (National Institute for Health Research, 2017). It was established that none of the participants would pay in excess of ten pounds for a return journey. The first two groups were held at the end of the working day as most of the participants were still working but the final focus group, when participants were on maternity leave,

was held mid-morning. Refreshments were available on arrival and throughout the meetings.

Unlike many focus groups in which participants are often strangers, the Facemums were starting to get to know one another. Familiarity can inhibit disclosure (Kreuger & Casey, 2009) but it was unavoidable in this study. A greater concern was the effect of the Facewives presence, but as the Facewives were part of the community, facilitated relationships between the women and had their own relationships with the participants, it was considered essential for them to be present.

The focus groups were guided by a list of questions to maintain focus and to elicit information (see Appendix 8). A combination of opening, introductory, transition, key and ending questions were used to generate conversation and discussion (Kreuger & Casey, 2009). The researcher and co-researcher jointly facilitated the focus groups. As practising midwives, both understood the dialogue and explored issues without disrupting conversation flow. Not being able to generate conversation was not a concern, as the midwife researchers and moderators were highly experienced talking to groups of women. More of a concern was keeping the dialogue focused around the topic/question schedule. A time frame of 90-120 minutes planned for each focus group to allow adequate time for socialising and eliciting data. The discussions were digitally recorded.

The online focus groups followed the same schedule as the face-to-face discussions. A separate focus group event page was created for the discussion and members were invited to join the event. When the event commenced participants identified their presence by saying hello and opening and introductory questions were raised. The time frame for the online focus group was planned to be slightly shorter at one and a half hours, as it was thought that there would be less socialising in this discussion group. Typing is slower than speaking and response times varied depending on reading and typing skills.

Interviews

Each participant was invited to take part in an individual face-to-face interview within six weeks of giving birth. Interviews were selected to focus on specific areas and to capture a deeper understanding about individual experiences (Denzin & Lincoln, 2011). The time frame was chosen due to the planned cessation of midwife moderation within six weeks of the last birth. Participants were asked to select a venue which was most convenient for them, where they felt comfortable, unrushed (Cresswell & Plano Clark, 2011), were able to breastfeed and the interview could be recorded. Each interview was scheduled to last no more than 60-90 minutes and was digitally recorded after written consent was obtained.

Semi-structured interviews were selected so that the Facemums could discuss issues they felt were important (Elliot, 2005). Additionally semi-structured interviews provided an opportunity for participants to answer specific questions about their experiences relevant to social learning and CoP theory. Interviews constitute a social learning process in which interviewer and interviewee both learn, they require understanding of situation and context, but when this is not apparent understanding can be co-created (Edwards & Holland, 2013). This collaborative construction of knowledge is fundamental to both constructivism and midwifery philosophy and as such was deemed a fitting part of the process.

The researcher led the questions and the co-researcher interjected if conversation had stalled or when follow up was needed. In practice this gave the researcher more time to reflect in action and to listen more actively without having to mentally prepare for the next question. The final interview provided participants with an opportunity to speak without the presence of the other Facemums or Facewives, allowing uninhibited disclosure not influenced by others (Denscombe, 2014).

Ethics

The key ethical issues in this research included informed consent, confidentiality, privacy and the potential for distress. The research was potentially sensitive due to multiple relationships and the potential for multiple disclosures within a social media

platform (McLeod, 2011). Furthermore, pregnant women can be considered vulnerable research subjects with a compromised ability to protect their own interests and those of their fetuses when giving consent (Blehar et al., 2013). Underpinning the unique and specific needs of pregnant women with the ethical principles of beneficence, respect for human dignity, justice and the right to fair treatment and privacy (Polit & Beck, 2005) University of Salford and NHS Research Ethics Committee applications were successfully approved.

Informed Consent

All women approached about the research received an information leaflet which explained the aims of the study and what would be involved if they chose to take part (Appendix 7). Interested women returned a reply slip and were contacted by the researcher. This provided opportunities for questions to be answered, and for the researcher to check understanding about the research. Participants were invited to join and a final electronic acceptance within Facebook enabled women to be added to the group or to decline. Prior to each focus group and interview, additional written consent was obtained (Appendix 7a).

Confidentiality

Potential participants were informed that anonymity within the group was not possible. However, beyond the confines of the Facemums site, confidentiality was preserved by adhering to the standards set by NHS and University of Salford Ethical Committees.

Privacy

Facebook has 3 levels of group privacy; secret is the highest level setting and the Facemums groups were set to this meaning that access to the group was by invitation from a member of the research team. Non-members cannot see group membership and information contained within the group can only be found and accessed by existing members. Secret Facebook groups are not indexed by Google and cannot be found using search engines. The electronic data is stored on Facebook's servers and is protected by the high level privacy settings. Data persistence, searchability and replicability were mitigated against by using the

highest privacy settings and providing information about maintaining group confidentiality and privacy (Jones, 2011).

Women were advised that they could opt out of the study at any time without giving a reason and their maternity care would be unaffected. They were informed that if they wanted to leave the study they would also have to leave the group as the online data generated was part of the study.

Potential for Distress

If signs of distress or anxiety were detected by the researcher or the midwife moderators, participants could be directly contacted and signposted to appropriate sources of support, namely Midwifery Supervisors. SoM were experienced practising midwives who had undertaken additional education and training to support midwives to provide safe care, and to support mothers with issues that cannot be managed by their named midwife (NMC, 2010). Midwifery supervision ceased to exist in March 2017 but was available for the duration of the study. Furthermore, the midwife moderators were able to communicate with participants privately through the private messaging option which allowed private conversations when necessary.

Participants were advised at the outset, that if their pregnancy discontinued for any reason they would not be able to continue participating in the group or the study as continuing in the group following a pregnancy loss could influence the involvement and participation of the other members. This would not prevent them from having friendships with other members but these would have to be maintained outside the group.

All participants were advised at the outset that they should not use the Facewives or the site as an alternative to accessing clinical care. Participants were advised to contact their NHS midwife or maternity services in the event of any concerns about their pregnancy. These included the standard advice from midwives to pregnant women; to call their triage (or equivalent) in the event of any sudden

onset or continuous pain, vaginal bleeding or other vaginal loss, or a change in the fetal movement pattern or reduction in fetal movements.

Data Analysis

Focus Group and Interview data

Analysis of the focus group and interview data using a thematic framework allowed large volumes of data to be managed, and research aims and objectives to be addressed simultaneously (Smith, Bekker & Cheater, 2011; Pope, Ziebland & Mays, 2000; Smith & Firth, 2011; Srivistava & Thomas, 2009). Framework analysis facilitates both inductive and deductive analysis which was essential to address the areas of interest raised by HEE and to ensure a priori themes relating to CoP theory were incorporated. The dynamic approach means that data are not forced into a priori themes as emerging themes can be added to the framework as they arise. Theory can be generated from framework analysis, but the premise of using a framework is primarily to describe what is happening (Ritchie & Spencer, 1994). Frameworks provide audit trails back to individual participants and identify when data was provided and how it was collected, as such the analysis process is transparent.

The process for framework analysis was made up of four key stages modified from work by Ritchie and Spencer (1994), Smith and Firth (2011) and Srivistava and Thomas (2009):

1. Familiarization; becoming familiarised with data from focus groups, interviews and the Facemums site (online). Key ideas and recurrent themes are identified and noted.

The recordings of the face-to-face focus groups and interviews were listened to within 24 hours to check for accuracy and clarity whilst the discussion and content were memorable. The recordings were listened to several times and transcribed verbatim by the primary investigator. The transcriptions were independently checked for accuracy by the co-researcher. The data from the online focus groups were read immediately after the event, and were converted into word documents.

2. Identification of a thematic framework; data is organised into a thematic framework of key concepts/themes with the framework being further developed from the data.

The initial framework was developed before data collection commenced and was synthesised from Wenger's original CoP concept (1998) and areas of interest to HEE (See Appendix 10) (King, 2012; Ritchie & Spencer, 1994). After the creation of the initial tentative framework stages two and three were simultaneous and ongoing until the last interview had taken place. Emerging themes arising from different data sources were embedded into the framework as they were identified (see Appendix 10a).

3. Indexing; data from all sources is indexed (using a code or numerically) and is assigned to the framework themes or categories. When completed a new 'chart' of data is created.

Stage three began following transcription of the first focus group discussion and continued until the last interview. Transcripts were read at least twice and codes used to summarise what the women were describing within segments of data. This process was undertaken manually using printed copies of the interview and focus group transcripts, and a highlighter pen. Different coloured highlighter pens were used for emerging themes (green) CoP themes (blue) HEE (red) and miscellaneous themes (purple). As multiple themes, sub themes and sub-groups were identified an index system was adopted; E for emerging themes, C for CoP and H for HEE, subgroups were listed numerically as they were identified (see Appendix 10 and 10a). Comments were written in the margins of the printed transcripts when connections between codes were recognised. The codes were grouped to form categories which became themes, sub-themes or subgroups (See Appendix 10b and 10c. Appendix 10c represents only two participants (FMB1 and FMC1) as an example of the framework. All participants were included in the framework but a full example is not included in the appendices due to its large size. The decision to code the data manually rather than using a computer package such as Nvivo was based on the expectation that the data management process would initiate and constitute part of the analysis by facilitating a broad

familiarisation with the data, and identification of commonalities and differences in the data.

The development of the themes was based on my interpretation of the links between codes (see Appendix 9a). Mind-maps were used to visualise links and connections using pen and paper, dry wipe boards and PowerPoint smart art graphics. The different types of visuals and the act of creating them helped me to interpret the links between codes to generate themes (see Appendix 9). The development of themes felt challenging because of the volume of data involved. However because the participants had been clear and focused about what was important to them and repeated the same messages throughout the research, identification of the final themes was relatively uncomplicated.

Typically framework content is summarised at this stage and 'charts' which retain some of the original language but are essentially summaries are created (Ritchie & Spencer, 1994; Smith & Firth, 2011; Srivastava & Thomas, 2009). As I felt it was important to retain the participant's actual words rather than interpreting them, summary charts were not developed. The volume of data was reduced by excluding quotations from different participants containing similar descriptions. By the end of the study there were 36 charts with verbatim data, these were cumbersome but were true to the participants. Charts were formatted as 'themes' or as 'participants' (see Appendix 10d). This meant that the theme/subtheme or sub-group could be visualised across individual themes or participants.

4. Mapping and interpretation; analysis of each chart is undertaken looking for meaning and explanations, within and between the charts. Wider application of concepts and themes is sought.

This stage involved looking across the entire dataset and making judgements about meaning, looking for similarities and interpreting the emphasis within the descriptions to find associations. This process was based on my understanding, interpretation, logic and sense of intuition (Denzin & Lincoln, 2011; Henwood, 2014). The co-researcher as a critical friend verified the meaning (van Swet et al., 2009).

Each step in the process develops the framework such that the researcher can move back and forth across the data as it is generated (Smith & Firth, 2011). As such mapping and interpretation takes place during the other stages which are not sequential. The framework allowed for the large volumes of data generated from multiple participants, on multiple occasions and through different methods of collection to be displayed and to remain authentic.

Whilst being steeped in the original data, using a framework approach enabled me to recognise pre-existing theories and focus on specific issues as the data from different sources were comprehensively compared and systematically analysed (Barnard, 2010). I captured and created meaning from the data (White & Drew, 2011). Whilst acknowledging that the interpretation is mine and accepting that there is no single truth, my relationships with the Facemums, deep engagement with the data and transparent processes provide findings which are authentic and credible (White & Drew, 2011).

Online Activity

Online group activity and participation was observed throughout the study, this data was broadly analysed using Grytics ©, an analytics and management tool for Facebook data. The group's main influencers, the type of content which engaged members, and the distribution of postings were provided. This analysis was used primarily to validate and confirm themes arising from interviews and focus groups and determine future models for best practice.

Summary

The aim of the study was to bring women together in a safe online space for information sharing and support as they transitioned into motherhood. Whilst facilitating this, the application of CoP theory could be explored and evidence of CoP formation in online groups examined. This chapter has described the methodological components of the study selected to answer the research questions and to meet the programmatic requirements of the study. These were qualitative, collaborative and participatory in keeping with constructivist and midwifery philosophy and values. In order to optimise participation and

engagement, an action component was required so that changes could be made throughout the study. The action cycles generated data relevant to both operational issues and to the overall study findings. Therefore, it was necessary to separate the action cycle implementation and findings, from the methodology. Thus the next chapter, Chapter 5 focuses solely on the action cycles which were used to shape and inform the groups' operationalisation, this discussion includes data collection, analysis, results and interventions.

Chapter 5: Cycles of Activity

Introduction

In this chapter the live action phases of the study evaluated and informed by the focus groups are described. The process, findings and actions relate to factors that could improve or increased satisfaction for mothers

. This includes the comments from Facemums and Facewives relating to the 'workings' of the group which gave insight as to how to refine and modify the group for optimal use and benefit. The action data is presented separately and not as part of the whole study findings because the data collection, analysis and actions were concurrent (see Figure 4).

In line with Cook action research is 'messy';

The purpose of mess is to facilitate a turn towards new constructions of knowing that lead to transformation in practice (an action turn).'

(Cook, 2017:277)

The action took place before and during data collection and analysis, but also formed part of data collection and analysis. Findings relating to the operationalisation of Facemums were identified but these were not part of the overall study findings and were not incorporated into the framework. Consequently they did not fit within the planned thesis structure. Nonetheless, action was a vital part of the methodology and underpinning philosophy and thus this chapter stands alone despite being part of the whole for pragmatic presentation reasons.

Emergent themes from the action cycles relating to women's experiences of being Facemums are presented in chapters six and seven. These are presented within the findings chapters to ensure that they did not get lost amongst operational issues and because the themes identified during focus groups corroborated those that ultimately emerged in the individual interviews.

Focus Groups

The focus groups had three main purposes:

- To use the data to make improvements and modifications to improve the usage and functionality of the site.
- To facilitate interactions between the mothers to strengthen the social aspect of the group (Krueger & Casey, 2000).
- To collect data simultaneously from multiple participants about their experiences using the site (Jayasekara, 2012; McLafferty, 2004).

Figure 4 – The focus group action cycle

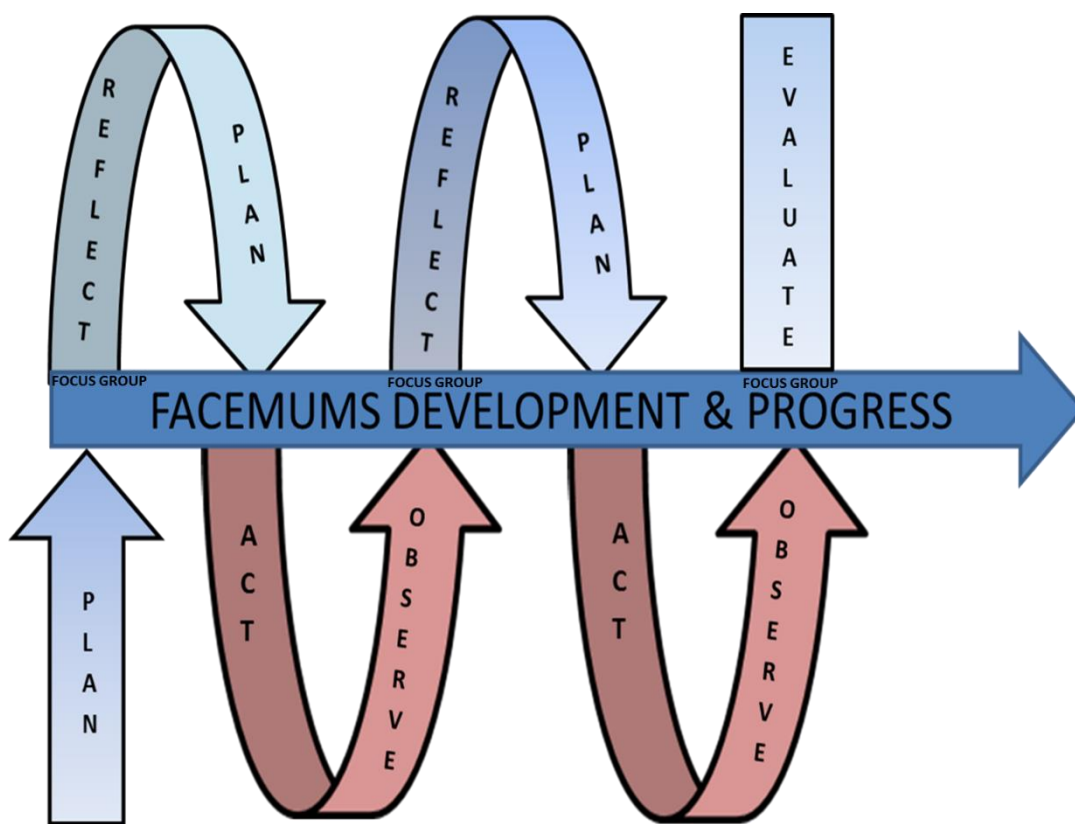


Figure 4 illustrates the cyclical nature of the focus group activity and demonstrates the challenges separating methods from findings for presentation purposes

Action Cycle 1

Focus groups were undertaken to promote group cohesion as well as collecting data. Not all Facemums were able to attend, so to ensure they had equal opportunities to share opinions, an online focus group was also held. The physical meetings took place at the host Trust Maternity Hospitals 15 weeks after the

Facemums site went live. The meetings were scheduled for early evening in accordance with Facemums preferences. Invitations offering a choice of face-to-face or online discussion were posted on Facebook and were seen by all group members at the time of the notification. The attendees at each group are detailed in Table 9 and Table 10. Each participant was anonymised and referred to as Facemum Bolton (FMB) or Facemum Central (FMC) using an allocated participant code detailed in Tables 14, 15 and 16 (Chapter 6). The same codes were used for the names of participants' husbands and children, with the addition of a lower case h for husband or partner, lower case d for daughter and lowercase s for son e.g. FMB1 (Facemum) FMB1b (Facemum's baby) FMB1h (Facemums husband or partner).

Each initial focus group was attended by a member of the research team with expertise in social media. Her role was to observe the interactions within the group and to identify potential strategies to improve engagement and activity. The notion of introducing a 'stranger' to the group was deliberated but her expertise in engagement using social media was important to optimise group use. The Facemums confirmed their willingness for her attendance and observation of the interactions on the group pages. The aim was not only to collect data but to create an enjoyable event to promote interactions, to facilitate the development of personal relationships and to create connections within the group. Familiar venues used regularly for antenatal education were chosen. Soft drinks and blue and pink cupcakes were offered and the tone of the evening was informal. The coloured cupcakes proved to be a good icebreaker as the women spontaneously selected a colour and related it to their own expectations about sex of their baby. This resulted in general chatting which helped everybody to relax. After a welcome and introduction participants were asked to review and sign the consent form (see Appendix 7a) and were reminded that the discussion was going to be recorded.

The online focus group was held two days after the face-to-face meetings for Facemums unable to attend in person. The same interview schedule was adopted and the tone was equally informal all Facemums were welcomed individually and were forewarned about potential typing errors and a loss of synchronicity as

individuals typed/keyed in answers at different speeds (see FBAD FG1 and FBAD FG2). The typo in the second word from me was unintentional, but managed expectations about typing errors;

FBAD FG1 -

Hi every one, sorry im new to this and a bit slow! expect some slip ups!!
The purpose of this discussion is to give you a chance to let us know what you like about the Facemums group and what you think can be improved. This chat is separate to the usual group page and the discussion will be used to help write a research report. It is still confidential and all of the postings will be anonymised before they are used. By joining in you are giving us your consent to use the anonymised information. This page will not be active after 9pm tonight so if you think of anything you really want to add after that time, please just post on the page in the usual way or message one of the Facewives.

Please feel free to add comments at any point in the next hour. They don't need to be linked to a question, anything you want to share about your experience using the group is useful and all of your views are important. Typing things quickly can lead to all sorts of typo's and errors so please don't worry about your written English or grammar, we just want to know what you think.

The groups were relaxed about keyboard errors and injected humour to the dialogue;

FBAD FG2 -



Attendance

None of the participants exercised their right to withdraw from the focus groups throughout the action cycles. FMC7 withdrew from the study two days after the face-to-face focus group but before the online discussion. She did not attend the face-to-face meeting.

Table 9. Facemums Bolton (FMB) Focus Group (FG) 1 attendance

Attendees	Approx. gestation	Online FG	Approx. gestation
FMB1	Baby (FMB1b) 7 days	FMB5	23/40 weeks
FMB2	25/40 weeks	FMB8	22/40 weeks
FMB6	24/40 weeks	FMB12	20/40 weeks
FMB7	25/40 weeks	FMB14	24/40 weeks
FMB9	21/40 weeks	FWB1	Moderator
FMB10	23/40 weeks	FWB2	Moderator
FWB1	Moderator	Researcher	PI
FWB2	Moderator	Researcher	Co-researcher
Researcher	PI	Researcher	SoMe expertise
Researcher	Co-researcher		
Researcher	SoMe expertise		

Table 10. Facemums Central FG1 attendance

Attendees	Approx. gestation	Online FG	Approx. gestation
FMC5	31/40 weeks	FMC1	27/40 weeks
FMC6	31/40 weeks	FMC11	27/40 weeks
FMC10	24/40 weeks	FMC3	FMC3b 18 days old
FMC13	22/40 weeks	FWC1	Moderator
FWC1	Moderator	FWC2	Moderator
FWC2	Moderator	Researcher	PI
Researcher	PI	Researcher	Co-researcher
Researcher	Co-researcher	Researcher	SoMe expertise
Researcher	SoMe expertise		

Tables 9 and 10 show that FMB attendance was higher than FMC, both face-to-face and online. The majority were mid-trimester except FMB1 and FMB6. FMC6 attended FMC face-to-face discussion but was only present for the latter half of the meeting. The Facewives attended as participants not moderators. This was to emphasise their position as members of the group, with an effect and impact on the dynamics within the group, as opposed to moderators who were separate to the rest of the group.

The discussion group schedule (Appendix 8) was developed to generate conversations and to engage Facemums in issues of importance to them (Kitzinger, 1995). The questions focused on what Facemums enjoyed about using and being part of the group, and how they thought it could be improved. Some members of the group were naturally more vocal and it was necessary to actively engage with quieter members of the group to ensure that the more vociferous members did not overly influence the data. Specific questions focused on improving and developing the group were asked to each member individually to ensure that everyone's voice was heard. It was difficult to generate spontaneous discussion within FMC because only three FMCs were present for the first 45 minutes and only four FMCs attended in total. One Facemum was a foreign national and extremely shy, which meant most responses came from two FMCs, resulting in more of a question and answer style interview.

Action Cycle One Findings

The findings presented relate to operational issues and are centred on;

- Group size – in order to determine if recruitment should continue
- Engagement of members – to determine if the Facewives needed to do anything differently
- Information provision and speed of response – to determine optimal response times

Facemums from both groups reported feeling very satisfied with their participation in the group however they differed as to how the groups should move forward

Facemums Bolton

FMB's did not want the group to be changed in any way;

'If it's not broke - don't fix it.' **FMB5**

They felt the group was the right size with the right amount of activity from both FWBs and FMBs;

'... it's right because you could end up with too many people, and then you wouldn't be able to know everyone...' **FMB3**

'I don't know if I would feel that if it was a huge group. I probably wouldn't get as involved.' **FMB12**

It was important to FMBs that group dynamics were not affected by inviting new members. They commented that they knew the members of the group and that was important to them in terms of their participation.

'I think it is the perfect size... I think it was any bigger it would just get a bit swamped.' **FMB8**

FMBs were aware that some members did not contribute;

'There is some people that you kind of just see in the background that don't ever comment or anything like that. But you can see that they are active on it because they've seen the post.' **FMB1**

'I think there is one lady that looks absolutely everything but she never ever comments but she sees it all.' **FMB10**

However, non-contribution was not viewed negatively and the group did not think that the FWBs needed to try to engage with them any more than other FMBs;

'Some people are probably more busy than we are, they don't use it as much, but most of us tend to, there are only a small number that don't post very much.' **FMB2**

'And there are some mums you don't really see like FMB11, so when she popped up I was like oh yes I'd forgotten about her.' **FMB8**

The FMBs thought the response time from the FWBs was;

'Amazing don't how you do it.' **FMC3**

FMBs did not want recruitment to continue and did not want any more women invited into the group;

'We're quite- quite chatty and we are established, I suppose that would be quite difficult really to join this established group.' **FMB7**

The FWBs made few comments about the functionality of the group or ways to improve it. FWB1 suggested having special events online;

*'I'd had an idea about doing and some special talks, I thought I could set up events where you can talk about whatever it is you want to talk about so I thought we could get some staff from here with specialist skills. It might be the consultant or breastfeeding midwife, but you would have access to her maybe for an hour would that be helpful?' **FWB1***

The FMBs did not respond to this suggestion enthusiastically and re-iterated that they thought the group worked well as it was;

'I don't know I suppose it depends on what it's about...you can tell us what we need to know really.' **FMB10**

Facemums Central

The FMCs suggested that their group would be improved by having more group members and more activity;

'I think it's slightly too small. I think we could do with a few more but it's a difficult balance because we don't want too many.' **FMC6**

However, FMCs were not confident that even if the numbers increased more activity would be generated;

'I do check it every day so I don't know that I'd use it more, but probably if the group was a bit bigger.' **FMC5**

'I think the group should be bigger just because there's more dominant posters which is fine I love reading it, but then if it was bigger, it would give people more of the option to feel comfortable to express themselves does that make sense? So I would think a slightly bigger group up to about 25, yes because you'd still only get about 15 posters.' **FMC3**

FMCs wanted more group activity whilst recognising that as individuals they individually were not contributing frequently;

'I think possibly if it could have been a bit bigger... some people probably like me, you know certainly finding everything very useful and looking at things... there are quite a lot of people that don't do anything, they don't really put anything on it.' **FMC10**

'There are people like me who are a bit voyeuristic and not so much actively contributing.' **FMC1**

'Mostly I read and see what the other mums have got to say... I never asked for any information myself.' **FMC13**

FMCs wanted active recruitment to continue but did not want to open the group or to change its status from 'secret' to 'closed' to increase its size. The 'secret' status of the group was more important than increased activity. It is not clear if the group responded this way because confidential access to the FWCs was more important to them than relationships with each other women.

FWCs did not contribute to suggestions for improving the group workings.

Evaluation

The overall evaluation of both groups was overwhelmingly positive, despite probing by all three researchers for ways to improve the site/groups functionality. At this stage both groups had similar membership: FMB had 15 members and FMC had 14 members.

FMBs were engaged and developing relationships with FWBs and with each other. FMBs trusted the information provided by FWBs and valued the speed of their responses. FMBs did not want recruitment to continue and felt that new members could negatively affect the group dynamics.

FMCs were also satisfied with the group and appreciated the information provided by the midwives and the speed of their responses. FMCs wanted more activity on the site, but only one of the attendees was a regular contributor. FMCs requested that recruitment continued to increase group activity.

Action

Cycle 1 - Action

- Continue recruitment for FMC in accordance with the original protocol and amended ethical approval
- Engagement training session with midwife moderators to optimise on-line activity and engagement

To continue recruiting a major amendment was submitted to the NHS ethical approval committee. This was necessary to ensure that newly recruited women were approximately the same gestation as existing members. This was approved and recruitment remained open at FMC.

Engagement Training

To increase activity on FMC site 'engagement' training was scheduled. To avoid eliciting negative feelings on the part of the FWCs and risk potential disengagement due to feeling less successful than FMBs, all Facewives were

invited and participated in training. A researcher with expertise in facilitating online community engagement undertook the social media training which was made up of three elements;

- Identifying group dynamics/practice/barriers
- Identifying own practice
- Creating an action plan

Identifying Group Dynamics

During the discussion the FWCs became aware that FMC was not as active as FMB and expressed disappointment that their group was not performing as well as FMB. They felt that group members were not engaged and suggested this was due to language barriers and the availability of the private messaging facility. None of the Facemums referred to using the private messaging function during the focus groups but it was noted in the training that private messaging was more prolific amongst the FMCs. The FWCs suggested the private messaging function was being used by mostly non-native English speaking group members as well as to request information about sensitive and intimate issues. The private message data do not fully support this (see Chapter 6 - Private Messages). From 24 private messages, 2 were from FMC7 who was not a native English speaker, but the remaining private messages were from FMCs with English as their first language.

Identifying own practice

The Facewives were asked to review how they identified with their own practice on Facebook. FWCs viewed the role of moderation as work, this contrasted starkly with FWBs who enjoyed the sociability and initially found it difficult not to engage even when 'off duty'. Viewing moderation strictly as work meant that FWCs found it more difficult to share themselves as social individuals, rather than professional midwives. FWC1 was particularly reluctant to share social and personal information. FWCs were comfortable contacting the participants using the private messaging function but found it more difficult to engage with women on the main site wall. All Facewives were all equally comfortable using humour to engage with participants.

The action plan

Facewives were encouraged to post a diverse range of information and to ‘tag’ individual users into posts based on their interests/needs/gestation. It was recommended that the FWCs posted pregnancy updates based on gestation and expected delivery dates to draw in FMCs. The Facewives were also advised to use humour to engage with everyone on the main wall and to use private messages to re-engage with non-active Facemums. Finally as the Christmas period was approaching the Facewives were encouraged to contact individuals with festive greetings.

Training Impact

The impact of the training was evaluated through engagement and activity metrics generated by Grytics and were provided by the researcher with social media expertise. Following training, the participants posted more personal information. Group **activity** increased by 18.5% and **engagement** by 14.3%.

Table 11. FMC Activity and engagement following moderator training

GENERAL	Pre-training	Post-training	
Activity	13.22	15.62	18.15%
Engagement	11.12	12.68	14.03%
Posts	445	200	-55.06%
Comments	2024	986	-52.28%
Reactions	901	563	-37.51%
POSTS			
Posts reacted	356	170	-52.25%
Posts commented	339	144	-57.52
MEMBERS			
Active members	17	15	-11.76%
Reacters	17	15	-11.76%
Commenters	17	15	-11.76%
Enagaged	17	15	-11.76%
Publishers	14	13	-7.14%

Metrics definition

Group Engagement: Engagement is equal to (number of comments+ number of reactions + number of shares)/number of posts. This is a measure of the average engagement generated by a post.

Group Activity: The activity is (number of posts + number of comments +number of reactions + number of shares)/number of days. Number of days is the length of the extraction period or analysed period.

Increased activity after the engagement training was seen but it is difficult to attribute this to the effects of engagement training because there was flurry of activity as three FMCs went into labour and gave birth. Furthermore, it was Christmas time and many posts were Facewives and Facemums exchanging season's greetings.

Action Cycle 2

The Facemums agreed unanimously to have the second focus groups online. Invitations were posted on the main site wall and an event was created. Having the focus group created as an event meant that the discussion happened away from the main site wall preventing it from becoming full of discussion group data. This was important because during FMCs previous focus group it had been raised that at times it was difficult to locate information.

The online focus groups were attended by more FMBs than FMCs (See Tables 12 and 13). The majority of women were in the final trimester of pregnancy. Three FMBs and two FMCs had given birth. The social media expert did not attend FMC online discussion.

Table 12. FBM FG2 Attendance

Attended online	Approx. gestation
FMB1	Baby (FMB1b) 12 weeks
FMB2	25/40 weeks
FMB3	Babies (FMB3b1 & FMB3b2) 9 weeks
FMB5	36/40 weeks
FMB6	36/40 weeks
FMB9	32/40 weeks
FMB10	35/40 weeks
FMB12	34/40 weeks
FMB13	Baby (FMB13b) 6 weeks
FMB14	36/40 weeks
FMB15	34/40 weeks
FWB1	Moderator
FWB2	Moderator
Researcher	PI
Researcher	Co-researcher
Researcher	SoMe expertise

Table 13. FMC FG2 attendance

Attended online	Approx. gestation
FMC3	Baby (FMC3b) 14 weeks
FMC4	33/40 weeks
FMC5	Baby (FMC5b) 4 weeks
FMC10	35/40 weeks
FMC13	37/40 weeks
FWB1	Moderator
FWB2	Moderator
Researcher	PI
Researcher	Co-researcher

Action Cycle Two Findings

Following the intervention in action cycle 1, engagement and activity at FMC increased (see Table 11). However, despite ongoing recruitment no more participants were recruited. The findings from the second online focus group echoed those from the first; neither of the groups felt that changes were necessary to improve site usage or functionality. FBAD increasingly showed that information requests related to infant care, particularly feeding. Infant care is outside the neonatal period and is beyond the scope of midwifery practice. In view of this both groups were asked if they would like a Health Visitor (HV) to join the group. All Facemums agreed it could be useful but equally they were very happy with the groups remaining as they were. FMBs were clear that although they would

appreciate access to an online HV, they did not want a HV to join their group. FMCs were receptive to the idea of a HV joining.

Evaluation

Despite questioning and probing from the researchers the Facemums did not identify any changes they wanted to make. They expressed satisfaction with the way the groups had evolved and met their personal and collective needs.

Action

Cycle 2 - Action

- Investigate recruiting a HV for ad hoc sessions – dependant on;
 - Identification of an HV with an interest (and capacity) to support new mothers online
 - Finance i.e. remuneration for the HV
 - Ethical approval

No changes or modifications were suggested. Recruiting a HV for ongoing professional advice for the groups was raised with the Steering Group. Whilst in principle the Steering Group were in agreement that access to an online HV could be a positive addition to the group, no funding was available. Therefore in view of the considerable time investment it would take to recruit, and the additional complication of securing ethical approval, the idea was abandoned.

Action Cycle 3

Action cycle 3 signified the study was drawing to a close with the end of the Facewives paid secondment. In view of this, the Facewives were emailed to ask how they planned to leave the group at the end of the study. FWB1 and FWB2 replied with a joint email suggesting that they would leave the group as Facewives (professional midwives) but planned to re-join as group members using their personal Facebook identities if the FMBs agreed. FWC1 and FWC2 did not reply to the email or to private messages relating to their exit strategy.

The third and final focus group took place after the birth of all of the Facebabies. An invitation was posted on behalf of the researchers (see FBAD FG3 and FBAD FG4);

FBAD FG 3 (FMB)

Hi everyone,
I hope today it is a good day for you all.
The Facemums get together will be on the 12th April at 10.30am at Hospital. Facewife or Facewife will confirm the room (thanks!).
i really hope we can meet up and see all the gorgeous Facemummies and facebabies together (and of course the gorgeous Facewives!)
For refreshments please can you let me know if you are planning on coming? Thanks

FBAD FG 4 (FMC)

Hi everyone,
i hope you are all well and have managed to enjoy some of the first Spring moments. I can confirm the venue for the Facemums get together. It is on Wednesday 13th April in the parent education room at 10.30 -12.30pm (I'm confident Facewife or Facewife will provide some details of where that is if you don't know, and where is the best place to park). We will provide reimbursement for parking and travel (£10). We will be providing drinks and cake.
I'm delighted so many of you are coming along, even if you just call for a quick hello it will be great to see you. I am really looking forward to it :)

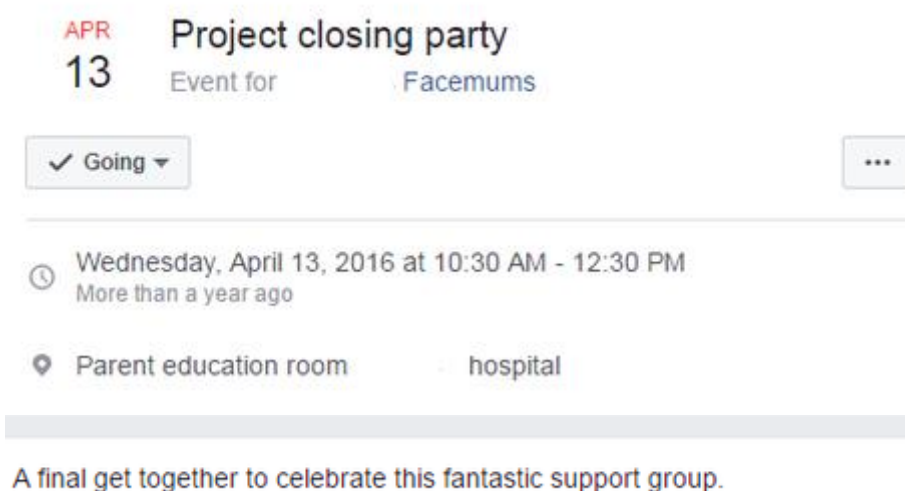
The Facewives were asked to provide further instructions. FWB1 tagged all FMBs and posted details of the venue with a map (See FBAD FG 5). When this information was posted by FWB1, she used her personal Facebook profile as her secondment had already finished;

FBAD FG5

Hi everyone! I took some photos of the Education Centre to help you all find it tomorrow 👍 follow this thread for photos and maps ... 🗺️ so to begin... Here is the map of the hospital. Education centre is number 12 on the big map and there is an education centre directly outside 🌞 — with and 20 others.

In contrast, FMC Facewives posted a formal invitation to a 'Project closing party – a final get together to celebrate this fantastic support group.' (See FBAD FG6);

FBAD FG6



APR 13 Project closing party
Event for Facemums

✓ Going ▾

🕒 Wednesday, April 13, 2016 at 10:30 AM - 12:30 PM
More than a year ago

📍 Parent education room hospital

A final get together to celebrate this fantastic support group.

The venues for the Focus groups were changed to accommodate babies, prams and car seats. Baby changing facilities were also required. Finger food was ordered for each group as the meetings were being held over lunchtime. This was a change from the first focus groups when most Facemums were working and requested to meet in the evening.

Most FMBs in attendance had met previously during the first focus group or during social engagements they had arranged but this was the first meeting for most of FMCs. Four FMCs had met at the first focus group and two FMCs had met socially. The babies' presence brought a lively and positive feeling to both of the groups. It made conducting and listening to the discussion more challenging but both of the gatherings felt more sociable and were enjoyed by the Facemums. The final focus groups at both sites were well attended with the majority of active members from both groups present (see Tables 14 and 15).

Table 14. Attendees FMB final focus group

Attendees	Baby age
FMB1	FMB1b 26 weeks
FMB2	FMB2b 12 weeks
FMB3	FMB3b1 & FMB3b2 23 weeks
FMB6	FMB6b 9 weeks
FMB7	FMB7b 11 weeks
FMB8	FMB8b 8 weeks
FMB9	FMB9b 6 weeks
FMB10	FMB10b 9 weeks
FMB12	FMB12b 6 weeks
FMB13	FMB13b 20 weeks
FWB1	Moderator
FWB2	Moderator
Researcher	PI
Researcher	Co-researcher

Table 15. Attendees FMC final focus group

Attendees	Baby age
FMC1	FMC1b 13 weeks
FMC3	FMC3b 27 weeks
FMC4	FMC4b 5 weeks
FMC5	FMC5b 18 weeks
FMC6	FMC6b 16 weeks
FMC10	FMC10b 9 weeks
FMC11	FMC11b 10 weeks
FMC12	FMC12b 17 weeks
FMC13	FMC13b 12 weeks
FWC1	Moderator
FWC2	Moderator
Researcher	PI
Researcher	Co-researcher

Action Cycle Three Findings

The final focus groups signified the end of the action cycles and enquiry into the groups functionality and ways to improve site usage. The discussion amongst FMBs was relaxed, they were familiar with each other and immediately settled into chatting and discussion. FMCs were very animated during the meeting and at times it was difficult to hear all of the discussion as several conversations took place at the same time. They were excited by meeting up and having an opportunity to talk to each other about their pregnancies, births and new motherhood. They engaged with each other (face-to-face) in a way they had not engaged online.

Evaluation

The third FMB focus group felt like a celebration, FWBs brought their babies and expressed their delight at having an opportunity to socialise together and with the FWBs. All FMBs had met at least one other Facemum before the meeting and in addition to engaging online many FMBs were meeting up regularly at local play centres. The evaluation of the group was completely positive. Despite the researchers trying to elicit areas that were less satisfying none of the members was forthcoming with suggestions or recommendations for improvements. As suggested and with encouragement from the group the FWBs planned to withdraw as moderators and re-join using their personal profiles. This was subject to ethical approval; the original approval was based on the groups closing at the end of the study.

FMCs also expressed their pleasure at being part of Facemums. They were animated and excited to meet one another. The FMCs said that they had enjoyed the presence of the other mothers online but emphasised that their high level of satisfaction was primarily due to the e-contact with the FWCs. The FMCs suggested that in order for the group to establish as a social group rather than an information exchange, more engagement and input was required on the part of the FWCs. The FMCs felt this would have made them feel more confident posting about their experiences and giving and receiving support.

FWCs exit was not discussed because the FMCs believed that the focus group was the groups closing event. FWC1 had already left the group page and FMCs were posting very infrequently. FMCs were advised that an amendment to ethics was being submitted to request that the site remain active should they want to continue. FMCs seemed satisfied that the group had served its purpose as they no longer needed access to midwives. Some FMCs discussed using WhatsApp© specifically for night feeds rather than using the Facemums site which they felt had already been discontinued.

Action

Cycle 3 – Action

- Seek ethical approval for Facemums groups to remain open and active for use as required by Facemums

The action required following the third and final focus group was submission of another amendment to IRAS to amend the original protocol which stated that that the groups would close on completion of the research. FMBs were clear they wanted to group site to continue to be available and as this was not part of the original ethics approval, a notice of substantial amendment was submitted. The amendment proposed that the Facemums should be able to choose if and when the group pages were closed. This was particularly important to prevent the stored information, which detailed their shared pregnancy journeys and the repository of shared links to information, practical personal advice, photographs and videos from being lost. The substantial amendment was approved with the condition that all details relating to the study including University insignia, copies of the participant information leaflet and netiquette were removed.

Engagement

The most significant finding from the focus groups relates to individual and group engagement. From the outset FMBs were more engaged than FMCs; they posted more comments, responded more frequently and/ or 'liked' posts to show they had been read. FWBs were spontaneously more sociable and posted content that was entirely social, whereas FWCs posted mainly pregnancy and birth related content. The 'tone' of the groups was initially set by the Facewives; FWBs revealed things about themselves that were not 'necessary' for a professional relationship, but which appear to have been important for group engagement and cohesion;

'At first you need the midwives to be there a lot to get the group going because I don't think we would have connected the way we have without their input at the beginning... when I first started FWB2 and FWB1 were really good at getting me to speak, so then when a new person joined I always just said hello... I thought if I just say hi, then they will know that people do interact on it and things... because I was the first one, I thought, right, I'll ask some questions and then other people did the same thing and then when somebody asked a question I thought I'll just comment on it as

well and that's what tends to happen. And I felt like the more it went on, the more people got talking...because you feel like you know them now... I'll speak to them a lot more than I'll speak to some of my friends sometimes.'

FMB1

Non-midwifery related posts were appreciated by Facemums and facilitated the development of strong relationships (see Relationships, Chapter 7). FMBs were aware of how this had affected the group's interactions generally and could see that the group was as much about the social element as the professional information component;

FMB7 – *'right from the start you were made to feel really comfortable asking anything. Because you (Facewives) put really random things on there, it just felt okay.'*

In contrast FWCs did not make many 'social' posts and it appears that as a consequence of this nor did FMCs;

FMC12 – *'I've been thinking about this recently and I was actually thinking how am I going to use this group now because previously it was about asking questions.'*

Without social commentary, FMCs site page was more of an information exchange that did not encourage the development of personal relationships. During the focus groups FMCs suggested that earlier face-to-face meetings might have been beneficial for the group to establishing relationships;

'I think we should have met up much sooner because it's been really good today and I think it would have just been good.' **FMC6**

FMCs regretted not reaching their full potential;

'We missed an opportunity.' **FMC11**

However, despite FMCs suggesting earlier meetings could have increased engagement, most FMCs had declined previous invitations to meet face-to-face. Although physical meetings might have encouraged activity on the site, certainly activity within FMBs increased significantly after the first group meeting, it is important to note that FMBs were already a more active group. Nonetheless, it appears that opportunities and responsibility for promoting activity and encouraging engagement lies with the Facewives. Through ongoing social dialogue, in addition to providing and verifying pregnancy related information the

FWBs created a safe place for sharing (see chapter 7 and 9) that FMBs wanted to be part of.

This was not achieved to the same extent at FMC, with the FMCs suggesting that one of the reasons they did not engage was because they lacked confidence and felt uncertain about how they would be perceived by other FMCs. The FMCs suggested that the FWCs were fundamental to creating a safe social space;

'The midwives need to do a lot more prompting to get that social bit going, at the beginning.' **FMC1**

'I don't know I think it's a little bit like you don't want people to pity you and I know I was low for a couple of weeks and now listening to this now I think maybe I should have posted something... in future maybe something that somebody else could post. Maybe like you guys (Facewives) could post something along the lines of a 'how you feeling?' **FMC6**

'I think maybe a conversation starter, I think maybe if someone had just started a conversation... You know just a conversation starter ...how is everybody feeling today or is anybody feeling like this... I know that sounds daft but I think it would help.' **FMC5**

Summary

An action approach using focus groups as an intervention and for evaluation was used to give Facemums and Facewives opportunities to feedback to the researchers, and to share opinions and ideas as to how the groups could be modified to function most effectively. The key finding from FMB focus groups was that FMBs were extremely satisfied with the group and did not want any actions or interventions to alter the group. FWBs optimised participation and engagement by creating a safe non-judgemental, sociable place for FMBs to share information and develop relationships. They achieved this through social engagement which was not entirely focused on pregnancy, birth or motherhood. Furthermore, they encouraged FMBs to share advice and information and to interact with each other by highlighting and positively reinforcing information when accurate advice and information had been exchanged.

Initially, FWCs did not engage in social dialogue instead they focused on providing accurate evidence based information. FMCs wanted more site activity and to

generate this recruitment remained open throughout the study, but no additional members joined. Engagement training was undertaken to encourage FWCs to interact in a more social way, to encourage more activity within and amongst the FMCs but these actions had minimal effect on group interactions.

Few suggestions for modifications to improve site use or functionality were made by Facemums or Facewives. However, a secondary purpose of the focus groups was to provide opportunities for Facemums to meet each other and to encourage the development of supportive relationships. In FMB, where this occurred early in action cycle 1, the relationships between FMBs appeared to be stronger and more mutually supportive than at FMC. This important finding and others which are unrelated to the group's functionality are discussed in chapters 6 and 7.

Chapter 6 commences with an overview of the sources of data and demographic detail about the Facemums and Facewives before presenting the first of four themes – Information and sub-theme Learning.

Chapter 6: Findings – Demographics, Information and Learning

Introduction

This first findings chapter presents the theme information and sub-theme learning. It begins by describing the sources of data, explaining how the findings are presented and providing the background and context to the themes by presenting demographic findings about the Facemums and Facewives. It is important to note that no single theme was identified as being more or less important by the Facemums.

Data Sources and Management

The data were collected over 35 weeks and include the written and spoken words of Facemums and Facewives. The focus of the findings is largely on Facemums, as the aim of the study was to explore the impact of bringing pregnant women together for information sharing and support. Whilst the voices of Facewives are important and are included in the findings, the emphasis is on Facemums and their experiences.

The sources of data presented were generated from:

- Focus groups: - Four face-to-face and four online groups. The findings presented in this chapter relate to the women's personal experiences about being a group member as opposed to their views about improving the group's functionality.
- One to one interviews: - 24 interviews with Facemums and four interviews with Facewives.
- Electronic Facebook posts: - 35 weeks of electronic data posted across both Facemums sites.
- Facebook private messages: - 23 private conversations between Facemums and Facewives.

The analysis of such large volumes of data was difficult and at times challenging to manage. In order to provide structure and to ensure the approach was

systematic and effective, each set of data was initially managed as it originated - electronic activity data, focus groups, one to one interviews, private messages. Within this chapter the different sources of data are presented together to illustrate consistency across the sources/findings. Data from the focus groups (discussed in Chapter 5) and one to one interviews are combined as some of the interviews took place during the focus group action cycles and the thematic findings are the same. These data are substantiated further using images of FBAD. The focus group findings relating to the action undertaken to improve and refine the functionality of the Facemums site/group is discussed in Chapter 5. However, during the focus groups the Facemums also expressed their feelings and experiences about being a Facemum and these comments were integrated into the framework and are discussed in this chapter.

Focus group and Interview Data

Data collected from the focus group discussions and individual interviews consists of verbatim quotations from the Facemums and Facewives. The quotations, in italics, are presented in the narrative and in Tables 17, 19 and 21 under theme and subtheme headings. Each participant is anonymised and referred to using the allocated participant code detailed in Tables 14, 15 and 16. The quotation source, in relation to where it was said i.e. interview or focus group, face-to-face or online is identified by marking the focus group quotations with **(FG)** at the end of the quotation or **(FGo)** for online quotations, interview data are left unmarked. Within quotes '...' signifies missing speech and '-' denotes a pause.

Electronic Data – FBAD

The electronic data collected over the duration of the study (35 weeks) were categorised according to subject matter and are presented in a table for ease of reading. Although the focus of the study is on the nature of the interactions between individuals and not the content, the content itself was important to Facemums and is therefore included. The Facemums tendency to revisit several subjects on multiple occasions highlights the importance of that subject matter to them. The repetitive nature also serves to illustrate the nature of social learning, in that it is dictated at the pace of the learner in context. For example, breastfeeding,

the subject raised most times at both sites was important to Facemums because they wanted to learn to breastfeed, had it been unimportant it would not have been raised so many times. The pace and nature of social learning is that topics can be raised as often as required (Wenger, 1998) and this is clearly illustrated in this data. Simple content analysis from electronic data was used to search posts when it was identified that certain words or phrases were frequently being used by the Facemums. This was to ascertain frequency and to compare between groups. Whilst this does not enhance understanding about the Facemums experiences it does expose what issues were important to the Facemums and how they used the sites differently. Images of the electronic data (Facebook Activity Data- FBAD) are used throughout the thesis to emphasise and corroborate findings articulated by the Facemums and Facewives.

The subject matter of the private conversations (private messaging) between Facewives and Facemums are presented in Table 25.

Demographic Findings

This section presents demographic information about the Facemums and Facewives. The findings are discussed narratively and are presented in Table 16 (Facewives) and Tables 18 and 19 (Facemums) to provide context before presenting thematic findings.

Facewives

Facewives were employed by the host organisations (See Ch. 4 – Setting). Each group had a newly qualified midwife (Band 5) and an experienced midwife (Band 6) moderating the group (see Table 16). Midwives are employed as a Band 5 midwife until they have completed preceptorship training which is essentially a period of training consolidation and acquisition of additional/advanced skills occurring in the 12-18 months following registration. On completion of preceptorship midwives are awarded a Band 6 and are senior members of the midwifery workforce. Although this combination of Band 5 and Band 6 was unintentional, it was recognised that the combination of newly qualified and experienced midwives could provide a skill mix that could confer benefits to the Facemums and to the Facewives themselves. It was anticipated that the Band 5

midwives would be most up to date with contemporary evidence relating to midwifery practice as they had recently completed their training and the Band 6 moderators would be more experienced in clinical practice, thereby providing a good balance between evidence and experience. Both Band 5 midwives had personal experience as mothers so the potential for personal mothering experience to be discussed by the midwives was also available in both groups. The four Facewives were recruited because they had a visible social media presence which indicated their interest in using social media per se. The FMBs were also notable for their high profile social media presence and contributions to online groups discussing midwifery related issues outside/prior to the project (see Table 16).

Table 16. Facewives demographic information

FW Bolton (FWB) FW Central (FWC)	Midwifery Registration	Area of work	Band	Social media Presence	Children
FWB1	Sept 14	Rotational MW	5	Facebook and Twitter	2 children
FWB2	Sept 08	Birth centre	6	Facebook and Twitter	0
FWC1	Sept 13	Delivery Suite	6	Facebook	0
FWC2	Sept 14	Rotational MW	5	Facebook	3 children

Facemums

A total of 31 women participated in the study. The demographic data of the participants (on recruitment) regarding their age, parity, education and employment status are detailed in Tables 17 and 18. All Facemums were given several opportunities to disclose information; by completing a form distributed during the focus groups and interviews or by responding to a request for demographic information posted on the site with the option of responding privately

by email or through the site. Five Facemums did not disclose any demographic information and nine chose not to disclose some personal information. Three Facemums at FMB did not disclose full demographic details (FMB11, FMB14 and FMB15). FMB 14 and FMB15 did not disclose any demographic information, FMB11 disclosed partial details. FMB 14 and FMB15 did not attend the focus groups or individual interview, nor did they respond to requests for information posted on the site. Both FMB14 and FMB15 visited the site regularly but posted comments infrequently. Their engagement consisted mainly of asking the FWBs specific pregnancy related questions on the main site wall. FMB15 posted 'bump photos' but otherwise their engagement in terms of actively posting comments was less than other FMBs. FMB14 and FMB15 announced the birth of their babies on the group page but did not contribute thereafter.

FMB11 mainly observed site activity but did not contribute regularly until after the birth of her baby, which she announced on the page with a photograph. Following her birth announcement FMB11 responded to the congratulations posted by FMBs. Despite FMB11s minimal engagement in the form of comments and posts, when faced with an acute situation relating to her daughters wellbeing FMB11 sought and received advice from the group (see subsequent heading - Safe space to share and FBAD 43 – 45). Following this event, FMB11 interacted more frequently by 'liking' some of the Facemums posts and comments. She did not attend the focus groups or individual interview but disclosed information when she responded to a final invitation to attend her interview. She declined the invitation but sent an email expressing her thoughts about the group and experience being a member. The language in the email from FMB11, and her given and family names suggest that English was not her first language. Other FMBs chose not to disclose certain elements of demographic information but there does not appear to be a clear reason why (see Table 17).

The reasons for non-disclosure at FMC appear to be associated with non-engagement. The FMCs who did not disclose information about themselves did not engage with other FMCs and did not attend any of the Focus groups or interviews. FMC7, FMC8, and FMC9 did not engage with the group at all after

accepting the initial invitation to join i.e. they did not visit the page or view any posts. FMC7 sent five private messages to the Facewives in the first three weeks after joining. She engaged in dialogue with FWC2 privately but after the final message in her third week of membership did not have any further engagement (See Ch.6, Table 26). FMC2 visited the site infrequently during the first three months of the group but then did not appear to visit the page again, although she did not choose to leave the group. She posted two comments; the first acknowledging her welcome into the group 'Yes / ok', and a second post approximately 6 weeks later sending best wishes to another Facemum who was attending a party. She did not respond to invitations to join focus groups or to attend an interview. The FMCs who failed to disclose information had names, which suggest they were from minority ethnic groups. It is unknown if English was their first language.

The FMBs who joined the group but did not disclose demographic information appeared to have had an interest in social media to access professional information but were not interested in taking part in the research study. This was unlike most of the other Facemums in both groups who identified the research as being an additional and motivating reason for joining;

'FMC1h saw the sign about the research and said ooh look what can we do?' **FMC1**

'I think because I'm an educationalist...I thought it was a really good project. When I saw Salford University, I was like, yeah, I want to get involved in this.' **FMC12**

'She told me it was someone's research and that made me think oh well definitely then.' **FMB8**

'Anything to help the NHS in their research was a great idea... so if there was something that I could have done to help bring a research thing on.' **FMB18**

FMB14 and FMB15 observed site activity and occasionally engaged in online dialogue but did not take part in any of the research evaluation, thus suggesting that although they were interested in social media they were not interested in participating in research. However, this did not dissuade them from joining the group. Given that there were recruitment challenges that related directly to the

research component i.e. it was deemed excessive by women who declined to join, without the encumbrance of the research more women may have chosen to participate.

The average age range of the Facemums who disclosed their age was 23 – 41 years. The average age was 33.5 years, median age was 34 years.

The average age of FMBs was 31.4 years with a median age of 29 years. The average age of FMCs was slightly older at 34.5 years with a median age of 33.5 years. The age demographic of the Facemums is typical in relation to age range of pregnant women but the slightly older age range in FMCs may partially explain their lesser engagement in social media. Most frequent use of Facebook (88%) occurs in the 18-29 age group and is slightly reduced (84%) in the 30-49 age group (Greenwood, Perrin & Duggan, 2016).

All Facemums who disclosed information were working and employed in a diverse range of jobs at the time they joined the group. The level of education was high. Fifty percent of those who disclosed information (13) were graduates and 88% of FMCs had some university education. The educational attainment level was higher than expected and this may explain the high numbers of Facemums who were interested in participating in research.

In total 50% of the mothers were primigravid (first pregnancy) (13), 53% were nulliparous (not given birth but may have been pregnant previously) (14). One mother disclosed that she had been pregnant before but had not given birth. The rest of the participants who disclosed information (13) were expecting their second or third baby. One mother (FMB3) was expecting twins, the rest were singleton pregnancies.

All demographic information and site use in relation to reading posts, creating and writing posts, and using the private messaging option is detailed in Tables 18 and 19.

Table 17. Demographic Information Facemums Bolton (FMB)

Age	Gravida	Booking Parity	Parity	Employment	Level of education	FG Attended (o=online)	Interview	Met FwS	Posted Content	Read Content	Private msg
26	1	0	1	Marketing manager	College	1, 1o,2 ,3	Yes	Yes	Yes	Yes	Yes
28	1	0	1	Operating Dept. Practitioner	College	1, 2 ,3	Yes	Yes	Yes	Yes	No
23	2	1	3	Nursery Nurse	College	1, 2 ,3	Yes	Yes	Yes	Yes	No
FMB 3 had two email addresses and was erroneously given two Facebook identifiers											
ND	2	1	2	Not disclosed (ND)	ND	1o,2	Yes	No	Yes	Yes	No
39	ND	0	1	Psychologist	University	1, 2 ,3	Yes	Yes	Yes	Yes	No
37	3	1	2	Advanced Nurse Practitioner	University	1, 2 ,3	Yes	Yes	Yes	Yes	No
29	1	0	1	Construction Engineer	University	1o,2 ,3	Yes	Yes	Yes	Yes	No
38	3	1	2	ND	University	1, 3	Yes	Yes	Yes	Yes	No
39	5	1	2	Purchasing manager	University	1, 2 ,3	Yes	Yes	Yes	Yes	No
ND	ND	2	3	ND	ND	DNA	No	No	Yes	Yes	No
ND	1	0	1	Nursery nurse	College	1o, 2 ,3	Yes	Yes	Yes	Yes	No
24	ND	1	1	Receptionist	ND	3	Yes	Yes	Yes	Yes	No
ND	ND	ND	ND	ND	ND	DNA	No	No	Yes	Yes	No
ND	ND	ND	ND	ND	ND	DNA	No	No	Yes	Yes	Yes
ND	ND	1	2	Local council	ND	DNA	Yes	No	Yes	Yes	No
ND	2	1	2	Pharmacy manager	College	DNA	Yes	No	Yes	Yes	No
ND	1	0	1	ND	ND	DNA	Yes	No	Yes	Yes	yes

Table 18. Demographic Information Facemums Central (FMC)

Age	Gravida	Booking Parity	Parity	Employment	Level of education	FG Attended (o=online)	Interview	Met FWs	Posted Content	Read Content	Private msg
37	1	0	1	HR Manager	University	1o,2,3	Yes	Yes	Yes	Yes	No
ND	3	2	3	Not Disclosed (ND)	ND	DNA	No	No	Yes	Yes	Yes
30	1	0	1	Employment specialist	University	1o, 2, 3	Yes	Yes	Yes	Yes	No
ND	1	0	1	Lecturer	University	2, 3	Yes	Yes	Yes	Yes	Yes
38	1	0	1	Team manager	College	1,1o, 2,3	Yes	Yes	Yes	Yes	Yes
33	2	1	2	Social worker	University	1, 2, 3	Yes	Yes	Yes	Yes	Yes
ND	ND	ND	ND	ND	ND	DNA	No	No	No	No	Yes
ND	ND	ND	ND	ND	ND	DNA	No	No	No	No	No
ND	ND	ND	ND	ND	ND	DNA	No	No	No	No	No
33	1	0	1	Insolvency manager	University	1,2,3	Yes	Yes	Yes	Yes	No
41	2	2	2	Science teacher	University	1o, 3	Yes	Yes	Yes	Yes	No
34	1	0	1	Radio Presenter	University	2,3	Yes	Yes	Yes	Yes	Yes
30	1	0	1	Nursing home carer	ND	1,2,3	Yes	Yes	Yes	Yes	No
ND	1	0	1	Nurse	University	DNA	Yes	No	Yes	Yes	No

The findings from both groups are presented under each theme below whilst significant differences between groups are discussed in Chapter 9.

The Themes

The themes from all three emergent, CoP theory and HEE areas were analysed, condensed and mapped into four overarching themes with two main sub-themes (see Figure 5):

- **Information (theme)**
 - Learning (sub-theme)

(Presented in this Chapter).

- **Support (theme)**
 - Relationships (sub-theme)
- **Shared Experience (theme)**
- **Positive Affirmation (theme)**

(Presented in Chapter 7).

Within the themes there are sub-groups

- Information
 - Professional information
 - Peer information
 - Safe place to share (presented with shared experience as discussed in relation to both)
- Learning
 - Information repository
- Support
 - Professional support
 - Peer support
- Shared experience space to share
 - Safe space to share
- Positive affirmation

The connections and links between the themes, sub-themes and sub-groups are illustrated in Figure 5.

Figure 5 – Thematic Model with four overarching themes; information, support, shared experience and positive affirmation

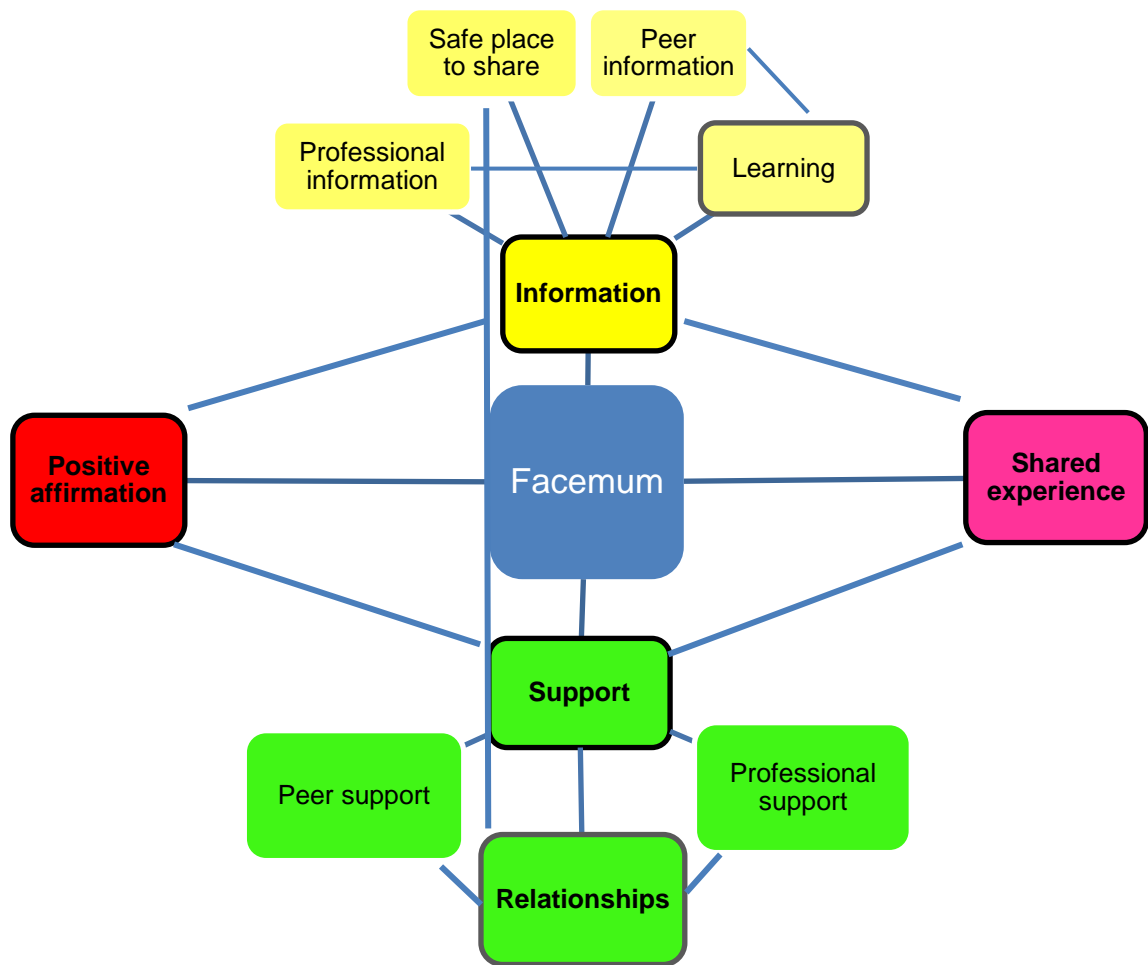
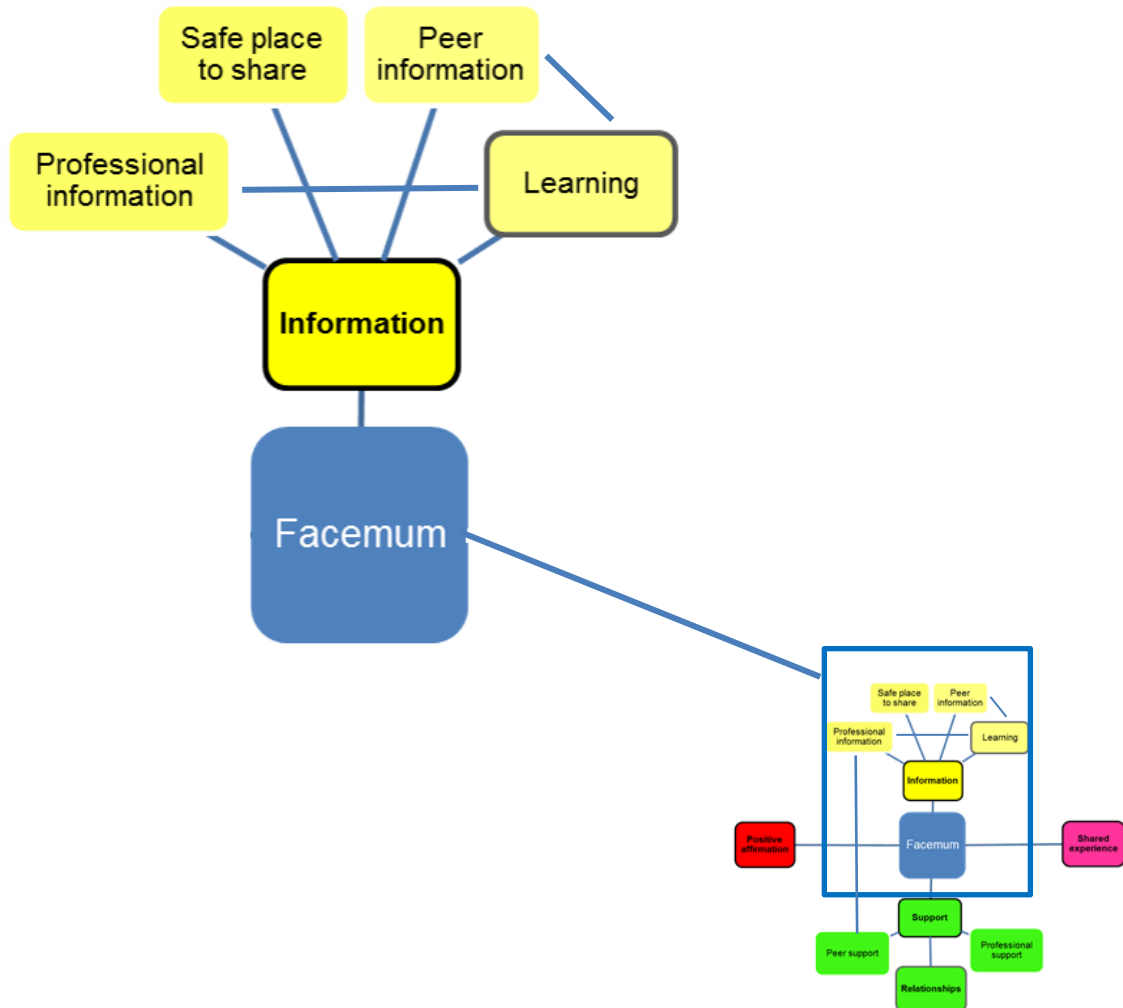


Figure 5 represents a thematic model of the findings; the identified themes, sub-themes and their relationships to each other and the Facemums. The model is presented at the beginning of each theme throughout the findings chapters. The relevant theme is enlarged so that sub themes and sub-groupings can be illustrated and the complete model is minimised so that connections and relationships can be visualised at the beginning of each section. The model is a visual representation of the chapter/section title.

Information

Figure 6 – Thematic model – information and learning



The first theme relates to information access, information need and information sharing with the sub- theme learning

The findings about information are presented under the subheadings;

- The convenience and security of accessing professional information
- The internet for information

And the sub-group headings;

- Professional information (sub-group)
- Peer based information (sub-group)

This is followed by the sub-theme Learning and the sub-group information repository. Safe place to share relates to both information and support, and is presented in Chapter 7.

In support of these findings verbatim comments from the Facemums relating solely to information are presented in Appendix 11 (Columns 1-4).

The Convenience and Security Accessing Professional Information

The Facemums expressed pleasure and appreciation that they could access midwives and midwifery information electronically. This was reinforced throughout the study and was expressed by all of the Facemums across both groups during focus groups and individual interviews (see Appendix 11, column 1).

All but one of the Facemums stated that their main reason for joining the group was to be able to access a midwife, for professional information at their convenience;

'I didn't join it to meet people at all. I did just join purely for the midwife...I personally loved the group, I liked having the security of being able to contact a midwife... it made me feel secure.' **FMC4**

FMB9 suggested that women probably would not have joined if the Facewives had not been part of the group;

'...I don't think that anybody would necessarily join a Facebook group unless they (the Facewives) were using it.' **FMB9**

But FMB9 was the only Facemum who said she had joined the group to connect with other pregnant women and mothers;

'I knew then that I wanted to meet other mums with babies of a similar age and honestly not being here and not having school friends here and I didn't have a network setup...' **FMB9 (FG)**

FMB9 was unusual in that not only did she have a good relationship with her NHS community midwife, but also, she had her mobile telephone number and as such had electronic access to her;

'I've always been less interested in the medical, partly because I love my community midwives and I had the same lady consistently this time I had her number reasonably early on... And she was the same age as me and we just got on quite quickly.' **FMB9**

Most of the Facemums described how difficult it is to access midwives. This was a repeated source of frustration for them;

'I did ask my midwife... and she said go to your GP and I thought I can't get an appointment...so then I posted on the site.' **FMB10**

'Every time I went to my doctor I would be waiting at least an hour before I went in, when you're still working and you only get an hour and then it comes out of my wage.' **FMB12**

The Facemums appreciated having electronic access to the Facewives and positively described their electronic availability as fantastic, brilliant and amazing.

'Obviously if you go to the GP or the midwife you have to wait you have to make an appointment but the Facewives are just there...its really great.'
FMC14

Facemums felt that they could access Facewives more easily and get a response more speedily than they could using traditional NHS routes;

'It's just a lot easier and approachable I would say where it's not easy to approach your GP.' **FMB8**

'It was quicker to get an answer from FWC1 and FWC2.' **FMC5**

FMC5s comment referred to a time when she was an in-patient on an antenatal ward. She described how she felt she could only get timely responses and midwifery information via Facewives using the Facemums site as the hospital midwives were too busy and there were not enough of them. Facemums generally found it more convenient (and ultimately more satisfying) to access Facewives than their NHS midwives, regardless of the situation.

The Facemums were asked at the end of their interview if they would be prepared to give up one or more of their face-to-face appointments to have access to Facewives (or midwives electronically) during subsequent pregnancies. There was consensus agreement that they would forfeit some face-to-face appointment time to have online access to meet their informational needs, but they still wanted to be seen by a midwife for physical check-ups;

'It was more of an inconvenience to go to these appointments, because it was like especially because at the end it was like every two or three weeks and I knew pretty much I was okay, I was still working at the time and it was like if I could have just gone to Boots and do it in the evening at the weekend I definitely would have done that..' **FMC4**

'...so often I felt like I was doubling up on appointments unnecessarily. And also, half the time I was in out so quickly I just thought yeah I didn't need this appointment and particularly because I work and I've got another little girl ... it

was just more convenient for me to manage things in the evening and online...I certainly don't think it would be unsafe, I think it would alleviate some of the pressure on appointments, but I don't think it wouldn't mean that you wouldn't get as good a care.' **FMB7**

'I'd give them all up; in my experience I'd give the face-to-face up to have this. I don't think I got anything out of the face-to-face other than having the actual check-up.' **FMC12**

'Because when you're in an appointment atmosphere...I go in every...when...I would ring my husband and go, 'Right, I'm just phoning for my appointment now', and he'd say, 'Right, have you got the things you need to ask', and I'd be like, 'Yeah, I know what I'm asking', and I would come back and go, 'I didn't ask this, I didn't ask any of them'. Because you don't, in an appointment atmosphere, you don't, and I'm always- I don't want to take up their time- because my midwife was always half an hour late for everything, and I didn't ever want to - I knew she was already behind, so yeah absolutely I would.'
(Lose face-to-face appointments for online access) **FMB18**

FBAD 1 provides an example of Facemums seeking professional advice when it was timely for them, and not necessarily for the professional;

FBAD 1 –

Quick question, I have been told that my platelets are a bit low & I need to have them tested again next week (3rd time). I haven't really been able to ask my mw about this yet and am wondering what it means and whether I can do anything to help.

Facewife

11 Comments

Like

Comment

Facewife Hi so basically platelets are responsible in part for clotting of blood here is a pregnancy related article I will post some more science based stuff later

http://www.midwifery.org.uk/?page_id=733



Thrombocytopaenia of Pregnancy – Low Platelets

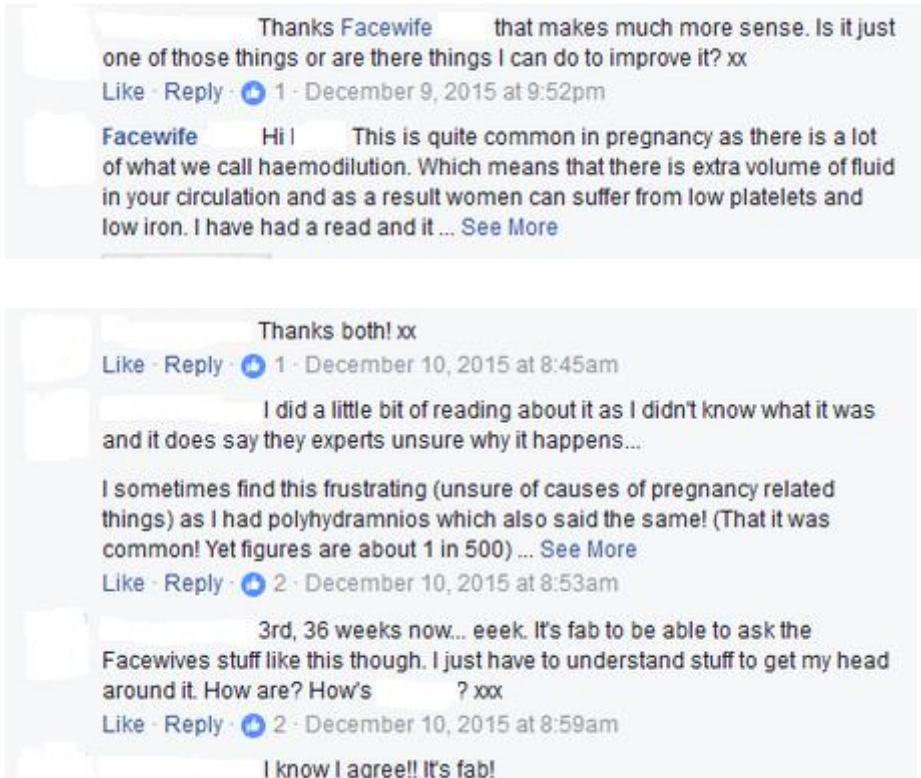
Thrombocytopaenia of Pregnancy – Low Platelets UK...
MIDWIFERY.ORG.UK

Like · Reply · December 8, 2015 at 5:17pm

Facewife

Hiya

just to expand on this a bit.



The response was provided several hours after the Facemum posted the query but the issue was not time critical. The final comments in FBAD 1 illustrate the Facemums satisfaction at being to ask the question when they wanted to ask it, regardless of the response time.

The internet for information

Internet based information, whilst clearly accessible, was frequently mentioned by Facemums as being a source of further angst (see Appendix 11, columns 3-4). Rather than acting as a resource for information provision with which to reassure them or answer their queries, it was viewed at best with suspicion and was often the source of further worry (see FBAD 2).

'You can get a bit confused on the internet.' **FMB13**

FBAD 2 –

That's exactly what I am like! My point exactly and I found that I couldn't understand my poly (totally separate thing I know) as the Internet can be so misleading and I wanted to know why I had it and still very little info....I just had to accept it was one of those pregnancy "things" but being first time mum/first pregnancy it was hard! I was also diagnosed with it at 36 weeks!

The Facewives were aware of the limitations in giving information through a social media platform and were conscious that the information provided had the potential to be helpful or unhelpful;

'...you couldn't check if it was making sense, and afterwards I remember thinking, 'that probably would make great sense to a student midwife, but I'm not at all sure whether it makes...but anyway, I've tried my best and hopefully...'
FWB1

'...when we were giving direct information and I will end up thinking I hope it was useful and that they have at least read it even if it hasn't directly affected them.' **FWB2**

Facewives routinely followed up Facemums when they had given advice or had directed them to other resources or sources of information (see FBAD 4)

FBAD 4 –



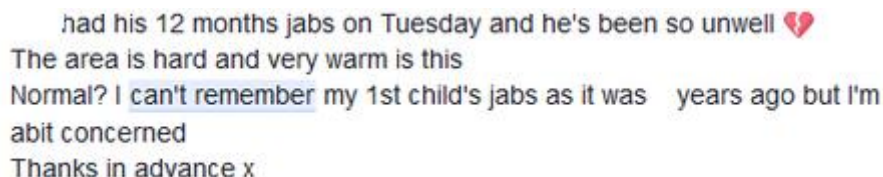
Facewife Morning sorry didn't have chance to follow this up but I can see Facewife has stepped in have you any other questions about this or are you more clear now? Xx

Facemums did not report any misunderstandings and stated they valued and understood the information shared by Facewives.

The need for pregnancy related information was not affected by parity and Facemums valued the accessibility of the Facewives whether they were having their first, second or third baby (see FBAD 5, 6 and 7).

FMB5 – *'It doesn't matter how many babies you have each time you have a baby it's different, so what happened in this pregnancy didn't happen in my first one and I can ask, and also I can ask things that are forgotten from my first one as well.'* **(FGo)**

FBAD 5 –



had his 12 months jabs on Tuesday and he's been so unwell ❤️
The area is hard and very warm is this
Normal? I can't remember my 1st child's jabs as it was years ago but I'm
abit concerned
Thanks in advance x

FBAD 6 –

Hi ladies, I posted here a good few weeks ago to say by the end of the day my ankles and hands are swollen but overnight go back down again and you posted some useful articles to suggest it's normal. I still get this but over last couple of days I'm also waking up with pins and needles in my hands, just wondering if it's anything to be concerned about at this stage. I think I possibly got it last time and it was suggested it may be carpal tunnel but I can't remember. I'm 31 weeks!

FBAD 7 –

Looking for advise from our mums who already have children. I'm wondering what child care to arrange for my 3 year old for the next few months. Could anyone share what worked for them once baby arrived? I get the 15 free hours and can budget for another 10 hours or so. Anna nursery offer half days and full days... Thanks X

The site met their information needs but Facemums recognised that it did more than just fulfil information need;

'When I was pregnant it was more than an information exchange it was just so helpful, like I said I can't imagine being pregnant without it.' **FMB6**

Other internet sites such as Netmums (<https://www.netmums.com>) and Mums.net, <https://www.mumsnet.com> had been used previously to access information relating to pregnancy, birth and motherhood. These sites were not rated highly and were not considered very high quality because the sources of information contained within them was unknown. Additionally the users of these sites were perceived to be negative and opinionated (see Appendix 11, column 4). Accessing Facemums resulted in alterations in information seeking behaviour;

'Before I joined the group I used to go to Google and I used to ask questions but when I joined the group I thought that this communication was better... I could learn more from it, so at that point I stopped going to Google because I could listen to the Facewives.' **FMB13 (FG)**

'For some of the pure health advice and the midwives are there for that, because I know that they know it, because of that, now I just don't use a lot of other resources.' **FMB7**

When Facemums used Google for information, they checked and verified their findings with Facewives (FBAD 8);

FBAD 8 –

Good evening Facewives. I've recently had blood tests and they've come bk that I've low vitamin d levels. I'm rather worried as I've been Googling as always and the major concerns with it are stuck in my head now.. Not helping the anxiety at all. Follow up doctors appointment isn't until Friday either. I was just wondering tho could it have anythin to do with pregnancy/post partum period? I can't seem to find much about it so was just wondering if you knew anythin about it? Xx

12 Comments

Like Comment

I always have low vitD Hun. The doc just proscribed me supplements, it used to give me really achy legs. The GP said lots of people have low vitD. Not sure what the risks are post pregnancy though but hopefully the facewives can help x

Like · Reply · February 6, 2016 at 9:40pm

It's the readin up on it that's got me all panicky so when I got my results off the receptionist yesterday I went straight to tesco and bought 15 quids worth of vitamin d tablets haha. I've eaten fish and other vitamin d rich foods today too 🐟. Thanks for that tho uve made me feel better. We just need lots of sun now too! 😊 xx

Like · Reply · 1 · February 6, 2016 at 9:44pm

My sister suffered with this when she worked on a ward where it was all artificial lights and no windows so I bought her vitamin d tablets too - they should let the dr explain it to you so you don't all worked up 😞 glad has made you feel better - I hope you are ok xxx

Like · Reply · 1 · February 6, 2016 at 9:47pm

Facemums recognised that searching the internet for pregnancy related information was not helpful and advised each other not to google information (see FBAD 9).

FBAD 9 –

Stop Googling lol. I'm sure the facewives will give you some reliable information. Honestly though try not to worry, if the GP was really concerned they'd have got you back in as soon as they had the results. It's a great excuse for some sunshine though ☀️

Like · Reply · 1 · February 6, 2016 at 9:55pm

I've totally ignored my councillor on this occasion on the googling front haha but thanks girlies I feel tons better already. Yeh I've read that too I should have remembered my pregnacare every day rather than just once or twice a week 😞. Xx

Like · Reply · 2 · February 6, 2016 at 9:58pm · Edited

Hi sorry for the delay and I'm sorry you've been worried 😞 as the others have said, it is quite a common issue and nothing serious to worry about 😊 I'm sure the GP will chat to you about supplements 🙌 and it's a fantastic excuse to try to get... [See More](#)



Professional information

Facemums wanted access to a midwife for professional, accurate and up to date evidence based information and advice. They trusted the information provided by Facewives;

'they're looking stuff up for you, they are doing the research for you, giving you stuff to go away and read so it's not just about them giving you stuff and you having to take their word for it they giving you the evidence as well and I guess for me being a clinical psychologist I want the science behind, you want the evidence.' **FMB6**

However, although several commented that they wanted to be given evidence based information, they also appreciated that Facewives gave information and advice based on both their midwifery and personal experience (see FBAD 10);

'I don't think if FWC1 and FWC2 had been doing a kind of the NHS, the party line is, that wouldn't have worked and the fact that it's FWC1 and FWC2 being themselves that's really important to me...when they're talking to you it's FWC1 and FWC2 talking to you, it's not the NHS talking to you, it really feels like FWC1 and FWC2 and I really valued that, I liked the fact they were prepared to say the guidance says X but ...' **FMC1**

'What I like is it's not preaching about things, they're not saying you should do this and you should do that, what it is, is advice and guidance and that's what I think is brilliant about it.' **FMC3**

FBAD 10 –

I can relate to this article a lot. I wonder if I [redacted] and [redacted] can? With my second son I chose to exclusively breastfeed as I was studying and I couldn't face sterilising etc. Then it turned out he is allergic to cows milk & he didn't like soya formula 🙄 So when I went back to work he just drank water out of a tippy cup until I got home and fed him 😊 I got used to the questions about why I wasn't moving to bottles 🙄 In the end, I gave up justifying my choice and just listened & nodded then did what was best for me and my baby 😊💪

Some of the Facemums described feeling 'silly' and as if they were unnecessarily worrying when they wanted information, advice or reassurance about issues which they felt could be perceived as being trivial;

'I didn't feel that the questions I needed to ask were big enough to pick up the phone and keep mithering my midwife.' **FMB18**

'I don't think you feel like you're mithering as much on there, you know when you ask a question like you do when you phone triage or day unit, I know if you phone, you feel like you're constantly ringing triage, or you feel like you're constantly going to the doctors.' **FMB10**

They felt comfortable asking Facewives but explained they would not have felt comfortable asking NHS midwives;

'I felt you could ask anything, there was nothing you couldn't ask, nothing like a what sort of nonsense question is this, every question asked matters to them and they go to lengths to answer them.' **FMC13**

'What works for me being a first time mum is that any worries or concerns that pop into my head that I feel are not significant enough for me to ring up the community office over, the Facewives are always at hand to answer! I love that I have that security that if I feel I can't ask anybody else that they are just a few minutes away on my mobile phone! Okay it may not be a reply immediately but that's never an issue as they always have helpful and reassuring information. Makes me feel very safe.' **FMC12**

'I don't think I would have felt that I could ring my midwife, so for me, I probably would have thought no I'm not going to ask the midwife but I definitely would have felt that I could just go on there (Facemums site).' **FMC3**

Facemums recognised that not all queries are time critical and that requests for advice and information do not always require an urgent answer. However they said it made them feel much better knowing they could ask someone if and when they wanted to;

'...this time it's different (second pregnancy) if I have thought of something it's been really nice just to go on the Facemums than just think oh well ...I just check that on the site.' **FMB7 (FG)**

Facemums were happy to wait for responses from Facewives. The speed of response to requests for information or advice appeared to be unimportant as Facemums were confident that the query would be seen and that the Facewives would be able to gauge the urgency of the request and respond in an appropriately timely manner;

'It's enough to know they are in the background. So you know that if it was something to be concerned about, they'd comment.' **FMB1**

Some Facemums described that by simply posting their question on the group page they felt better, whether or not a response was immediately forthcoming;

'...and it's just as important having somewhere to put it doesn't matter whether there's an answer or not.' **FMB7**

'As long as you know that it's going to be read and if you need an answer, you'll get it...provided it's not a week later.' **FMC11**

Facemums were comfortable waiting in order to get an accurate and personalised reply. It was not viewed negatively if the Facewives did not know an answer or have the information requested (see FBAD 11);

'Sometimes it's clear that they haven't really known and they have not known anything about what has been said to them but that's absolutely fine that they go away and they find out.' **FMC1**

'And you know what is great as well that FWC1 will go on there and sometimes they don't know, then they will go away and do my research and she does research and she gets the answer back up there within 24 hours. That's one of the best things.' **FMC3**

'And I could tell FWB2 was rushing off trying to find information for me... it's amazing for things like that.' **FMB1 (FG)**

FBAD 11 –

Facewife shared a link to the group: **Facemums**
September 20, 2015 · 45

While I was looking round I also found this link about sex in pregnancy. This is another one of those issues that many people feel embarrassed talking about. But if you are in a relationship then sex maybe an important element of it and many men and women worry about how to enjoy sex in pregnancy and if there are any risks attached to having sex in pregnancy. I hope this link helps 😊 but an important thing to remember if that at the end of pregnancy sex is a useful tip to help bring on labour 🙌🙌

The fact that Facewives could take more time and research the requested information was viewed positively, and resulted in the information being more trusted;

'even if they didn't know the answer (Facewives) they'd would go away and look it up and get back to me. And I think because of the fact that you know they do that little bit extra you know that you going to get a really sound

answer, more so than somebody who is rushing a clinic, not that they're going to give you the wrong answer but maybe they won't give you as full an answer.' **FMB7**

The ability to access professional information facilitated clearer decision making for Facemums. This was demonstrated not only by the fact that they knew about alternative (i.e. non- NICE guidance) options for care but also because they could decide whether to seek further advice, information or support from traditional NHS sources;

'With him, (first baby) you know I didn't have this and a lot of times I was ringing the ward...I feel more reassured, whereas if I hadn't had the group I probably would have just gone to them (hospital).' **FMB17**

Peer based information

Although the primary driver for joining the group was to be able to access professional, validated midwifery advice and information, as the FMBs established and particularly as they had their babies, the advice and information shared between FMBs became more valued;

'Sometimes it's good to just speak to a mum.' **FMB1**

'Because they are midwives they've got to give you the evidence and that's great, I want to know that, I want to know what the evidence is. However I also want to know what Mums who have been in that situation ...and that's when you'll make the best decision.' **FMB18**

'And obviously sometimes the Facemums would answer before the Facewives and they'd know the answer...you value their response just as much.' **FMB12**

FMBs recognised that FWBs were not 'experts' in motherhood and had a clearly defined sphere of practice;

'I think there's so much resources out there for first time mums but the different advice that you get it's just...it can make it even more difficult than not knowing at all sometimes I think. So it's good to just speak to a mum.' **FMB1**



'No offence to them, but like they don't know, like the mums don't really know the answer (in pregnancy), so if they want to give me advice that's fine but I would still like wait for the Facewives ... but now that I am not pregnant they (Facewives) haven't got the answers for me.' **FMB3**

Whilst the Facewives were perceived to be the experts during pregnancy, FMBs became the experts after birth. By this time they were known to each other and their opinions were valued (see FBAD 12, 13 and 14);






'A lot of the facemum's have their kids before me, so it's actually really quite handy for me, now I find that when we ask each other questions now it's mainly Facemum's that answer each other...because at the start it was definitely facewives but not so much now.' **FMB6**

'I think I have probably learned much more off other mums, being a first time mum... I've learned more from them than they have from me.' **FMB2**

FBAD 12 –


Hi all! Hope everyone is well, love seeing our babies grow and flourish  and work is now as if I never left (although I race to get back to work ) and I'm really glad I had reassurance from the facemums!

FBAD 13 –

Ok supermums I need your advice! so  has started banging his head against everything.. Not in tantrum, just likes doing it! But sometimes does it so hard he then hurts himself and cries. What's all that about!?? Has anyone else had this!?  I remember you sayin  was head butting the cot, is this the same thing?   xxx

FBAD 14 –

Hey ladies, I'm looking for some advice. I'm so worried and I feel completely failed by our NHS, I just really don't know what to do.

 has been vomiting for 2 weeks, we've seen 5 GPs, been to A&E and referred to a paediatrician who won't see us until 1st August!!! A&E sent us away with some reflux medication which stopped the vomit for 2 days but it's back again.

She's lost weight and weighs less now than she did 2 months ago, she's so hungry but can't keep food down. I'm going out of my mind and just don't know what to do next. I'm so scared there's something seriously wrong with her.

If anyone has any advice I'd really appreciate it. Xxx

I can speak to the gastro doctors at my work if it helps? I work on kids hospital? See what they say xx

Like · Reply · April 4 at 7:40pm

Please than would be amazing. She's had vomiting issues since she was born but now it's really bad. I just feel helpless, I really need someone to help. Xxx

Like · Reply · April 4 at 7:41pm

Of course - I'm in now but none around - I'm in thurs and fri so will defo speak to them by weekend for you 😊 they are fab doctors xx

Like · Reply · April 4 at 7:42pm

anything you can do would be amazing. I'm just so worried. Xxx

Like · Reply · April 4 at 7:43pm

I will get back to you latest Saturday 😊 xx

Like · Reply · April 4 at 7:48pm

Thanks so much xxx

Like · Reply · 1 · April 4 at 7:52pm

know yh I'd want answers too! August? That's ridiculous for such a young child too. was fine with everything then all of sudden started chucking up with cheese and yoghurt and then now he's fine again with yoghurt and sometimes cheese in small amounts when I hide it in his food. Xx

Like · Reply · April 4 at 7:48pm

you can go to any A&E I suggest taking her to Salford Royal we have a great kids unit called PANDA 🐼 and should be fairly quiet at this time. Let us know how you get on. Hugs 😊 xx

Like · Reply · April 4 at 8:24pm

We took her to A&E on Saturday, it was Bolton though. We waited 2 and a half hours then they sent us to the GP. Do you think it may be different at Salford? She's in bed now fast asleep so I won't disturb her but could try tomorrow eve? Xx

Like · Reply · April 4 at 8:28pm

Yes fast track for kids there so should be x

It's so hard isn't it when you feel as though nobody is listening to you. Luckily doesn't have diarrhoea so is managing to keep so food down. I'll give my HV a call again tomorrow, I'm determined to get to the bottom of this now.... [See More](#)

Like · Reply · April 4 at 9:07pm

No problem! It's really difficult isn't it. The hospital made me and my husband feel like over worried parents! They have us a letter that said think twice about coming to A&E, book a GP appointment first!! I hope she gets better soon! Xxx

When calls for advice and help were sought, answers and support were readily offered. Peer to peer support focused on motherhood and mothering generally but at

times general health advice was requested. The FMBs turned to each other and made sure they informed each other of progress and outcomes (see FBAD 15);

FBAD 15 -

Hi Ladies, sounds like it's been a bit of a nightmare with hospital visits over the weekend. Hope they're feeling better soon!

Just an update from she's been diagnosed with **Celiac** Disease. We've got to have a couple of other tests but her initial results were off the chart so they're pretty certain on it.

Does anyone have any experience with this? We'll be seeing a dietitian soon but I'm trying to do as much research as possible. X

In relation to information and advice about mothering, being a mother was viewed as being important;

'The health visitor said something a little bit judgemental... and I just thought to myself, how can you say anything you've not even been through it you've not even had a baby.' **FMB12**

However, none of the Facemums commented negatively that FWB2 and FWC1 were not mothers, and said they felt about them in the same way as FWB1 and FWC2;

'They're kind of mother figures, I'm not sure I don't think FWB2 is much older than me, but FMB1 is like a kind of mother figure if you know what you mean.' **FMB5**

'It's really great that FWC2 has got kids for example and she can say well when mine were that age I did X I'm not saying everybody needs to have kids to be a midwife but you know and FWC1 has got totally different perspective FWC1 has got a different balance and brings something else to the party.' **FMB1**

Ultimately information and advice given by both other Facemums within FMB and Facewives in both groups were valued at different points through their Facemum journey;

'That initial medical reassurance was nice, but then off the other girls... I didn't get that first time round, it was awful. Just knowing, having that reassurance, you've got the best of both worlds, people who are experiencing it with you and people who you put your trust in because they've got their medical background and you've got them both.' **FMB8**

FBAD 15 and 16 typifies the responses within both groups. FMBs were likely to offer advice as well as FWBs (FBAD 16) whereas at FMC the FWCs were typically the only ones to respond to requests for information (FBAD 16);

FBAD 16 –

Hi, quick question, Ive had constant cramp/stomach ache for 3 days now (like the start of period pains) it's hard to sleep because of them? Wondering if it's stretching or Braxton hicks? Should I get checked out or leave it a few more days? X

Facewife and Facewife 5 Comments

Facewife Hi have you had any other symptoms have you lost any fluid or bleeding? Have you had Brixton hicks earlier in your pregnancy and do they feel the same? How many weeks are you? If you are worried a call to triage or your midwife won't go amiss

Like · Reply · January 18, 2016 at 9:27am

Hi, no I haven't got any bleeding and never had this pain before. I called triage and they said pop in to just check, they were lovely, said its my ligaments stretching and getting prepared and to take paracetomols so il do that tonight and just hope it stops soon, don't really want to feel like this for the next 6 weeks!

Facewife Oh glad you got things checked out did you feel reassured for going?

Like · Reply · January 18, 2016 at 8:19pm

Hi, yes felt reassured! Slept last night so feel better today. Still got the aches etc but just hoping baby stays in a bit longer! (At least until ive been to the classes at the hospital next week!!) thanks for your help x

Like · Reply · 2 · January 19, 2016 at 4:09pm

Facewife I'm sure baby will oblige 😊

Like · Reply · January 19, 2016 at 5:30pm

FMBs sought opinions from the group and not just from FWBs. The FMBs negotiated information relevant to their specific circumstances which changed as they experienced motherhood. Prior to giving birth FWBs were the experts but as the group developed the FMBs assumed and were valued for their expertise, pragmatism and non-judgemental support (See FBAD 17);

FBAD 17 –

Sorry to hear you are not having a good time. The first two weeks are definitely the hardest and like I have also noticed a change with for the better although don't get me wrong I am still up feeding in the night but after a feed as long as no wind issues she goes back down ok and I'm not up for ages. You have to do what's best for you and your family. Breastfeeding isn't for everyone and if it's making you unhappy that's not good. In sure you will make the right decision and you are definitely not failing him by giving him formula. I plan to do some expressing myself when I have some time so my partner can support feeding so maybe try that initially if you feel you want to carry on a bit more. Hope you're ok x

Sorry to hear you are struggling. I felt a failure when I moved to formula but had no choice due to no milk. You are never a failure you need to do what's best as a family Hun - I can't give bf advice but everyone else can but whatever decision you make you are a fab mum - is thriving with formula and we are happy so I don't feel a failure like I did in the beginning. Xxx

U should do what's best for everyone. U have to think of your own health and mentality not just babies. Maybe try to wake him up a bit during the day n offer him feeds. Babies don't know night from day at first but don't worry he soon will do. Big hugs xxx

Like · Reply · 1 · March 7, 2016 at 2:30pm

Aww please don't feel like a failure! We went through this with and it does pass I promise. I'd say the 1st 2 weeks are the hardest then you notice a big change. I think it's quite normal for BF babies to wake a lot during the night as tha... [See More](#)

Like · Reply · 1 · March 7, 2016 at 2:46pm

I also keep formula in the house should I find I need it, just in case.

The volume of responses from FMBs was high even when the question was directly addressed to the FWBs (see FBAD 18 and 19);

FBAD 18 –

Hi quick question, I'm due to see community midwife tomorrow at 39+6 just wondered if I would be offered a sweep? Also although I'm consultant led I haven't seen the medical team since 30 weeks so would community midwife make decisions about how long I can be allowed to go over before considering induction etc? Sorry to mither but my usual midwife is on a 4 week holiday so last week and this I'm meeting different midwives. Thanks Facewives 🙏 feeling nervous now...

My community midwife said they are not supposed to give sweeps at term if 2nd baby? Not sure how true that is! I'm consultant led too but I'm seeing them at 39+6 and they said they will give me a sweep then to give me a good chance of going into sponta... [See More](#)

Like · Reply · 1 · January 27, 2016 at 8:37am

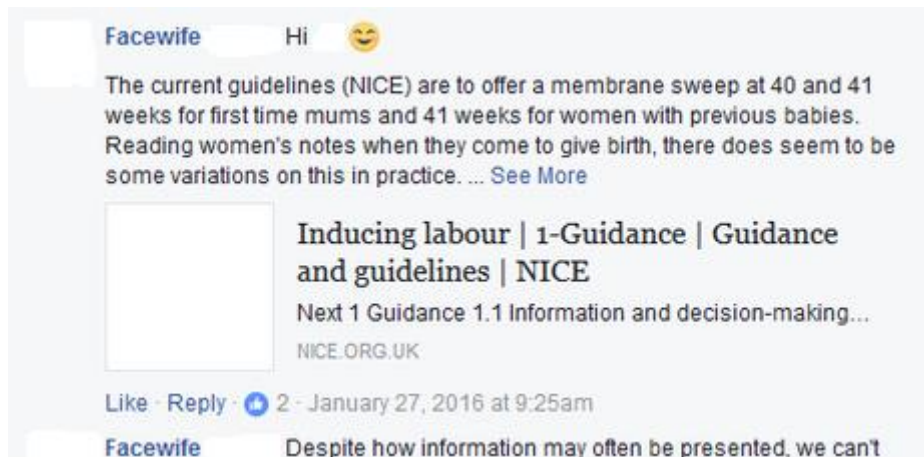
I've been offered a sweep at 39+4 (Monday), but first baby and not consultant led; not sure of the procedure in different situations 😞 good luck not long to go! 😊 xx

Like · Reply · January 27, 2016 at 8:44am

They all seem to do different. My community midwife said she would give me one at 40 weeks although she isn't supposed to? But as I'm at the hospital the day before anyway they have offered. as you're based do you go to the midwife in the children's centre on road? 😊

Like · Reply · 1 · January 27, 2016 at 8:52am

Yes that's the one. 😊



FBAD 19 –

Quick question facewives - if I have an induction on the 21st - how long should I prepare to be in hospital altogether for? I know it will only be a guess I'll be 38 weeks pregnant if that helps

29 Comments

FMBs posted the majority of the 29 comments responding to the question asked of FWBs in FBAD17. The Facewives answered the question but other Facemums gave their opinions and shared their personal experiences.

At the beginning of the study only FMB9 said that she had joined the study for support and access to other pregnant women and mothers. The attraction for the rest of the Facemums was having ongoing electronic access to a midwife. Nonetheless, the FMBs contributed to requests for advice from the FWBs with anecdotal and experiential learning. Over the course of the study the FMBs looked for and became more reliant on the support offered by their fellow FMBs and less dependent on advice and support from the FWBs. The FMBs acknowledged that when they were no longer pregnant and became mothers, other Facemums became the trusted experts with the information and advice they were seeking.

In contrast, for the duration of the study FMCs looked for advice and information from the FWCs. FMCs generally did not contribute to posts requesting advice from the FWCs. This was a clear difference between the groups.

Learning

Learning is presented as a sub-theme because the learning within Facemums occurred as consequence of professional and peer based information sharing within a safe space. The Facemums did not identify learning as a reason for joining the group or suggest that it was an important part of the groups' functionality. However, when asked about learning the Facemums unanimously agreed that they had learned from being part of the group. The Facemums described information seeking but did not directly connect this with learning.

Facemums were asked if they learned anything from being a member of the group. They all said they had learned as a result of their participation. Many were able to give specific examples of things learned, but most Facemums from both sites recognised they had learned a lot from the group but found it difficult to identify specifics.

The Facemums recalled four main areas of learning. The learning related to being signposted to other information or services, birth, the postnatal period, and maternity products and events.

FMC13 recognised that she was learning as a result of being a member;

'...I was always reading, I read loads and I learned.' **FMC13**

However most of the Facemums did not focus on or emphasise learning as a benefit of the being a member of the group. They alluded to learning in their interviews;

'...and I've never heard of that ... and the very next day the Facewife came on and put about delayed clamping and I was like wow, and I'd certainly never seen a placenta before...well now everybody in my job knows what the placenta looks like.' **FMB6 (FG)**

The Facemums did not participate with an intention to learn but learning was a consequence of being in the group;

'...when some of the women would ask a question I would be like oh yeah and I wouldn't have necessarily thought about that, but then I wanted to know about it.' **FMB16**

'You kind of learn by chance, so you learn by chance the documents that FWC1 and FWC2 put on there, you don't really know what you want in advance. For me it was about learning and being aware.' **FMC3**

'You can learn quite a lot just from watching and doing nothing can't you? Not contributing. You can still get a lot from the group.' **FMC5**

They wanted to see what other Facemums were asking so that they could learn about new things;

'As soon as I see a notification on the group I know it going to be someone asking something, so I always go on and just read everybody's posts.' **FMB12**

'So many other people are asking questions and you know you are learning from them. So that's good, because I am not asking them again.' **FMC14**

Facemums were keen to share their learning outside the group;

'My friend who is due at the same time as me she had loads of questions so I acted as her Facewife and I just ask questions and give her the information and she really wanted something like this.' **FMB8**

'I've shared lots of the links, I've had 3 friends that have had babies and I've shown them lots of the links ...and I've used it a lot at work because I work in a call centre and lots of the girls are pregnant. I use it as a tool and I've shown them loads of the stuff.' **FMC5 (FG)**

Facemums were able to learn when they wanted to, at their own convenience and at their own pace because information was stored and could be referred back to.

FMB11 who did not contribute to the site at all before the birth of her baby still found the group beneficial;

'The information I found here is useful ... I have a few friends who gave birth around the same time as me so I shared some advises with them. We usually learn on our own mistakes but I hope what has happened to FMB11b will teach mums to be more careful. I don't know any mums from this group more than the others but it's not so important because even in this case I can get an advice if I ask for it, so does anyone.' **FMB11**

Learning was not restricted to Facemums; Facewives too said they had learned from being part of Facemums group. Some of this learning related to a better understanding of pregnancy and its impact on women and their families. Some learning was related to specific conditions and explicit requests that required Facewives to research further;

'I've taken a lot from the women... I've learned a lot from their experience... the finding a bit more out than just the surface, just very superficial stuff that you learn off any woman, but we got under that...we just found out genuinely about women, about them, and it was an enormous privilege.' **FWB1**


'I probably learned quite a lot... like how I can tackle things in future and approach things' **FWB2**

'It made me definitely learn more, I had to...because certain things, I think one of the things was someone was talking about a prolapse and I was like I have no idea.' **FWC1**


'You get that woman who throws you a curve ball and you go well that wasn't in the training, so, from that perspective it definitely made me read more widely and sort of learn how to deal with the everyday queries and questions from women... I probably benefitted from it because I learned by doing so, by doing it I learned.' **FWC2**

Facemums learned about things they *'didn't know they needed to know'* **FMC11**, for example delayed cord clamping (DCC). DCC has significant health benefits for neonates but is not routinely practised in all NHS institutions. Many of the FMBs had not heard about DCC but a post from FMB1 generated an initial discussion that was returned to on several occasions (See FBAD 20 and FBAD 21)


FBAD 20 –


Facewife shared Birth Without Fear's photo to the group: 
Facemums
November 29, 2015 · 

A gorgeous water birth photo; shows an umbilical cord full of blood and a baby nicely pinkening up as his newly oxygenated blood flows through his body 😊


▶ **Facemums**
December 29, 2015 · 

My husband and I have decided we want to do the delayed cord clamping - when is it we should mention it? And is it likely we will get to do this :)

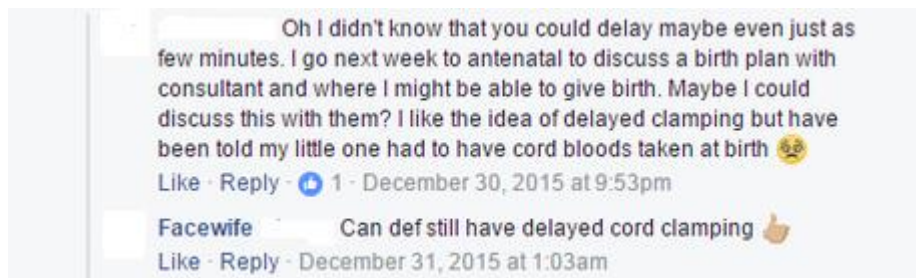
 Facewife and 1 other 12 Comments

 Like  Comment

Facewife There may be a space in your hand held notes to write preferences for birth or you can jot them down on a separate piece of paper 🍷 and definitely mention it to the midwife/ midwives looking after you in labour. It is becoming pretty common practice now and there are only a few situations in which it isn't possible (baby born very unresponsive and needing immediate resus or mum bleeding heavily immediately for eg). If you're being induced, you'll probably be recommended to have an active 3rd stage (injection to aid delivery of the placenta and minimise bleeding), but this doesn't mean you can't delay cord clamping for a few minutes still 😊

Like · Reply ·  1 · December 29, 2015 at 5:13pm

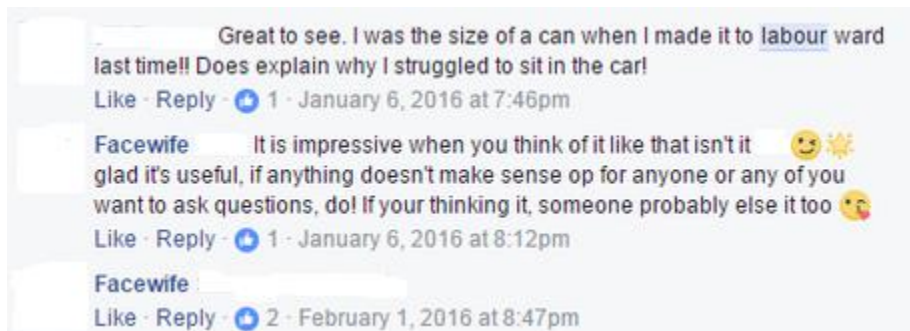
FBAD 21 –



Facemums also learned about things they didn't need to know but found interesting nonetheless (see FBAD 22);

FBAD 22 –





This post is typical of FMB posts, which contained a lot of information and generated multiple discussions amongst the group. However, some shared information was less educational and simply allowed the FMBs to learn about their local area (See FBAD 23);

FBAD 23 –



Perineal massage was identified by FMB16 as something she specifically remembered learning about;

'I can't remember what it's called, where you massage your...? FMB16

'perineum?' Researcher

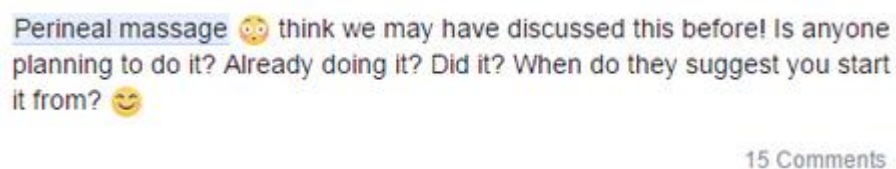
'yes I had never ever heard of that before, but then you like follow it up and Google things and... Images come up... And I was like what is this. I've never heard of it...but then when you read about it kind of makes sense.' FMB16

Perineal massage was raised twice in the group. Once when the subject was originally posted by FWB2 and subsequently when FMB10 remembered reading the post and was looking for the information (See FBAD 24 and FBAD 25).

FBAD 24 –



FBAD 25 –



FMB16 was able to recall learning about perineal massage despite not engaging in the either of the discussions on the site, or knowing or wanting to know anything about it.

More than 150 topics were raised by the FMB's, and 94 by the FMCs. The number of times the same topic was raised is detailed in (see Appendix 12). Facemums generated discussions about issues which were important to them and learned through the social discourse. An overall higher level of activity and engagement was seen among the FMBs. Across both groups, breastfeeding was the subject raised most frequently, with requests for advice information and support.

Table 19 details the 20 most frequently raised posts for both groups.

Table 19. FBAD Top 20 subject matter/frequency posts

	FMB Topic content	Frequency	FMC Topic content	Frequency
1	Breastfeeding	60	Breastfeeding	17
2	Events (local)	28	vaginal bleeding	10
3	Infant feeding	22	Caesarean section	8
4	Sleep (baby) and SIDS	22	Dads role and visiting	8
5	Count the kicks/FM's	19	Fetal Growth	8

6	TMI	17	Sleep (baby) and SIDS	8
7	Depression/PNMH	15	Varicosities/piles	8
8	Fetal Growth	15	Anomaly Scan	7
9	Sleep (MUM)	15	Sleep (MUM)	7
10	Meconium/baby poo	13	Antenatal classes	6
11	Baby vomiting/reflux	12	Events (mother & baby)	6
12	Blood tests/results	12	Teething	6
13	Hypnobirth	11	Abdominal cramps	5
14	Antenatal classes	10	Baby vaccinations	5
15	Baby weight	10	Infant feeding	5
16	Caesarean section	9	Infant safe sleep	5
17	Induction of labour	9	placenta clinic	5
18	Lochia	9	S and S labour	5
19	Maternity rights	9	Vaccine/immunisation	5
20	Baby skin/Care/ rashes/marks	8	coughs and colds	4

The post which generated the most interest in terms of response was posted by FMB1 in week 17 of the study and related to her baby's bowel movements, (see FBAD 26);

FBAD 26 –

Well we had a Lovely curry and was do well behaved ❤️
 She's a little cranky now, I think she's constipated 🍌. This is the 3rd day she's not had a 🍌, HV said its normal for BF babies but I can tell she's struggling poor girl 😞

The most popular posts at FMB were those that did not require expert input from the Facewives (see Table 20). Other posts that generated significant activity were birth announcements, One Born Every Minute (OBEM) TV show and 'Friday catch up'. 'Friday catch up' was popular every week with all group members commenting on their week and plans for the weekend. 'Friday catch-up' was instigated by the FWBs but was adopted and maintained by FMBs in their absence and when they were no longer part of the group as professional midwives.

Table 20. Posts generating most activity FMB

Date	FMB	Content	Comments
30.10.15	FMB1	Constipation	39
17.10.15	FMB1	Breastfeeding	36
29.10.15	FMB1	Baby harness	36
05.08.15	FWB1	TV show - OBEM	33
30.08.15	FMB3	Its twins	33
25.01.16	FMB2	Pyrexia	30
5.01.16	FMB2	Induction of Labour	29
30.08.15	FWB1	Dads visiting times	29
31.08.15	FMB13	Mental health	29
23.08.15	FWB2	Placenta photos	28

The most popular post at FMC was posted by FWC in week 11 of the study. The posts which prompted the most responses were dominated by those generated by the Facewives or focusing on pregnancy related subjects requiring professional advice (see Table 21).

Table 21. Posts generating most activity FMC

Date	FMC	Content	Comments
18.09.15	FWC1	Weekend plans	35
06.09.15	FMC4	Gender scan	32
04.09.15	FMC5	Pre-term niece	24
13.08.15	FMC6	Yoga and Aquanatal	24
21.08.15	FWC 1	Baby shower	24
11.11.15	FMC12	Breech pres.	19
3.11.15	FWC1	Request for info	17
2.12.15	FMC12	Christmas walk	16
20.08.15	FWC1	Due date request	15
30.09.15	FWC2	Request for info	15

Facemums across both groups appreciated the convenience and security of having access to professionally sourced information. Whilst this was the main reason given for joining the study it became less important for the FMBs as the study progressed. All Facemums found the internet challenging for sourcing pregnancy related information because there was too much available and the sources were unknown/unverified. Social media sites were used by Facemums prior to joining the study, but reported use was limited following membership of Facemums. Most Facemums expressed negative feelings with popular sites for pregnant women and

new mothers such as netmums.com and mums.net (See Appendix 11, column 3 -4). They explained that this was due to the style of engagement and interactions from other unknown users. They were particularly concerned about trolling (posts which were critical, inflammatory, extraneous and off topic) and fear mongering. Facemums across both groups reported using other social media sites less once they joined Facemums because they had easily accessible and trustworthy information available to them.

Information Repository

The Facemums used the site as a store for pregnancy and birth related information;

'When I wanted I could just go back and read it... It's like a store isn't it.' **FMC1**

The Facemums valued reading information they weren't looking for but equally valued being able to read about subjects when they became more relevant to them;

'I often go back to things that have been mentioned previously - and it is all there and it is readily available for you to read and look at.' **FMB2**

'...for me, at the end of the day, to go on and read what other people have put, and the questions they're asking, I will remember that and I will go back on and look for that.' **FMB18**

'I was dead scared of making a decision, thinking I might not get further on in the pregnancy- so I kind of parked everything until the point that I need to make a decision to read it...I downloaded it, saved it, when I needed read it later, there is a folder on my phone you could just save everything to put in the downloads.' **FMC5**

'Because there it is in black and white- you don't have to ring somebody up... it was there for you to look and I just scrolled through, so all I needed to do was read through it and if I needed to ask something the midwives would just point me to it, so I didn't need to read through all the postings.' **FMB16**

FMC6 found it difficult to access information on the site when she required it (see FBAD 27);

'there is a lot of information on there and sometimes it's difficult to track back and find it, and you press the wrong button and it pings back to the top and that's a bit frustrating I mean it may already be there but I don't know about it...' **FMC6 (FG)**

FBAD 27 –

Hello everyone
Hope you and the Babies are all ok?
I know you mentioned some books/video for baby sensory a few weeks ago and I can't find it. Please can you send me the details again?

FMC6 was not alone in having difficulty locating previously posted information (see FBAD 28 and 29);

FBAD 28 –

Hi girls me again! Has anybody got any good lists for what to pack in the hospital bag? I know there was a thread about this a while back but I can't find it xx

FBAD 29 –

Morning mommas and Facewives. I know [redacted] posted up some time ago about raspberry leaf tea but I can't find it. When should I waddle to the shops to grab some of this? 33.1 today xxxx

 Facewife

4 Comments

FMC6 was, however, the only participant to report it as a difficulty during the focus groups or interviews. Most of the Facemums commented that when they wanted information they 'tagged' the Facewives to direct them to it.

The site and information provided by both Facemums and Facewives became the 'go to' for members. The sites met Facemums needs for quick replies with instant access, from both professional and peer sources, for stored information and as a place to 'store' a concern;

'You've got the best of both worlds people who are experiencing it with you and people who are who you put your trust in because they've got their medical background and you've got them both.' **FMB8**

Facemums used the site to find out information as and before they required it without necessarily asking specific questions (see FBAD 30);

FBAD 30 –

Hi, I don't usually need any advice as you have all been through my problems first so I have got the answer from your post but I'm 36 weeks (tomorrow) and have a pain on both sides of my groin like I'm badly bruised, it's uncomfortable sometimes when I walk or even move when I'm sat down, anyone know what it is and if it's something to be concerned about or is it baby just moving further down !!??

Both groups of Facemums used the sites as libraries of information. Information was downloaded and saved for future use by one of the Facemums, but most revisited the site pages to look for information they had seen previously. FMBs tended to tag fellow FMBs or one of the FWBs to help them retrieve the information looked for and often this generated further discussion on the site. The site not only stored information for Facemums but also stored memories in the form of shared photographs, experiences and stories, which would otherwise have been lost;

'it's part of the memory of having their baby, whether it was a good or bad experience...., it really is it's kind of like a blog that you didn't really know you are writing but then you look back on it.' **FMB8**

Summary

The findings demonstrated that the information needs of pregnant women and new mothers can be effectively met within a midwife moderated social media based group. The key findings from this chapter are:

- Facemums wanted to engage with midwives via social media because it was convenient and accessible for them.
- The social media platform provided Facemums with a safe place to share and access information.
- Facemums trusted the Facewives to provide them with reliable information and relied on the Facewives more than any other source of professional information.
- Facemums site became a repository for information that Facemums could use as required.
- One Facemums group (FMB) developed trust in their peers for information as the study progressed and relationships developed.

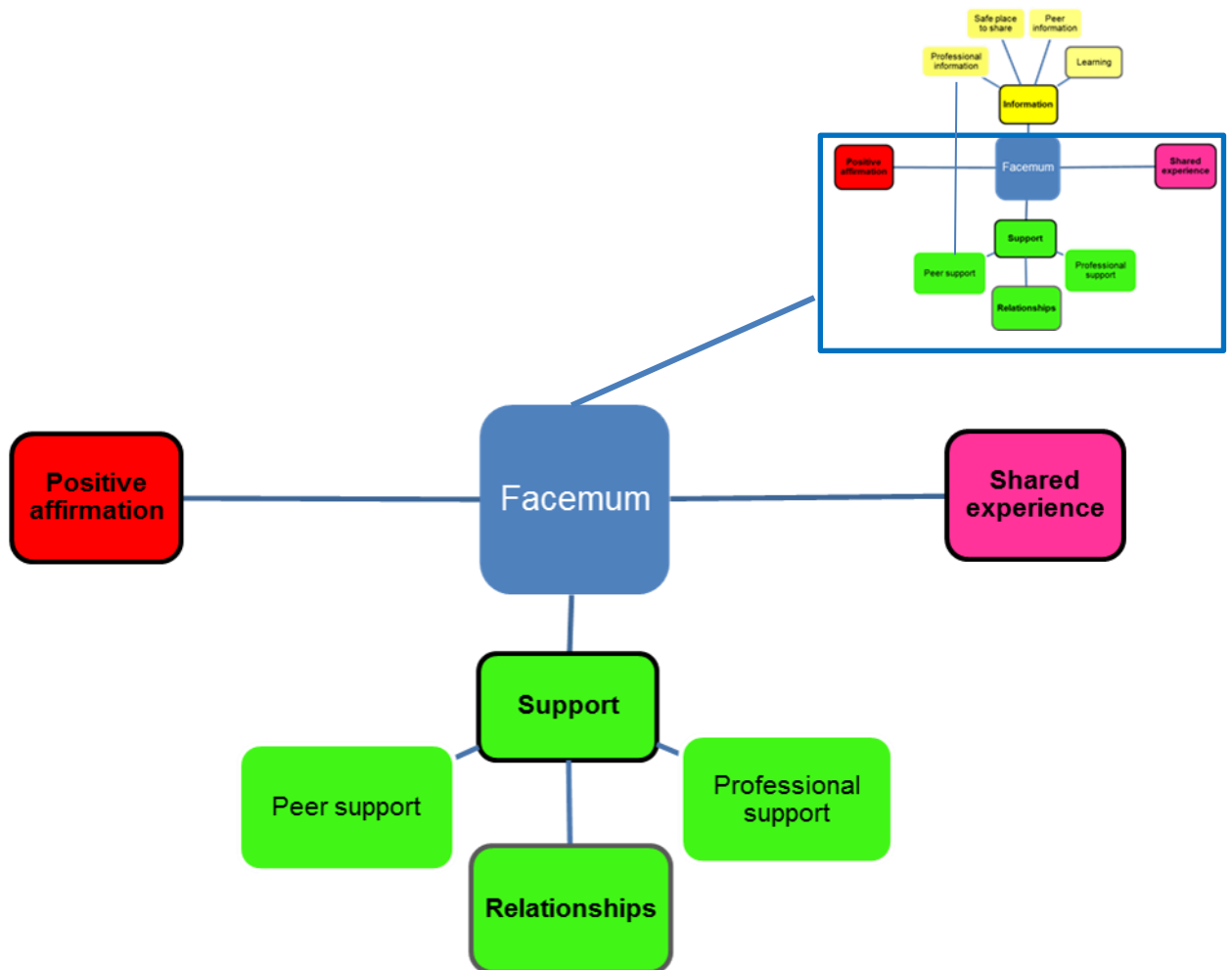
The information needs of Facemums were not only met, but were surpassed with most Facemums describing finding information they were not seeking but that was perceived to be useful. Information behaviours changed as a result of membership, with most Facemums stopping visiting other internet based information sources. Facemums had confidence in the information shared within the group and trusted the Facewives. FMCs remained focused on the Facewives for information throughout

whereas the FMBs shifted during the course of the study and became as reliant on each other for information provision. Intentional and unintentional learning occurred as result of participation for both Facemums and Facewives.

Chapter 7 will now present the theme of support and the sub-theme relationships. Additionally it will present findings related to shared experience and positive affirmation.

Chapter 7: Findings – Support, relationships, shared experience and positive affirmation

Figure 7 – Thematic model: Support, relationships, shared experience and positive affirmations



Introduction

This chapter presents the findings related to support and relationships. As with information and learning the themes of support and relationships are interconnected; it would be difficult to have or feel support without relationships. The Facemums spoke primarily about support and to reflect their voices, support was identified as the theme with the relationships as a sub-theme. Support and relationships are sub-grouped further based on the findings and Facemums comments.

The themes, subthemes and sub-groups are;

- **Support (theme)**
 - Professional Support (sub-group)
 - Peer based support (sub-group)
- **Relationships (sub-theme)**
 - Relationships with Facewives (sub-group)
 - Relationships with Facemums (sub-group)
- **Shared Experience (theme)**
 - Safe place to share
- **Positive Affirmation (theme)**

Support

Closely connected with the information theme and the specific aspect of professional information access, Facemums discussed being able to access professional support. It was not entirely clear how support was different to being given information particularly in respect of the information and support provided by Facewives (informational support). In the context of this thesis Facemums were referring to information when they referred to questions, answers and advice about specific issues, and support related to more general posts and comments. Facemums were not clear or explicit about how Facewives or Facemums provided support, but their perception was that they were well supported;

'...you felt this support. I can't explain it any more than it was constantly there.' **FMC5**

Professional Support

Facemums felt safe and confident because they could access Facewives when they wanted to do so;

'...I've got midwives, like with me all the time.' **FMC12**

This made them feel supported;

'It has been such a helpful thing to have to have those two Facewives, ha ha Facewives... I don't even think of them as midwives any more...' **FMB6 (FG)**

'You know like when you watch Call the Midwife? ...the kind of relationship people had with their midwives, total trust and everything.' **FMC5 (FG)**

'I really value that FWC1 and FWC2 are very open and honest and talk to me more like a friend and not a midwife and I wouldn't want to change that.' **FMC1**

Several Facemums met Facewives during their pregnancies at the focus groups and some met Facewives during their hospital appointments when Facewives were working as part of their substantive midwifery role. They described how special it was for them to meet their Facewives when they were at the hospital;

'The support is great and FWC1 and FWC2 are just brilliant. It really is brill and it wasn't until I was in labour and went on to the ward below and FWC1 came down and said 'hi', well we were so excited, it was like it was meant to be, really it was great she was on shift as well. I instantly felt relaxed then... even though I didn't know FWC1 obviously felt like I knew her because I knew from the forum. That was probably priceless to me really you couldn't really have written that really.' **FMC3**

'The support is great, FWC1 and FWC2 are just brilliant.' **FMC1.**

They described introducing Facewives to their partners and recalled these encounters with a sense of pride;

'I introduced her to my husband, I was like all this is FWB2, so yes I kind of did really yeah I feel I knew her... It was so nice to see a friendly face.' **FMB6**

'I did see FWB2 in the hospital when I had him... She came to say hello and I was able to say to FMB8h look, see they are real people!' **FMB8**

FWB1 offered instrumental support when she went to visit FMB6 who was complaining of being bored when she was hospitalised (see FBAD 31).

FBAD 31 –

October 7, 2015

Unexpected visit to the hospital today 😞 and still here for a while. Being kept in for obs due to blood this morning from my low lying placenta. Any advice for boredom in hospital for a very unprepared patient who thought I'd only be here for a couple of hours 😞

12 Comments · Seen by everyone

Facewife · Would you like a little visit? I'm only on birth suite 😊
Like · Reply · 2 · October 7, 2015 at 11:27am

FMB7 met the FWBs at the focus groups but didn't meet with them as part of NHS maternity care. She suggested that meeting them was unimportant and did not matter to her although she was glad to be able to say thank you to them both;

'It was nice in a way to put faces to picture, particularly the Facewives because you feel that you draw so much from them, you ask so much from

them and it was particularly nice to meet them and to be able to say thank you.' **FMB7**

Facemums felt supported and reassured by being a member of the group and their sense of reassurance extended to other family members who encouraged them to use the group for support;

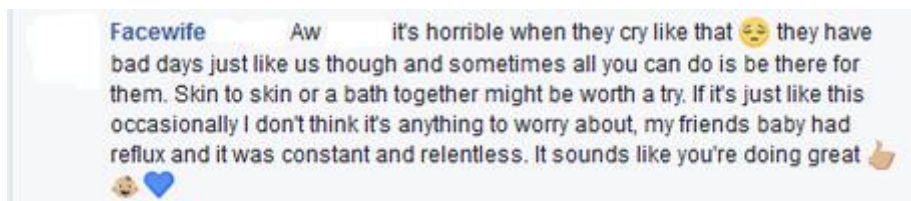
'I'm telling them about the group all the time because it is really good and I tell a FMB8h about it all the time and I think that he likes that I'm on it because he's not around, I mean he works really late hours and I think it really reassures him that I've got that comfort someone there.' **FMB8**

'...and then my mum got into it 'Get online, ask your midwife, go on'. She'd say 'Text your midwife.' **FMC12**

'My mum knows about I'm always saying to my mom ooh this happened on the page or I asked the Facemum is this... or stuff you know.' **FMB5**

Facewives regularly told individual Facemums that they were doing things well and (see FBAD 32);

FBAD 32 –



FWBs positively endorsed and supported the advice and information shared between FMBs;

FBAD 33 –



Some Facemums also reported that they had used the group to ask questions on behalf of their partners;

'My husband, because he knows I've been doing the group... often he asks things by proxy.' **FMB7**

However, they did not think that their partners would want to join a 'Facedads' type forum.

Within FMB it was evident that the professional input from the FWBs became less important as the FMBs developed relationships with each other, became new mothers and acknowledged the limitations of the FWBs in terms of professional expertise. However, they still valued the FWBs as group members. This was clearly demonstrated when the group decided and agreed that on completion of the study (at the end of the Facewife contract period) FWB1 and FWB2 should leave the group and re-join using their personal Facebook identities.

Peer Support

The Facemums group was an important source of support for Facemums;

'The support network that you had with each other, this is the Facemums.'
FMC12

For some Facemums it was their only perceived source of support;

'I feel I personally get lots of support from the Facewives but also from all the lovely ladies, as a new mum - who's pretty much winging it if I'm honest, these ladies really help.' **FMB1 (FGo)**

'...so the Facemum's group was the only group I had at that point so that was why it was really important, to have those other people that were going through the same stuff.' **FMB6**

Some Facemums commented that the local proximity of Facemums was important and knowledge of the local area was beneficial (see FBAD 34);

'you've got the support that you're all going through this together and it is really special that... it's important that it is local and I'm really looking forward and happy to be meeting up with the group socially.' **FMC12**

FBAD 34 –

Hey hope everyone is well not posted much last week as I have been mad busy getting moved in properly ! Hard work with a baba ha... I just wondered if anyone knows anywhere I can get weighed tomorrow he's not been weighed since we was discharged from the midwife. I have moved house so where my mums lives isn't that convenient anymore. Tried too look online but can't find anywhere. He's a little chunk having 5oz bottle sometimes and still topping up in the boobie ha need to make sure he's not turning into a little tubby boy 😂😂 also literally all day he has fallen asleep in my arms doesn't move an inch and as soon as I put him down he's wide awake with wind!! He does this all the time.



Most Facemums did not feel that the shared geographical base had any bearing on the functioning of the group;

'You need support more than anything and that's what I liked about the group because it was really supportive you knew they were in your area as well.'

FMB16

'And like everyone sort of supports each other and knows each other but just the fact that you've always got that, no matter what time of day.'

FMB13

However, FMB 6 predicted that geographical proximity would ultimately be important to Facemums to maintain and sustain relationships;

'It will end up mattering because I can see that the ones that live closer to each other are meeting up, they will just become closer and closer and they will build up a relationship that way, and for those of us that don't go to those groups I think will probably be a bit more on the outside.'

FMB6

Several Facemums commented that what made the group so supportive was the non-judgemental, non-value laden stance they had all adopted;

'No one is judging each other it's just really nice you don't get that hundred million comments thread, everybody commenting on each other's spelling.'

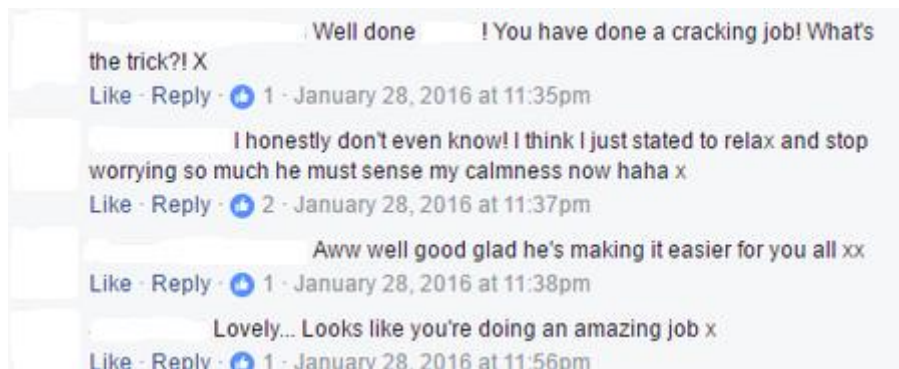
FMB8

'Yeah, everyone's been...all the girls on there...you can get really bitchy groups can't you? But they were just so nice and so supportive, you know that no-one...there's no cliques, it's just...which is really nice.'

FMB18

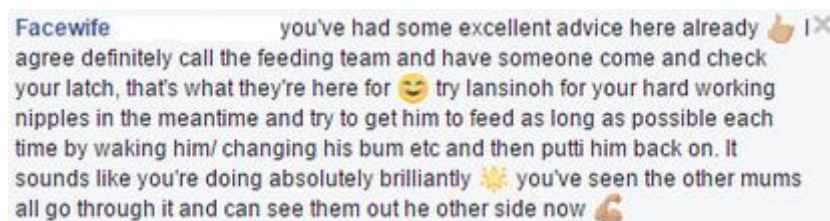
As the group established Facemums appraised each other in relation to their coping ability and mothering skills;

FBAD 35 –



The FWBs positively reinforced the expertise of individual Facemums where possible (see FBAD 36);

FBAD 36 –



These types of post may have acted as confidence boosters for the FMBs as their personal mothering, advice or information was endorsed by both health professionals (FWBs), and their peers (FMCs).

The FMCs did not commonly engage in sharing information with each other and consequently support opportunities based on appraising shared information did not present. Examples of this type of support within FMC relate largely to FWC1 and FWC2 validating each other (see FBAD 37 and 38);

FBAD 37 –



FBAD 38 –



FWC1s comment about 'clearing up ridiculous advice' (see above - FBAD 38), although said in humour, is value laden and may have influenced some FMCs reluctance to contribute. However, nobody reported this in the focus groups or one to one interviews. In contrast to FWC1, FWB1s comment illustrates the non-judgemental approach taken by the FWBs;

'We were going to try and keep the group as positive as possible, we really did stick to that and never criticised anyone...that's why it worked. If we had have done any response that was a bit catty or whatever, it would have broken everything.' **FWB1**

Nonetheless, FMB5 felt that there was a degree of self-censoring within the group that was not helpful;

'...sitting on the fence because they don't want to upset anybody... sometimes when certain things were said, and to be honest I can't think of anything specific, I would think well I wouldn't do it that way but I won't say anything because I don't want to ruffle any feathers so I did hold back sometimes... Because you don't kind of want everybody to go duh duh duh duh and then you find you're kind of on your own in the group and then you think that, or I'm not actually in the group now, I'm not properly in the group and I'm on my own because I voice this strong opinion.' **FMB5**

The understanding that FMBs were sitting on the fence may have been an erroneous interpretation. It may have been that rather than sitting on the fence FMBs were aware of the limitations and potential difficulties of using social media to communicate. Several Facemums commented about this;

'I think for me, there is an element of open speech marks oh my God I'm going to say something that's taken the wrong way...' **FMC1**

'I thought oh my God I'm going to upset her, her hormones are probably going to be everywhere and probably touched a nerve which I desperately didn't want to do so I messaged immediately oh I really do apologise that really wasn't my intention' **FMC3**

However, FMC10 also alluded to the fact that FMCs avoided being completely honest with each other. She believed this may have been connected to the FWCs presence on the site;

'FMC6 was probably a bit romanticising it a bit, in a way because if the midwives weren't on the group you might have been a bit more blunt about how long you having to wait for and stuff... I didn't say anything, I kind of put in a positive light that I had been there from Monday to Friday.' **FMC10**

This perception was not raised by any other Facemums. It did not seem to be the case with FMBs who during the focus groups were comfortable discussing perceived weaknesses in their maternity units, including comments that were critical of NHS midwives.

FMC1 suggested that being available to give support was as important as receiving support;

'Everybody just genuinely seems to be wanting to help out.' **FMB7**

'I'm enjoying it more now than ever. Feel it's a great help, learning lots from the Facewives and other mums, and trying to support if I can.' **FMB10 (FG)**

'...that kind of stuff to me is really important, that kind of being there to support somebody, even when it's a bit difficult for you that's what's really important.' **FMC1**

'I like to give advice to the other mums because I mean they give me advice as well.' **FMB12**

When Facemums did not feel qualified to give actual advice or information they liked the posts to show their support.

'...well sometimes I read a post and I'm interested but I think well the Facewives can answer that because they can give a proper answer and they know the answer, so instead I just put a little like, so I may not post anything but I'm letting them know that I've read it... I want them to know that I've read what they've been saying.' **FMB6**

Even when Facemums did not use the site to answer specific queries or questions there was a perception that they were available if needed and thus Facemums felt supported;

'Well I didn't have kind of like any queries or anything to actually ask, so if I would have had you know a pregnancy where I was having symptoms and is this normal etc. then obviously I would have been able to use it more, but when you haven't got any thing to kind of ask - obviously I was observing what everybody else was saying and I did find it useful just knowing they were there.' **FMC10**

Support and information were closely interlinked. Within FMB, when information or advice was sought both FMBs and FWBs used the opportunity to provide the requested information and to offer support, advice and encouragement (See FBAD 39);

FBAD 39 –

Hi all looking for some advice as regards a backwards body clock and cluster feeding! During the day time [redacted] will sleep and eat at 3 hour intervals with very little awake time in between. I sometimes even have to wake him for feeds however at night there is no sleeping what so ever, constant crying and wanting to be on and off the breast like a yo-yo! We simply can't carry on like this or have been poorly with an upset stomach and cramping for 3 days now and my other half of Exhausted too. I think we are going to stop breastfeeding as it's making us all un happy. I know when I resort to formula that I will feel gutted though like I have failed him. Is switching to formula really the answer or is there something else? I have expressed little bits but not much as was thinking this could also be another option? Bottle fed with breast milk during the night? All I know is I'm running myself into the ground xx

18 Comments Seen by everyone

You are doing great [redacted] I promise you it does not stay like X this forever, it all passes in the blink of an eye, but while you are in the middle of it you can feel very lonely indeed. Remember that you can post here whenever you need too and you could always call the breastfeeding helpline too if you need to sound off to someone. Remember also that there are breastfeeding groups, I think the one on Tuesday's has a health visitor there who is also a breastfeeding specialist so you will get some sound support there. Be kind to yourself [redacted] know that at this moment you are doing great. We all know how absolutely fabulous you are 🌟

Hi [redacted] - what I will say is that I had the same with [redacted] at this point, and picking baby up constantly with those stitches is rubbish eh!? - I ended up sat up with him literally all night and my back was in agony. It is completely your choice what ... [See More](#)
Like · Reply · March 7, 2016 at 1:13pm

You're doing amazing [redacted] 😊

Let us know how you get on - you are doing brilliantly Hun

Thanks everyone I have them a call and what I'm experiencing is very normal. I feel a little more positive now got a few things to try so going to see if that helps.

it sounds like you're doing brilliantly 🌟 please be reassured that none of this is unusual or abnormal and it will pass as the others have said. I'd definitely give the feeding team a call

Last night was a little easier we made one formula bottle at about midnight and managed to settle him before it was ready so didn't end up having it. He was sleeping and waking last night rather than just constantly awake which was good and we have realised I can't settle him at night as he uses me for comfort but will settle for so that's the plan going forwards. X

Throughout the study there was only one observable interaction that could have been perceived as being non-supportive; when FMB5 challenged FMB12s use of language and the word 'failure' in relation to breastfeeding (see FBAD 39 and 40).

FBAD 40 –

As far as formula feeding is concerned iv only ever bottle fed my 2 children and I certainly don't feel iv failed them 😞 I find that really upsetting. You do what's best for you and ur family. Hope you find ur feet and u have you happy little family again x
Like · Reply · March 7, 2016 at 1:29pm

Sorry I really didn't mean to upset you. I don't see formula feeding any different I mean from a personal point of view by changing it now and confusing etc. It's making me wish I formula fed from the start. I'm just wondering if is the night going to be any easier if formula fed anyway as the problem seems to be more with his sleeping rather than feeding. Xx
Like · Reply · March 7, 2016 at 1:55pm

How old is he now? Are u doing all the usual keeping it bright in the day with TV on and other house hold noises washer / dryer / Hoover and then at bed time gentle lights ie a lamp, or dimming the lights, Minimal noise etc that's what iv always done. I don't think for one minute you meant to upset me hun don't worry it's just this whole perception of breast strictly being better than formula. It's what works best for u and ur baby and u seem to be having a pretty miserable time. If u want to breast feed then don't give up hun u again do what's best. You're his mummy and I'm sure ur doing a fantastic job already 😊 x
Like · Reply · March 7, 2016 at 2:01pm · Edited

The issue was very quickly resolved with both Facemums responding in a conciliatory way. FMB12 referred to the encounter in her interview;

'There was only ever been one time and it's been me - and I didn't mean to, it was when I struggling breastfeeding and I was saying I really don't want to go to the bottle, I really don't want to give up breastfeeding - and I think I made it

sound like I think bottle feeding was bad... I offended a little bit, but ... I apologised and said I really didn't, that wasn't my intention at all, I'm sorry, and she was like oh no its fine...but that's the only time there has been anything and it wasn't intentional at all. Obviously you can't put emotions into Facebook can you, and it must have read like I was saying formula feeding is really terrible for them and that is not what I was saying, it isn't what I meant ...she said she wasn't offended so it wasn't an issue.' **FMC12**

FMB5 described '*not wanting to ruffle anyone's feathers*' but did not refer to the exchange directly. The FWBs did not intervene or comment at the time of the exchange but during their individual interviews both remembered the post and thought that moderation may be needed.

FMC3 referred to being aware that she had potentially upset another Facemum in relation to an article she posted on the site. The incident was immediately resolved with an apology but it appears from this incident that the apology was perhaps unnecessary as the responses seen in the FBAD illustrate (see FBAD 41);

FBAD 41 –

An interesting and honest read. Midwives are truly amazing. Felt slightly emotional reading it knowing how hard they work and how blessed I am to have my boy here x x x

I loved being a midwife but bullying, stress and fear made me resign

Like Comment Share

That's an upsetting read

Like · Reply · 1 · November 18, 2015 at 9:02am

Apologises that wasn't my intention xx

Like · Reply · 1 · November 18, 2015 at 9:28am

I mean for the midwife that she felt that she worked in a unit like that and couldn't get help when she needed it x

Like · Reply · November 18, 2015 at 9:58am

Of course I totally agree.x

Like · Reply · November 18, 2015 at 10:02am

Write a reply...



Both episodes appeared to relate more to the difficulties in interpreting emotion and meaning when communicating via social media, rather than actual disagreement or discord.

The general tone in both groups was positive and emotionally supportive (FBAD 42, 43 and 44);

FBAD 42 –



FBAD 43 –



FBAD 44 –



Facewives in both groups and Facemums in FMB provided positive emotional support, comfort and reassurance throughout the study.

Relationships

Relationships with other Facemums and Facewives were fundamental to the success of both groups. Relationships underpinned engagement and perceived support;

'I go on for support, like I said we have really got really close bonds.' **FMB12**

However, the groups functioned differently in respect of the interactions and strength of relationships between Facemums, and between Facemums and Facewives.

Relationships with the Facewives

Most Facemums stated that initially they had been interested in having a professional mother-midwife relationship with an online midwife but they did not explain what they thought this relationship would be like. However, Facemums recognised that over the course of the study the relationship felt less professional and more personal;

'It's not just oh this is a midwife...these are Facewives.' **FMB7**

Some of the Facemums said that the Facewives were like maternal figures or family members;

'I can only say I just felt really relaxed with both of them, I was so relaxed with both of them, they're kind of mother figures, I'm not sure, I don't think FWB2 is much older than me, but FWB1 is like a kind of mother figure if you know what I mean.' **FMB5**

Other Facemums related to Facewives more as friends or co-members;

'I'm sure that they could carry on giving advice but not as midwives, just as women as members of the group, but come on and say well actually the babies are getting beyond our realm anyway, and they will just come on and comment and just be more like friends really.' **FMB7**

'It's not just a midwife and a patient as such; it's a friend and a friend kind of thing. You're getting to know them...I keep remembering she put a picture of her dressing table up or something, it's really fab, and I love that, I think that's really important, to have that.' **FMB18**

The ongoing development of the relationship resulted in reciprocity and partnership between Facemums and Facewives, with FMB13 expressing concern about the wellbeing of Facewives;

'The thing I love as well is that the Facewives will talk about things that are happening in their lives as well so we are like friends. We know things about one another, all of us.' **FMB12 (FGo)**

'I always get worried thinking like are they not like tired and getting fed up of being...posting this group all the time' **FMB13**

'I think they're great and it's really good that you got to know them as well and it's not just, oh this is a Midwife. They're FWC1 and FWC2.' **FMC11**

'It was nice to see part of that.....and for them to get involved...because it gives them a more...you see their personality more and you can trust them more...I'll be really sad if they leave, it'll be like losing my right arm or something.' **FMC12**

'When I went into labour I knew FWC1 and FWC2... FWC2 appeared on the postnatal ward, she just appeared and she knew that I was there, it was just lovely and that's what I mean I think by the sense of community.' **FMC1**

Facemums commented that they didn't have the same relationships with their named NHS midwives;

'I think the relationship with FWC1 and FWC2 was totally different. They shared personal things with us...FWC1 and FWC2 let you in on their lives a little bit. Maybe that's not what the group was designed to do in the beginning...but it was just nice because you were sharing so much personal information with them, that they felt they could share it with you as well.' **FMC5**

Clinic appointments prohibited opportunities for constructive interactions and the development of strong relationships;

'You see the pressure, you see their diaries (midwives) you know how much pressure they're under so to start asking questions ...You know how busy midwives are, you know how much they've got to do.' **FMB7**

'It's not there, no, no (midwife-mother relationship)... basically she's got that list and those appointments to get through.' **FMB10**

Most Facemums were not able to create or sustain relationships with midwives other than the Facewives during their pregnancies;

'... I felt like I knew you when I met you even though I'd never seen you, I felt I knew you, because you know little things... I don't feel I know my own midwife. I don't have the same relationship with my own midwife as I have with FWB1 and FWB2 and because I do, I feel I know them, it's just different, you feel like you know them more.' **FMB1 (FG)**

'I'd never go to my own midwife, I've never phoned her, she was ok but ... I just didn't feel I could pick up the phone to her.' **FMB9**

'I think I've had three different midwives on three appointments everyone's lovely but have not had any continuity so I feel I can ask you guys more.' **FMC6 (FG)**

FMBs were aware that the FWBs were facilitating the growth of peer based relationships throughout the study;

We (Facemums) were talking about the fact that the Facewives seem to have backed off a little bit ... and the Facewives are sort of letting us flourish, it is been lovely to see how far some of us have come during the time and would I've never have realised I could have got that at the start of it.' **FMB7**

The FWBs recognised that as the study progresses the importance of facilitating relationships was as important as providing information;

'Actually, I think it became more that we were able to facilitate the development of relationships with those women that made their pregnancy...I guess they got the celebration of pregnancy, but from each other as well as from midwives.' **FWB1**

The FWBs discussed and planned a strategy for exiting the group but explained that their gradual withdrawal in respect of posting on the site was spontaneous. They reduced the number of proactive posts written to engage members and to create activity and discussion. They responded to posts and requests for information but found that they were no longer the experts in relation to the information requested and as such FMBs took the lead and FWBs input declined. Within FMB the preference for information to be provided by a trained professional was replaced with an acceptance that the unqualified members also possessed valuable context specific knowledge and experience.

'you get almost nonprofessional advice from the mums and that means as much is what the health professionals can say sometimes.' **FMB7**

I think I have probably learned much, more off other mums, being a first time mum... I've learned more from them than they have from me.' **FMB2**

FWCs saw their main responsibility as providing accurate evidence based information for the duration of the study;

'...so by giving the women on the group information and access to information to then enable them to challenge their care, if they weren't necessary getting a good plan.' **FWC2**

This understanding was shared by FMCs who expected the FWCs to provide answers to queries;

'Obviously I was observing what everybody else was saying and then I did find it useful that there were the midwives there to kind of answer people.' **FMC10**

Nonetheless the FWCs appreciated being able to get to know FMCs as they did not experience continuity in their substantive NHS posts;

'I don't get to know the women that I look after. I think my last shift I did four deliveries in 10 hours, so I did not know...I can't honestly say, I can say I didn't know any of those four women.' **FWC1**

'...I was emotional with it, because you get to know the women don't you, so it wasn't just...It wasn't your straightforward relationship - the continuity - was case loading.' **FWC2**

FWC1 said that she had talked to FMCs about exiting the group privately during the discussion group;

'I kind of told them at the group when I was chatting to each of them that was kind of me stepping back.' **FWC1**

FWCs left the group as professionals but did not return as group members.

The FWCs had conflicting perceptions about their relationships, both with each other and with the rest of the group. In respect of them being members of the group;

'I don't think we were group members.' **FWC1**

'I don't know. I think I was part of the group, you know, a couple of the women have subsequently like friend requested me, as like outside of the group... I can see it's fizzling already.' **FWC2**

They differed in opinion about their relationship: '

I think we worked quite well as a pair. We were always texting. We would text each other our rotas things like that.' **FWC1**

'It was a working relationship, well that was a little bit hit and miss, I have to say, insofar as FWC1 could be quite elusive sometime... I do feel like I got to know her a little bit more since having done the project, but we've not been out for drinks or anything like that... I did feel like very responsible, I couldn't be sure that FWC1 would have actually responded.' **FWC2**

Whereas the relationship between the FWBs was based on trust and friendship that strengthened over the course of the study;

'Yes it was key really, and I think, yeah, philosophy of care we definitely share, we are definitely on the same wavelength in terms of how we view women and relationships and all that sort of stuff. I think it's interesting in terms of I've got children and she's not, it did occur to me if she was the same as me, with young children, would that have been the same? Because obviously there were times when I wasn't on as much.' **FWB1**

'I think this has gelled that even more ... we have got a really good working relationship ... she's got a good understanding of my circumstances and I have got a good insight into hers, I've got a good understanding of her life and what she needs to work around... and it worked very well as a relationship, I think.' **FWB2**

The relationships between FMBs and FWBs were such that the benefits were reciprocal. FWB1 explained that the flexibility of the site and being able to have control over her workload resulted in better relationships for her as well as the Facemums;

'It was just brilliant. You've got work going on and I think the thing when you work for the NHS is that there's a massive institution, you're dealing with lots of different problems, but this was something I felt I had control over, and I felt I had access genuinely to women and their lives and caring for them... I wanted that opportunity to create relationships, and that's what the site's given me.' **FWB1**

Furthermore, she described using the group to keep her professionally motivated and wondered what would replace that motivation when the group ended;

'Sometimes, professionally the group would keep us going, and that was part of the hard thing about exit, was that 'What am I going to do?' **FWB1**

The FWBs felt that their relationships had evolved such that although they were called Facewives, at the end of the study they were group members with all the other Facemums;

'Actually, I think it became more that we were able to facilitate the development of relationships with those women that made their pregnancy...I guess they got the celebration of pregnancy, but from each other as well as from midwives, I still think they saw us more as women in the end.' **FWB1**

Relationships with Facemums

The relationships FMBs had with each other were mutually supportive and whilst recognising there were differences, they likened them to relationships with family and friends;

'it's like, say, a family and friends that you can go to and they're all going through the same thing...it is like a little family now.' **FMB13**

'it feels really good, it's great, it feels very good, it was lovely to share with somebody, like you got friends and family, but it's different, it's good... They're kind of like your aunties like, yeah like she's not your aunty but she's just kind of your neighbour...' **FMB17**

'...and you do you find yourself thinking during the day, I wonder if they're are alright, how are they getting on... from going into this you really built something up, and have a genuine concern for them.' **FMB7**

'You certainly feel like you know them and I'll speak to them a lot more than I'll speak to some of my friends sometimes.' **FMB1**

Whilst valuing the group, FMCs did not appreciate or perceive the relationships in quite the same way;

'I think it's lovely as well that we don't actually "know" each other so a different perspective than talking to "friends".' **FMC3**

FMB10 had a similar view to the FMCs;

'Gosh what are they to me, I mean I haven't met any of them except the first focus group... Yeah I don't know... like ... almost like colleagues really.'

FMB10

Nonetheless, rather than being hindered by a lack of face-to-face interaction for most the relationships appeared to be enhanced by a sense of anonymity. This did not detract from the sense of developing friendships;

'It's strange because it does have a degree of anonymity but it also feels that there's a friendship thing going on, you feel that people do care about you, but you don't have to immediately face them if you talk to them about your haemorrhoids.' **FMB7**

'It's a strange dynamic isn't it but I really do feel that I could share absolutely anything with them and in the same way I hope that they would feel that about me, but I could probably will pass them in the street and not know them... it is really weird... But it works.' **FMC1**

FMBs were aware that online relationships take time to develop and commented on their own shyness in the early stage of the group development;

'I was a bit sheepish at first... it did take a little bit for me to get out of my shell...but not long.' **FMB12**

'And I think the longer you been on it the more you like it and it appeals to you when you want to reach out to other people and share your own experiences.' **FMB8**

'It definitely feels that we chat more as a group now, whereas before it was more about asking questions of the Facewives. It's about us getting to know each other better over time and feeling more comfortable about talking about personal things, whereas it always felt ok to say straight to the Facewives.'

FMB6

FMCs did not comment about feeling shy or reluctant to engage in the group in the early stages. FMC10 commented on her lack of posts and suggested it was because she had no real problems and therefore no need to ask for advice or information. Thus reinforcing the perception that FMC site was based more on information than relationships;

'Probably the main reason was just that I didn't have kind of like any queries or anything to actually ask so if I would have had you know a pregnancy where I was having symptoms and is this normal or etcetera, then obviously I would have been able to use it more, but when you haven't got anything to kind of

ask so obviously I was observing what everybody else was saying and then I did find it useful that there was the midwives there to kind of answer people... But I couldn't really relate to the issues because it wasn't happening to me and stuff... And there are some things that you can't kind of really add anything to because you don't really know.' **FMC10**

In contrast FMC12 commented;

'But the social aspect of it all and the support network that you had with each other, this is the Facemums.' **FMC12**

This suggests that the socialising that did take place was important, but most of the engagement seen on the FBAD was initiated by FWCs and not FMCs. Despite this some of the FMCs talked about feeling a sense of belonging to the group;

'Being part of that is the biggest thing I've got from it... that cohesiveness.' **FMC11**

'I think the time that I felt that I was part of the group was when I had been in and out, and everybody was like how are you today and everybody was concerned, so I felt part of it.' **FMC5**

Whereas a sense of trust and belonging was evident for all of the FMBs;

'The group is already evolved; the Facemums are already a group with each other ...I think it's just like a little NCT group really...' **FMB6 (FG)**

'It is like a community even though we are not meeting up. We use it for support.' **FMB7**

'...it's a journey not just a small part, it's a massive part of having a baby, is not just a silly group, it is a big, it will be missed, it would be missed.' **FMB8**

'We have all grown together as a little unit. We have grown closer to each other and trust each other.' **FMB12 (FG)**

The Facemums groups functioned differently with different levels of reliance on the Facewives at different stages throughout the study. Nonetheless, all Facemums reported feeling positive about belonging to the group and highly valued Facemums at their respective sites.

Shared experience

Facemums suggested that the shared experience of pregnancy was an underpinning factor that created and resulted in perceived support and the development of mutually sustained relationships;

'It's lovely to share with somebody, ... these other women that you've proper connected with so if they're going through it you know that... yeah like it's normal, yet everybody is going through the same thing.... the same thing as you and you can relate to them.' **FMB17**

They did not feel that non-pregnant women could relate to their experiences the same way as pregnant women and having been pregnant previously was not enough. It was important for Facemums to be pregnant at the same time. In respect of sharing the pregnancy experience being simultaneously pregnant was more important than other factors including being related or being the same ethnicity;

'Just to share the experience... with new mums... because my experiences with my sister and my friends, they've all had babies, and it's that you know it all, not know it all in a negative way, but it's like you're new to this, I'm new to this, let's go through this experience together.' **FMC12**

'I don't think it matters if they're Asian or not ...because a mum is a mom everyone's pretty much going through the same thing.' **FMC17**

Some Facemums expressed that without the group they would not have had anybody to share with;

'It's good to talk to somebody who is in the same boat, because there's nobody.' **FMB1**

The verbatim comments in Table 22 illustrate how Facemums expressed their appreciation in being able to share their experiences with other pregnant women. This sharing led to feeling well supported which resulted in reducing feelings of loneliness and isolation that were experienced during pregnancy and the early postnatal period. Facemums commented that the shared experience was particularly valuable during night-time wakefulness in pregnancy and in the postnatal period (see Tables 22, 23 and 24).

There was clear agreement among Facemums that being part of the group and being able to share the pregnancy journey with other pregnant women was a good thing;

'You know everybody is going through the same thing and somebody will post something and you think oh that's what's happening to me and it's good to see and share.' **FMB10**

'It feels really good, it's great, it feels very good, it was lovely to share with somebody, like you got friends and family but it's different, it's was good, its people somebody you've been talking to couple of months.' **FMB17**

'Actually you as a group of women (Facemums) will understand this more than anybody else in the same way.' **FMC1**

Sharing both positive and negative experiences were equally important;

'It's interesting that you have said that you think it's about sharing happiness, because I think it's been about a bit of everything. I think people have shared that, but they also shared when they have been struggling with it all, when they have been feeling rotten and I think that's been good to hear - to hear that it's not all plain sailing for other people.' **FMB7**

The FWBs observed and commented on the importance of Facemums sharing their experience and experiences;

'I imagined at the beginning that we would be helping their choices and looking at that sort of side of things, health promotion, but maybe more about if somebody wanted to make a decision that was out of the guidelines or something, we could support them. I imagined it would be that sort of support that women needed, that you can see there is a definite need for. But it wasn't that, it was women sharing their experiences with each other, and they were supporting each other, and that was all changing.' **FWB1**

Facemums from both groups expressed satisfaction about being able to share their experience with other women in similar situations. It appeared to be pivotal in fostering relationships and promoting mutual engagement. Loneliness and isolation relating to pregnancy was expressed more commonly amongst FMBs but it is not clear if they experienced the feelings more or were more comfortable talking about them than FMCs. The positive impact of being a member of the group affected their perception of feeling lonely. FMBs implied that loneliness was new to them, was unique and specific to pregnancy and was initially caused by their reluctance to share news of the pregnancy before completion of the first trimester;

'You'd normally ask a friend but you don't tell anybody and your partner is in the same situation as you, and actually they had no idea what to expect.'
FMB1

'I couldn't really share anything with anybody, nobody else was pregnant at the time.' **FMB5**

FMCs did not directly talk about loneliness but did express their appreciation of being able to share their experience with other pregnant women and new mothers (See Tables 22, 23 and 24).

The simple act of being able to express feelings in real time, whether or not a response was forthcoming, was valuable to Facemums. This was evident in how much Facemums valued being able to 'rant'. Expressing feelings, which they felt were not entirely reasonable, to other Facemums who understood how they were feeling was important and felt collaborative. This type of 'rant' post was seen most commonly in FMB. FMCs identified the importance of sharing and talked about the shared experience but there was little FBAD evidence to suggest they did express their emotions or let off steam in a similar way to FMBs. Using the words contained within posts to search the site (rant, whinge, moan and let off steam), the frequency of these types of posts were ascertained. Thirteen posts were found on the FMB site. Each post generated multiple comments which showed support in the form of empathic comments and practical tips and advice (See FBAD 45, 46 and 47);

FBAD 45 –



The FMB rants were often simply off-loading without seeking advice;

FBAD 46 –

Hello Facewives - afraid it's me whinging again!!! I've still not felt 100% since the last post; feeling really odd. This is just a mega rant really so apologies in advance for the essay! I took my dad out for his bday yesterday and could hardly stay in a conversation. Once I got home the nausea was unreal, I was vowing never to eat ever again! My husband and I went on a lovely date today which we planned ages ago, which was ruined by my feeling rotten and I only ate a quarter of my meal. I got home at 3 and been in bed ever since, he's just run me a bath trying to help, but we now have unexpected guests and I'm hiding upstairs! I really don't feel like being nice to anyone, or eating, the heartburn is literally choking me, and the usual remedies aren't working. Ooooh so fed up and feeling sorry for myself!

On the plus side I'm so chuffed to see [redacted]'s new baby, absolutely gorgeous, and as we had same due dates I know it's not long til I see my little one and all this will be forgotten/worthwhile 😊❤️

FBAD 47 –

[redacted] Thanks everyone just needed to rant.. Xxx
Like · Reply · 📌 2 · April 27, 2016 at 8:16pm

However, on other occasions the FMBs were clearly looking for practical advice or information (see FBAD 48);

FBAD 48 –

Just a rant.. [redacted] was saying earlier about struggling to leave [redacted] - my sister pesters me about looking after her and sleepovers in future and I know she's excited but I'm just not ready and when I explain it she doesn't get it and just says you won't cope going back to work. I'm quite aware of this and when she's a bit bigger I may start feeling better about leaving her few hours here and there. It's so frustrating - I know I need me time but she's only [redacted] old 😞 how can I make people understand

👍 1

14 Comments

Other similar posts were important for the Facemums to share and help make sense of their experiences (see FBAD 49);

FBAD 49 –

Hey so something has been bothering me for a while I keep trying to remember the birth of _____ and that first hold. Although I remember it I don't remember it as well as I'd like too and I feel like when he came out and they gave him me I didn't really have much emotion, I was so relieved for it to be over and high on gas and air I just kinda sat there with no expression. My partner said it to me not long after we had him that I had no emotion and its played on my mind since. Then everything was a rush I was told to get out the water And then was trying to feed him whilst trying to deliver the placenta. And everything from then is just a massive blurr like I don't remember how long his first feed was I barely remember any feed in the hospital. Don't really know why I'm posting this suppose I'm just wondering if anyone else Has had anything similar?

15 Comments

Like Comment

This is me too!!!!

The first couple of weeks after I had her I cried because I felt like I couldn't remember it, it almost feels like that wasn't _____ I always say now I wish I could do it again so I could take it all in.... See More

Like · Reply · 1 · March 12, 2016 at 10:28pm

Hi _____, I didn't see _____ or hear her cry for around 10 minutes - it's something that upsets me often - I know it was for the best as she came out blue and needed help quickly to breathe - like you I don't remember how things happen as I was felt relieved like you it was over and high on a lot of strong drugs 😞 your post has made me actually think about it and reflect on it

Omg really I couldn't imagine what that is like not having them for so long and not being the first. I suppose yeh from being a child you see a painted picture of what it's like on films etc but it's nothing like it! 😊 xxx

Like · Reply · 1 · March 12, 2016 at 10:44pm

It was for the best, and I was expecting this massive 'rush' of emotion which never happened - I feel like my love for him has always been there, that's why I can't remember when it first 'happened' - as daft as that may sound 😊 I was also an absolute mess the following week, hormones were everywhere! I hope you're feeling ok hun, we're all here if ever you're feeling blue x

Like · Reply · March 12, 2016 at 10:58pm

Omg really I've been proper upset thinking how can I not remember everything properly it's the biggest thing to of ever happened to me! I thought I wasn't normal for it. Not that I'm glad you have both been upset but im glad I'm not alone on this, I feel better now. I couldn't imagine what that would be like _____ bet that was the longest 10 minutes of your life!

_____ I feel the same like I want to do it. Again so I can focus on them precious moments xx

This type of post was not evident on FMC. The same search terms found only one post which was a post from one of the Facewives relating to news in general (see FBAD 50);

FBAD 50 –



Although Facemums across both sites articulated the importance of sharing experiences, FBAD and comments in Tables 22, 23 and 24 illustrate different levels of engagement between the groups. The quotes within Table 22 illustrate the general feeling of importance that Facemums attributed to sharing the pregnancy experience with other pregnant women. Facemums wanted to know that what they were feeling was normal and that they were not alone in their experiences. Table 23 details quotes that relate specifically to nights, which Facemums reported as being particularly lonely times. Sharing the nights with other Facemums was deemed important and provided a sense of comfort and lessened feelings of isolation. Facemums described feeling isolated and lonely at night but also described feeling lonely or being alone at different stages during pregnancy (see Table 24). Membership of Facemums for FMBs was particularly important in alleviating feelings of loneliness

Reaching out to other Facemums was frequently raised during the individual interviews with the FMBs. They spoke about making the effort to reach out to other FMBs because they knew how the other Facemum was feeling;

'I think it's good that you know they're up and they feel exactly like you do, they're awake they're tired and they're doing exactly what I'm doing.' **FMB1**

FMBs said that they regularly looked for and gave support to other FMBs when they were awake in the night. However, looking through FBAD shows that late night/early morning postings were infrequent in both groups but this was not the perception amongst the FMBs. It may be that Facemums looked at their phones and felt comforted knowing other mothers were possibly awake, rather than being actually awake and communicating with them.

'I think if I'm awake in the wee small hours, it's the first thing that I look at. I've not actually typed anything up in the early hours of the morning but I just like

the comfort of knowing that someone else is there... or if you do put something on it does tell you how many people have seen it, so you know they're out there, it's like you got the little cup on a string and you're like hello hello, is anybody there and you're like yes me, me too.' **FMB8**

Facemums collectively agreed that 'night shifts' were tough and knowing or thinking somebody else was awake mattered and made them feel less isolated.

During the final FMC focus group, FMCs discussed being awake during the night and agreed that it was one of the more difficult aspects of new motherhood. They also said they wanted to share night-time wakefulness with somebody else. FMCs were aware of online groups which could help to dispel feelings of night time loneliness;

'Hashtag wide awake club on twitter, directed at people who are up doing the feeds, mums or dads up doing night-time feeds, and probably night-time workers as well - actually it's not all just baby stuff that's just what I see.'

FMC5

Unlike FMBs who felt that they were connected during the night, FMCs had not sought out fellow FMCs and did not perceive that they had virtual or actual company at night from other FMCs.

Both groups of Facemums reported early pregnancy (before sharing news of their pregnancies with family and friends) and night times as periods when they felt alone or lonely. FMBs reported that the group had alleviated and diminished those feelings and suggested that future Facemums groups should be initiated earlier to maximise the benefit. FMCs did not speak of feeling alone or lonely during pregnancy to the same extent as FMBs. Only FMC12 explicitly referred to feeling alone but it is unclear from the data as to why FMCs generally did not share this feeling.

Tables 22, 23 & 24. Shared Experience

Table 22. Shared experience quotes (general)	
FMB	FMC
<i>'to hear that everybody else felt the same that was really important.'</i> FMB1	<i>'it's about that sense of community, because I think it would be a shame if you lost that.'</i> FMC1
<i>'... it's more about support sometimes, people just go on there and want to have a moan and I have just gone there to share in it, sharing the tough times as well.'</i> FMB6	<i>'I just found it really nice to be talking to people who were just a step ahead of you like FMC3, or ones that were really close, like me and FMC10 were within days.'</i> FMC5
<i>'I can just pick my phone up go on the group and say to them you know it's been a really bad day today, I can't stop crying, just knowing that somebody else is going through it.'</i> FMB7	<i>'It's been really nice being in touch with people at the sort of the same stage as me in my pregnancy... I think it's just the realisation that you're not on your own, to be honest.'</i> FMC11
<i>'It's a feeling of ermmm ... feeling of... not unity... but you are all in it together kind of thing... Solidarity that's the word, I'd been thinking about word in three hours had to run you up to tell you, yes I think the solidarity of it everyone is in it.'</i> FMB8	<i>'...it was really nice going through the pregnancy with them all. I really enjoyed doing that. just to share the experience.....especially with new mums..... it's like you're new to this, I'm new to this, let's go through this experience together... We're all in the same position.'</i> FMC12
<i>'It's people going through the same thing as you at the same time ...its what's important.'</i> FMB10	<i>'I am not the only one going through this there are lots of other women you know, other women are going through your own experiences, - it helps me. I feel very happy that I have people who are also going through the same things they are in it together, we are in this together.'</i> FMC13
<i>'As I said we've all got common ground, we've all got a little one, we're all in the same boat, we're all a bit emotional ...'</i> FMB12	
<i>'Because obviously everyone's going through the same thing, aren't they...so like you just...you can just connect with them... when you're in a group and it's like, say, a family, and friends that you can go to and they're all going through the same thing, I think that's the most important thing.'</i> FMB13	
<i>'...it's just nice knowing that you have that, you know other women that are going through the same thing and there at the end of it.'</i> FMB16	
<i>'feels really good it's great it feels very good, it was lovely to share with somebody, like you got friends and family but it's different, it's was good, its people somebody you've been talking to couple of months.'</i> FMB17	

Table 23. Shared experience quotes (the night shift)	
FMB	FMC
<i>'if I see a post in the middle of the night and I'm up I always try and respond because there's nothing worse than it being 3 o'clock in the morning and feeling that you're the only one up, you're sat up, you're wide-awake and you put a post just hoping that someone will reply'</i> FMB1	<i>And you know, even in the middle of the night, you're up for a feed. I know you shouldn't have your phone next to you... someone else is awake...You just don't feel quite as isolated.'</i> FMC11
<i>'you'll see posts like 4 o'clock in the morning and it's really great because someone else is around...I've just been comforted knowing that I can put a</i>	<i>'...it's brill it really is good especially with night feeds in the middle of the night and I think I wonder what everyone's talking</i>

<p>message on at 3 o'clock in the morning and someone is there and it's just as important having somewhere to put it doesn't matter whether there's an answer or not, but it is really great if somebody says are you awake as well. It's nice.' FMB7</p>	<p>about and have a look, so it's good, it is really good because you know they're awake as well and you can catch up.' FMC3</p>
<p>you know there's going to be someone else up at that time in the morning-It can be quite low, I mean you're sitting there feeling quite down and lonely, because you're exhausted as well, and you just know there's going to be someone else there that's online looking and doing the same thing... just knowing that that support is there and like you just know...and as well, you know, like when you're in the early days especially, like when you're up at god knows what time in the morning.' FMB13</p>	

Table 24. Shared experience quotes (loneliness)	
FMB	FMC
<p>'You've got nothing else to talk about. But you don't want to kind of be like that to people that don't have children, because I don't think I want to keep going on about these things that they're not really that interested in. So, it's good to talk to somebody who is in the same boat, because there's nobody. You'd normally ask a friend but you don't tell anybody and your partner is in the same situation as you, and actually they had no idea what to expect. And obviously there's the second time round you know, you kind of have experienced a lot of things. And yes, some of the things you might have forgot but you remember the feeling of being worried, whereas I think when it's your first one and you can't talk to anybody about it.' FMB1</p>	<p>'it's like I'm going through that too. And I've gone through that and it is horrible and I feel for you completely. So, you know, you're not alone and you're not...you know...' FMC12</p>
<p>'I couldn't really share anything with anybody else, no-one was pregnant at the time but with these girls I could '... I think I added her as a friend because she seemed quite not lonely but kind of alone...' FMB5</p>	<p>'I didn't know any pregnant women so I thought it would be a good idea.' FMC14</p>
<p>'The Facemum's group was the only group I had at that point so that was why it was really important, to have those other people that were going through the same stuff.' FMB6</p>	
<p>'For me just that availability, knowing that somebody is there that you can talk to, it just makes it feel not so lonely going through it. FMB7</p>	
<p>'I can see how easily, without that group I can see how easy it would be to just feel on your own.' FMB8</p>	
<p>'I've said on that group already if I'm to get pregnant again and I don't have that access, I will feel alone, I will literally feel isolated. I mean I check in several times a day' FMB12</p>	
<p>'It's really nice to...I've not got many new mum friends, so that's a thing for me to say, 'Oh, do you want to meet up and we can do this with our babies?' Or whatever, which I thought was great.' FMB16</p>	

Safe space to share

The site provided a space for Facemums to share;

'It's like there's no holds barred, you can just ask anything' **FMB5**

'It's kind of like in a friendly place safe place where you can address it and look at it and I did feel a lot better, because I can see how easily, without that group I can see how easy it would be to just feel on your own.' **FMB8**

'I think it is important to have that safe place... It's a safe place; it's a place you can say yeah this is a bit shit.' **FMC1**

Sharing experiences and being able to off-load on the site enhanced the development of the relationships and generated a sense of connectedness;

'I know I can talk about boobs and bums and poo and whatever, and no one's going to be bored or switch off, in fact, everybody's really keen to...know what's happening.' **FMB13**

'It's nice that there's somewhere to put it because you wouldn't really talk to your neighbour about it ...I've got friends I wouldn't talk to it about' **FMB9**

The online nature of the site made it easier for Facemums to share with each other. This was particularly relevant when discussing sensitive issues or bodily functions;

'...discussing my pregnancy or my stitches or whatever ...it's quite nice to have that sort of private forum to have those discussions, the fact that it's kind of quite private and the fact that it's online it's easy to access to me it's brilliant.' **FMC1**

'I think that's one of the good things... you can have the community building but also you don't know someone so there's that kind of... you know if you were asking something embarrassing.' **FMC4**

'That's the whole point of it, because those are the questions that you don't want to ask, basically who do you ask, yeah, do you know what I mean? Because it's a private group, isn't it, so it's not as if anyone can just...we've all gone through the process of accepting what's going on in it and all that, so it's good really.' **FMB13**

The private status of the group was important to the women and further facilitated sharing;

'The fact that it makes you a bit more cohesive as a group, the shared experience which you kind of know you in a safe environment and that's quite nice really the fact that there's a few of you going through the same thing and that's much better than an open ongoing forum type thing.' **FMC1**

'That's why the group has been so good because you can put anything on there and you know it's private you know it can't be seen.' **FMB6 (FG)**

'...talked about topics that people don't necessarily bring up or they are difficult to talk about...it's things like that that have generated conversation... and you wouldn't get that when you go to a mother and baby group, they don't really want to talk about those kind of topics do they? You almost feel it's anonymous but it's not, so there are things that we may talk about that we may not necessarily chat to our friends about - you're not face-to-face with someone, so you can comfortably talk about it. It's strange because it does have a degree of anonymity but it also feels that there's a friendship thing going on. You feel that people do care about you, but you don't have to immediately face them if you talk to them about your haemorrhoids.' **FMB7**

The separateness of the group in relation to everyday social relationships and activities was seen as beneficial;

'You don't know someone so there's that kind of... you know if you were asking something embarrassing that you... Yes, maybe is good to have it completely separate.' **FMC4**

Facemums used a code when posts contained graphic or sensitive information - Too Much Information (TMI) posts. Facemums would highlight TMI alert at the beginning of the post, ostensibly to warn the other Facemums about the post content but also to articulate their embarrassment, as seen in FBAD 17. The majority of these posts were associated with normal physiological bodily functions. Eighteen TMI posts were posted on the FMB site and three posts at FMC (See FBAD 50, 51 and 52);

FBAD 50 –

Guys I'm really sorry this is a TMI post! My boobs have started leaking and it's freaking me the hell out!?! What do I do haha? I don't know why I'm so freaked out as I plan on breastfeeding I think it's because it's just hit home that it's actually happening?! I'm actually crying not sure if it's happiness, shock or just me being an emotional wreck haha! Sorry I know this is probably not a big deal what so ever! 😂🙄

👍 Like

💬 Comment

👤 Facewife and 1 other

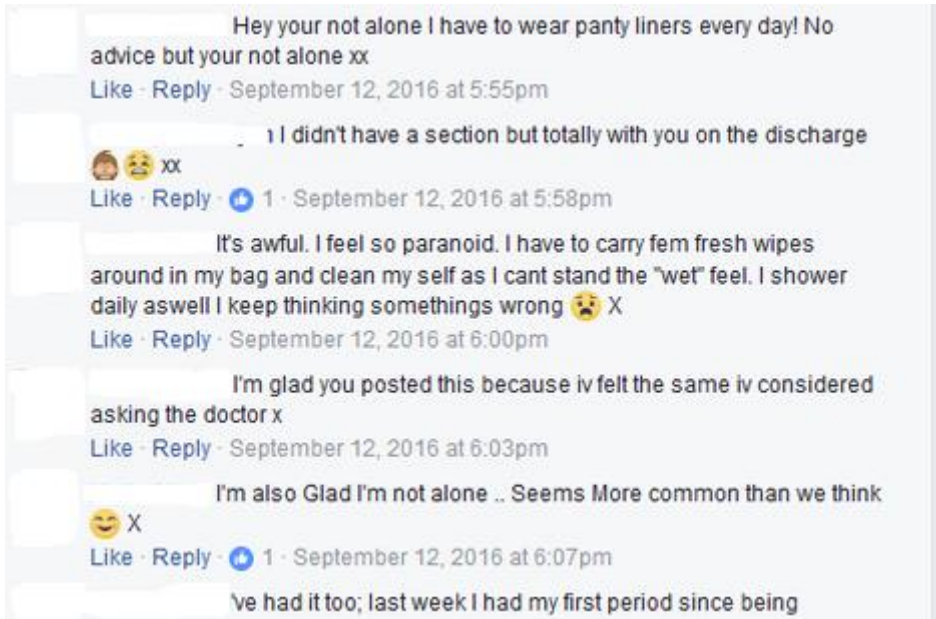
✓ Seen by everyone

FBAD 51 –

Hey ladies

I'm going to hide my face as i write this as its a TMI post but.. Ever since having a Csection my down stairs department hasn't been the same. After natural birth all is fine. After c-section I have lots of discharge 😞 it doesn't smell but it's just very watery & I have to wear panty liners now 😞 has anyone experienced this.

Is there anything I can take to slow it/stop it ? X



Facemums in both groups thought the TMI posts were a positive feature of the site and agreed that nothing was too much information;

Someone posted about the pessary yesterday - about the mucus and chalk like ...and then FMB1 was like yes that happened to me, if you can't ask it on there you can't ask it anywhere.' FMB3

'Some lovely people put too much information but what's really lovely as it's not too much information as you are all having a baby so that's what nice.'
FMC3

However, FMC3 suggested during her interview that some topic areas were off limits;

There has been some stuff that's been a bit euughh. There has been some stuff that I thought does that really need to be on there?' FMC3

None of the other Facemums from either site commented that any of the posts were inappropriate or unnecessary, and most commented that they enjoyed reading the TMI posts;

'I like the really gruesome stuff I really liked that, I liked reading that because it's real.' **FMB17**

FBAD 52 –

This might be tmi so ill prewarn but looking for advise - this early on is there a chance I can get pregnant (6 weeks post baby) earlier on my husband and I got intimate and as I've not been to the Drs yet for contraception we were careful however we think the condom split 😱😱 now I'm not sure what to do..whether to get the morning after pill or not?? - such a nightmare it's never happened before

If you're breastfeeding you may have some protection. Have you had your first period yet?

Like · Reply · March 5, 2016 at 10:24pm

I'm not breastfeeding as I couldn't get milk 😞 I'm not sure if I had a period as I stopped bleeding post baby & then started again about a week later for a few days (was gonna ask the dr)

Like · Reply · March 5, 2016 at 10:25pm

I'd get the morning after pill just to be safe. Your fertility is higher after just havin a baby xx

Like · Reply · March 5, 2016 at 10:30pm

Thanks I think I will have to for peace of mind if not anything else - thanks - typical isn't it 😞 xxx

Like · Reply · 1 · March 5, 2016 at 10:38pm

Haha yes. I'm still not takin my contraception 🙄 I'm not used to it. I've never taken any before we've just been extremely lucky xx

Like · Reply · 1 · March 5, 2016 at 10:41pm

Yeah you can get pregnant this early on. I thought you couldn't but learnt at my NCT classes that it can happen so definitely get the morning after pill for peace of mind x

Like · Reply · March 6, 2016 at 1:20am

Yes morning after pill definitely! Unless you want another one already?! 😊❤️👉👈😘

Within FMB the TMI posts were some of the most popular posts for generating mutual engagement. However, for the duration of the study at FMC, TMI posts were only answered by FWCs. FMCs did not comment (See FBAD 53);

FBAD 53 –

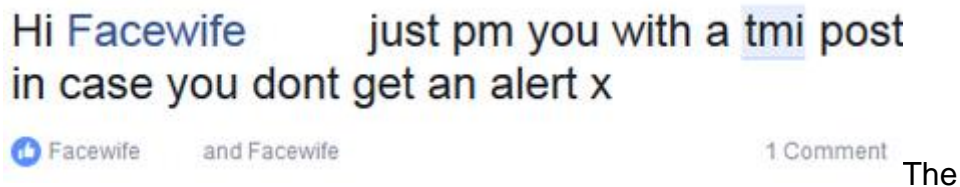
Please help ladies and lovely midwives. I'm in a lot of pain I my left nipple. (TMI) Its extremely painful and feels like its been razored or had hot oil poured on it. It looks swollen and is very warm to touch. How can I soothe this? I'm at work clasping one boob wincing in pain and the poor fellers I work with don't know how to react to my current boob problem 😞

7 Comments



Despite an apparent level of openness some Facemums preferred to talk to the Facewives privately (see FBAD 54);

FBAD 54 –



Facemums were able to speak to Facewives privately using the private messaging option. This option was only used on two occasions by FMB's but was used much more often by FMCs. The private messages covered a number of different subjects (see Table 25 and Table 26). FMCs gave a number of different reasons for using private messaging rather than posting on the main site wall. Two FMCs used private messaging because they did not want to scare the other FMCs;

'I think PM was better than worrying other mums.' **FMC5**

'I've sent them private messages, you know, not to scare the mums.' **FMC12**

Table 25. Private messages between Facewives and Facemums (FMB)

DATE	Facemum	Subject matter	Facewife and advice
27.08.15	FMB1	Constipation	FWB1 – dietary advice, fluids and movement
02.11.15	FMB7	Anxiety about birth. Request for Consultant midwife contact details	FWB2 – Cons mw/complementary therapy mw contact details. Hypnobirth info.

Table 26. Private messages between Facewives and Facemums (FMC)

DATE	Facemum	Subject matter	Facewife and advice
21.07.15	FMC5	Racing heartbeat	Effects of hormones but attend GP if other symptoms.
21.07.15	FMC5	Racing heartbeat	Effects of hormones but attend GP if other symptoms.
02.08.15	FMC7*	Abdominal pain	Attend GP
04.08.15	FMC7	Follow up re abdo pain	To contact FWC's if any problems
05.08.15	FMC5	PV bleed	FWC2 to attend EPU and follow up
06.08.15	FMC5	PV bleed	FWC2 attend EPU
10.08.15	FMC7	USS for gender reliability	FWC2 reliability info
11.08.15	FMC7	Confirmation of USS reliability	FWC confirmation
11.08.15	FMC5	PV bleed and HVS	FWC2 reassurance re fetal movements and f/u re PV loss
12.08.15	FMC5	PV bleeding	Ectropion advice and f/u
17.08.15	FMC5	Advice re HVS result and UTI	FWC2 – attend triage
29.08.15	FMC12	Volume of gig music – safety	FWC2 – usual safety advice
09.09.15	FMC6	VBAC discussion	FWC1 – referral to SoM
16.09.15	FMC6	?SROM	FWC1 – call triage
24.10.15	FMC5	Complaint re CMFT service	FWC1 – SoM referral
25.11.15	FMC5	Ectropion update	FWC2 – confirmation of f/u
26.11.15	FMC5	Discussion re EI LSCS	FWC2 – EI LSCS info
28.11.15	FMC5	PV bleeding	FWC2 – attend triage
04.12.15	FMC5	EI LSCS date	FWC2 - will try to visit
11.12.15	FMC4	Acne rosacea	FWC2 – GP and confirmation of AB safety
30.12.15	FMC5	Wound site/ sutures	FWC2 – triage or GP apt
01.01.16	FMC5	PV clots	FWC2 confirmed USS booked
14.02.16	FMC5	SoM debrief	FWC2

The private messages between FMCs and FWCs were diverse and cannot be clearly categorised as embarrassing or very sensitive. FMB4 stated that she did not want the private message sharing because it was not pregnancy related. She also identified that when she was feeling low she did not look to the group for support;

'I just felt really crap and I messaged I private messaged them and just said you know I did not want to put this on the group because it's not really

pregnancy related it's about my skin. I was having a down day and FWC2 really helped.' **FMC4**

However, it appeared that FMC4 was reluctant to share her honest feelings with the rest of the FMCs at all. Her posts were infrequent and during her interview before answering questions about her experience being part of the group she enquired;

'Is my name going to be used? Will the girls be able to read it?' **FMC4**

Although she described the group and membership positively she wanted to ensure she remained anonymous.

FMC3 did not think that the PM option was a positive feature of the site particularly when FMCs made references to their private messages on the main wall;

'The most annoying thing is it's really irritating is when people say I've PM'ed you FWC1 or FWC2 and I think this is a forum this is about pregnancy and we want to know what exactly a have you PM'ed FWC1 or FWC2 about? I want to know. Share it or don't bother saying it.' **FMC3**

However, FMC3 was also clear that she would not use either the PM function or post on the main site wall about sensitive issues;

'I would talk to friends about TMI but not on here.' **FMC3**

This comment did not align with her earlier comment;

'It's not too much information as you are all having a baby.' **FMC3**

The need or desire for privacy, whether it included the Facewives or not, was unique to FMCs and was not mentioned by any FMBs.

Facemums across both sites commented that they were careful about everything they posted on the site because they didn't want to create anxiety or worry;

'I didn't want to put people off and allude to things that might worry them. You don't want to worry those that are at different stages.' **FMB7**

'I didn't want to make anyone anxious...I definitely held back about one of the posts which someone had put on... I can't remember what it was about that I definitely held back I remember thinking I can't remember what it was but I know that I wanted to put you better off to be mentally prepared and know what's coming what was it about think maybe it was about induction... .. And then I did put if you want me to give you more of an honest, message me, but they didn't so I did say if you want more details but I didn't want to put on the post because I was protecting everybody else.' **FMB9**

'I think for me, there is an element of open speech marks ...oh my God I'm going to say something that's taken the wrong way.' **FMC1**

There was general feeling of concern and respect for other Facemums feelings;

'I will always be aware when I am on the group - that is not to say that I'm not being myself, it just means that I am thinking about the other mums.' **FMB8**

'I wouldn't share that with other women because I don't think it's beneficial... you know what it would have scared me to death so what's the point, so that's how I felt about it and I wouldn't have discussed it with anybody on there really...I think with all been really respectful for each other ... we have also been able to remain tight-lipped about other things because other people haven't been through it yet.' **FMC3**

This was particularly noticeable in relation to Facemums talking about their births.

Despite all Facemums talking about birth before they experienced it, few were forthcoming about the details of the event after they had given birth;

'Well I didn't want to scare anyone with everything that had gone on in mine. I think I felt I told them enough.' **FMC5**

'I didn't want to scare the mums... I don't think I would tell a pregnant woman...because it wasn't very nice.' **FMC12**

There was only one obvious comment specifically referring to labour and birth on the FMC site;

'somebody did actually put on, I think it was after us three had had our little ones and somebody actually put 'I feel a bit scared', and then it was like whoa lets zip backup a bit.' **FMC12**

Some of the FMCs stated that they would have valued more openness on the site;

'It's only after you've given birth that people start to talk about it ... and then suddenly they all want to talk about the birth stories and I'm like hey guys why didn't you tell me any of this before, I'm like if you have told me this two weeks ago that would have been really helpful why you telling me now, couldn't you have told me... it's really strange.' **FMC1**

'...but you know I found that really useful ...really useful...because it was a bit more realistic. I think somebody put a picture of their caesarean section scar on and I saw that and I'd never seen a section scar and that was really good.' **FMC4 (FG)**

The FMBs made plans to discuss birth stories after the focus group and the discussion took place over the following days (See FBAD 55 and Appendix 13);

'I'll tell my birth story to anyone who will listen. I think it would be nice to have a birth story session.' **FMB8 (FG)**

'I think so... we go on about everything else, I don't see why we wouldn't.'
FMB6 (FG)

FBAD 55 –



Facemums commented that feeling comfortable to share on the group was enhanced by the size of the membership. Facemums in both groups recognised that the size of the group was important on a number of different levels. They explained that they wanted to know the women and the professionals they were connecting with and because the group was small they could remember the names, details and stories;

'you feel you kind of know that she's got one, she's got two, (children) you can remember and that creates more of a little kind of community I think if there were loads of ...it would be like one of my classes at school. There's too many kids there, too many.' **FMC11**

'I think it is the perfect size... I think it was any bigger it would just get a bit swamped.' **FMB8**

'It's really difficult to know how many people should be in. Too small a group it might be intimate that it just might not work too big a group... I think a bigger group does work better but not too big but at the same time because you'll have some who choose to participate and some who may not, it's hard to know the right size.' **FMB7**

Facemums generally felt that because the groups were small enough they were able to relate the post to the actual person and their experience and not just the condition, sign or symptom;

'It's a bit more personal in a small a group, it's better.' **FMB5 (FGo)**

'Well I love the fact that I feel I know some of the girls now. We know a little about one another's backgrounds etc. and I think that's nice we can share that journey together. I don't know if I would feel left out a bit if it was a huge group. I probably wouldn't get as involved.' **FMB12 (FGo)**

However, FMCs wanted the group to be bigger to create more online activity;

'I think possibly if it could have been a bit bigger, I know that when we met in October the plan was to try and increase the size, but when you've obviously got so many women that were at that gestation it was obviously going to be difficult trying get them on board as the latest point.' **FMC10**

But they did not want the group to expand too much;

'...it'll become like a Netmums where it's a stream and it's not like there's your problem FMC5, how can we help you share your experience. It becomes that's a problem, that's a problem, I've got a problem, I've got a problem, I've got a problem and it sort of does that.' **FMC12**

Facemums were aware that site activity was dominated by a core of active users and that a balance had to be achieved to make the group effective;

'Well there are certain mums that are more active than others... they always put stuff on.' **FMC5**

'I think the group should be bigger just because there's more dominant posters, which is fine I love reading it, but then if it was bigger would give people more of the option to feel comfortable I suppose about themselves... that make sense? So, I would think a slightly bigger group up to about 25, yes because you'd still only get about 15 posters.' **FMC3**

They were aware that activity within the group was not just dependent on size because some members contributed more than others;

'I think the size the group is probably fine I think it's probably personalities that affect how the site is used... so I imagine that probably 20 is about fine because if there were 20 who were completely involved in the group it might feel a bit too much it might be a bit overwhelming.' **FMB6**

'It is only the hard core of us who put ourselves on there to try and give life to certain situations and things.' **FMC11**

Some FMCs explained that they were more likely to read the posts than to actively post content;

'I feel I don't really post as much as other people but I still really feel part of the group. Even if you just reading it, you could be going through the exact same thing but you've just not posted it and you can just learn from that, it is good to be part of something like that. It's better than to be just left alone because even though in pregnancy it's important to have, it's just as important afterwards as well you need that support just to help you through.' **FMB17**

'Obviously out of the group of people that you've got you are going to get some people that are going to be more prolific and will respond more. Some people probably like me, you know certainly finding everything very useful and looking at things but just not leaving a footprint to see.' **FMC10**

'I am very conscious I could have been more active in terms of posting on the site, but with everything going on I kind of drop back a bit... it's quite hard time sometimes to write what you thinking I find it much easier just to say it... you can kind of see that there is a nucleus and then there are some more outlier.... There are people like me who are a bit voyeuristic and not so much actively contributing, but I think you need that kind of balance you kind of need that social support to keep it going and you need some people that are more at arms-length really.' **FMC1**

FMBs were aware that some members did not post comments but read all of the posts and site content;

'And there is some people that you kind of just see in the background that don't ever comment or anything like that. But you can see that they are active on it because they've seen the post or they'll like something.' **FMB1**

'Well there are some people who really use it, so I would say this probably a group of us about 10 maybe 12 that use it constantly... And then there have been other people who have posted and said oh I've had my baby and I've kind of thought oh who are you?' **FMB6**

Non-active members were not viewed positively or negatively and were still regarded as group members;

'Some people are probably more busy than we are, they don't use it as much, but most of us tend to, there are only a small number that don't post very much.' **FMB2**

'I'm quite open to how like different other people are. Like I say, some people might just like to read and just look basically rather than...like get involved but it doesn't mean that they're not involved; they are watching and listening but...they might be shy or you know what I mean?' **FMB13**

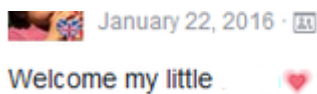
FMB11 was recognised by all of the FMBs as a group member despite the fact she did not contribute to the content on the site for the first thirty-one weeks of the study. FMB11 read all content but did not put likes by posts or make any comments;

'Well you know you can see, you know where it says seen by, she must have just read everything and taken everything in, because she has read some of the stuff that I put on, it's just like she doesn't reply.' **FMB3**

'I didn't even know FMB11 was on the group and then she popped up, was her little one poorly? Actually, I did notice she did post a picture when her little one was born, I did notice her then and I thought oh who's this lady, where have you come from?' **FMB16**

However, when she gave birth to her baby FMB11 shared the news with the group (See FBAD 56);

FBAD 56 –



All FMBs and both Facewives responded to her post and congratulated her (see FBAD 57);

FBAD 57 –





Following her birth announcement, FMB11 posted two further comments which related to her baby. She also commented on Facemums subsequent births. Eight weeks after the birth of her baby FMB11 posted photograph with a comment seeking advice from the group (see FBAD 58);

FBAD 58 –

Hello facemums. Need a piece of advice. What could it be? It seems painful. My little girl doesn't allow to touch it 😞.



22 Comments

Although the photograph was not very clear the correct advice was posted on the site within 11 minutes and a correct diagnosis was posted within 19 minutes. The post was seen by all Facemums and Facewives who offered their advice and support (see FBAD 59);

FBAD 59 –



22 responses were posted in relation to initial query and FMB11 liked each comment individually. The following day FMBs and FWBs tagged FMB11 sent their best wishes and asked if she and FMB11b were well. The FMBs not only provided support for FMB11 but gave accurate and timely advice which may have prevented a serious negative outcome for FMB11b. FMB11 intermittently posted and replied to comments

on the site thereafter. Although FMB11 declined to attend an individual interview she did send written feedback about the group to the researcher. FMB11 did not use the private messaging option during the study.

Positive affirmation

The most notable feature relating to data collected across both of the Facemums groups was the overwhelmingly positive thoughts and feelings expressed about Facemum membership. All Facemums described enjoying the experience and said they had benefited from being a group member. Although both groups started with the same premise they had evolved into groups with some significant differences. At the end of the research study FMB was strongly a relationship based group and FMC was more strongly information based. Regardless Facemums in both groups found the experience positive and did not identify any negative features.

Positive affirmations about the group were expressed throughout the study, online during focus groups and interviews, and during interactions between Facemums. Table 27 gives examples of positive affirmations from individual interviews and some comments posted on FMBs group pages. These comments include written feedback from FMB11 who declined to attend her individual interview or focus groups (online or face-to-face). These quotes represent only some of the positive comments from the Facemums. The experiences between the groups were different but the positive feedback was ongoing and ubiquitous.

Table 27. Positive Affirmations

Facemum	Positive Affirmation
FMB1	<p><i>'Love the group! Definitely helps this new mummy stay sane! We all support each other through both good and bad experiences. I think it's great. I just thought it was fantastic, it's amazing, just go and get advice. Everything has been great.'</i> (FGo)</p> <p>I can't thank you enough for all the help, support & advice. I don't know how I would have done it without this group. I'll be hunting you down if I have another baby! Xx</p>
FMB2	<p><i>'If I had another pregnancy I just don't know how I'd do without it, I could always just constantly ask, even my husband would say just ask. I mean I</i></p>

	<p><i>had scans every month and saw my consultant regularly but still it was really good to have someone else.'</i></p> <p>I cannot imagine having another baby without you all so when/if it happens I'll defo be sharing it with you all for advise again xxx</p>
FMB3	<i>'I wouldn't want to be pregnant again without it...I'll have to get pregnant again so we can carry it on...'</i> (FG)
FMB5	<i>'I've loved the group, I've loved it I absolutely have. My sister in law is pregnant now and I think to myself she should be on it now because I know that she'll love it I know that she'd love it.'</i>
FMB6	<i>'It's been brilliant I couldn't imagine being pregnant again and not having it, it has been such a helpful thing to have.'</i> (FG)
FMB7	<i>'It's as if we have always known each other. It really is something to have come from this.'</i>
FMB8	<p><i>This group 'normalised' everything for me ☺... I love how personal it is...the solidarity of it, everyone is in it, you're in a little sisterhood... made it feel very extra special really.'</i></p> <p>😞. I feel guilt: this is not the happy joyous post it deserves to be, but I want to use this group for what it's been so amazingly good for!!!</p>
FMB9	<i>'I think it has been fantastic and just so great.'</i>
FMB10	<i>'This has been quite a lifeline.'</i> (FG)
FMB11	<i>'I think it was a great idea to create this site and the group... mums who really need help or advice can always get it here.'</i>
FMB12	<p><i>'I don't actually know how I would have got through my pregnancy without it.'</i> (FGo)</p> <p>I feel so lucky to have been picked to take part in the research!</p>
FMB13	<i>'It's like, say, a family and friends that you can go to and they're all going through the same thing, I think that's the most important thing. I didn't think I'd need it as much as I did.'</i>
FMB16	<i>'You need support more than anything and that's what I liked about the group because it was really supportive, I did enjoy the group, I think if I was to do it again I probably would post more, you know just keeping in touch.'</i>

FMB17	<i>'It's just been great, even though I didn't put that much on, it's been great.'</i>
FMB18	<i>'I think it's an amazing idea, the support which is what was great, and it put you at ease, it was amazing.'</i> <i>You've been amazing and I really don't think I could have done it if it weren't for my daily dose of this page xx</i>
FMC1	<i>'It is my go to for mummy stuff.'</i>
FMC3	<i>'The support is great and FWC1 and FWC2 are just brilliant. It really is brill.'</i>
FMC4	<i>'I did really enjoy it, I really liked being part of the group, I really liked having that security, knowing that there was someone that they were there.'</i> (FG)
FMC5 FMC4 FMC3	<i>'I would need this group if I was pregnant again definitely.'</i> <i>'Me too!'</i> <i>'Me three FMC5!'</i> (FG)
FMC5	<i>'I love our little group and keeping up to date with everyone.'</i> (FG)
FMC10	<i>'I've spoken to so many people and told them all about this group, everyone I've kind of spoken to I've recommended it...But yes it was certainly useful.'</i>
FMC11	<i>'It's really good. To be part of it as well, it's been really good. You appreciate what other people haven't had.'</i>
FMC12	<i>'It has been a privilege to be part of this project and share this experience with all the other Facemums. I think it's amazing. I honestly do.'</i>
FMC13	<i>'For me it was all good because everybody I came in contact with they were very friendly, and there were people you could actually talk to, and I felt you could ask anything... it has really helped me as a person, so I found out, it personally helped me.'</i>
FMC14	<i>'It was so nice...nice to have all pregnant women, I was not the only one, having someone around, I was part of that group...I knew it would help me.'</i>

The positive feedback about being part of Facemums was not limited to Facemums. Facewives also expressed highly positive feelings about their participation in the group;

'Yeah it was good. It was beneficial for us... I just think for me, the best thing, I just felt a bit more like a midwife. That's genuinely the best thing that I found. It was more, like what you thought being a midwife was going to be.' **FWC1**

'I've thoroughly enjoyed it. I think it's been absolutely ground breaking really, in some senses and just like the women, I think about how lucky I've been to be part of it.' **FWC2**

'It's the best thing I've ever done, in terms of midwifery. Definitely, it was just...it was a lot more than I expected. Well, I don't even know really what we were expecting.' **FWB1**

'It just surprised me how good it was really, it was good because it was just beat my expectations from what I had in the beginning.' **FWB2**

During her interview FWB1 commented that the most special moment for her throughout the study was when she read a comment written by FMB13 posted on a different and public social media site;

'I think it was actually after the group, it was FMB13 posting on her own thing, about what the difference the group's made to her, and that was just like, 'Oh my God'- it wasn't for us she'd done it - and that was just really powerful, because I thought, oh my God, we really have made a massive difference in somebody's life.' **FWB1**

FMB18 was one of the less active members of FMB, quantified her satisfaction with the group when she commented;

'If the NHS couldn't provide it, I would - now that I've been in it and done it - I would absolutely pay to be in a group like that.' **FMB18**

The positive affirmations about FMB have continued long beyond the study duration. Twelve months after the research component of the group finished FMB7 posted (See FBAD 60);

FBAD 60 –



(Additional and express permission from FMB7 obtained to use this quote)

Summary

Both online communities perceived that they were well supported by each other and Facewives. Moreover, the relationships they shared with each other and Facewives were integral to their perception of support, despite the differences in the two communities. In addition to the repeated claim by Facemums that participation minimised the feeling of being alone, they suggested this was intimately related to their feelings of being connected to each other. The overwhelming positivity shown by all Facemums in both communities made analysis of any negativity almost impossible.

The key findings from this chapter are;

- Facemums in both groups felt supported by their fellow Facemums and the Facewives
- Facemums felt that sharing experiences helped to strengthen their relationships and create a sense of connectedness.
- The Facemums site was a safe space for Facemums to share experiences and stories, as well as information.
- The degree of sharing appeared to be related to the strength of relationships between Facemums.
- Facemums developed strong relationships with Facewives and chose them in preference to NHS midwives for information and support.
- The response to Facemums was overwhelmingly positive and Facemums perceived that membership improved their pregnancy experience.
- Relational continuity was achieved for all Facemums as a result of group membership.

Chapter 9 discusses the findings relating to information, support and shared experience. Prior to discussing these findings, some of the challenges and issues that arose during the research, and which relate to my personal development as a researcher are explored in a short reflexivity chapter (Chapter 8).

Chapter 8: Reflexivity

Introduction

Choosing to evaluate a funded project by PhD was challenging on multiple levels. I had anticipated that there might be tensions between HEE (the funding body) and the academic/research team but these did not transpire. There was no pressure to move the study in any particular direction or to focus on HEE outcome measures. Nonetheless the methodological approach was innovative and as such was challenging when creating the doctoral thesis. The qualitative methodology generated a significant amount of data which has resulted in a substantial thesis containing rich and complex data, with detailed descriptions. The volume of these data and depth of the Facemums descriptions led to the decision to separate findings from discussion, which is not a typical qualitative style. This has led to a significant amount of signposting and referencing within the discussion, but I felt it was the best way to ensure that important data were not omitted. Similarly, I have included and examined detailed demographic information about the Facemums because I felt it was important to know about the women whose experiences make up this work. Reflection on the personal characteristics about the researcher and those researched can and has informed this research, and it is important not to assume sameness about a group because of characteristics such as sex or pregnancy (Kvasny, Greenhill & Trauth, 2005). Unfortunately I was unable to comment on cultural, ethnic and religious diversity issues due to the nature of the self-selected sample which was largely made up white, British, educated and employed women. A more diverse group of women may benefit from membership of midwife moderated social media based group equally may have different needs which have not been raised in this study. Further research in this area is needed.

The greatest challenge in the study by far was managing my role as a researcher and practising midwife.

Midwife-researcher – managing dual roles

As the primary investigator observing live sites relating to and about midwifery information and support, my status as a clinical midwife, midwifery lecturer and SoM

had the potential to effect interactions and site activity. My presence could influence the quality of the data collected, in that it could increase or decrease disclosure from both Facemums and Facewives.

Site activity

None of the Facemums reported being aware of my presence on the site when they were engaging with the Facewives or other Facemums, but they said they were aware that I was reading all of the posts and comments. They knew this because within Facebook closed groups, the names of individuals who have viewed posts and comments are visible to all members. This visibility feature is automatically displayed in Facebook and unavoidable. Nonetheless, the Facemums said they were only reminded about my lurking when I posted information relating the focus group arrangements, to select the most convenient dates for maximum attendance or to remind them about upcoming events groups. There was nothing to suggest that the Facemums were influenced or affected by my presence as I did not engage in social dialogue or information provision to mothers.

I was also aware that my background presence could influence the midwife moderators responses. Midwives are accustomed to giving women information and facilitating decision-making but they are not used to doing so whilst being observed by their peers. Furthermore, I had been a personal tutor to two of the Facewives (FWB1 and FWC1) and a midwifery lecturer to FMB1, FWC1 and FWC2 and as such I was considered to be 'senior' to them. Consequently, there was a risk of Hawthorne effect (Adair, 1984; McCambridge, Witton & Elbourne, 2014), with the midwives behaving unnaturally because of my presence. Similarly, whilst midwives are accustomed to supporting and providing information to pregnant women and new mothers, they are not accustomed to documenting their responses verbatim or having their full replies observed by other professionals. With the additional challenge of providing information and support through a virtual medium that does not allow for nuance, body language or tone, I was aware that the Facewives may feel exposed and professionally vulnerable preparing documented answers to meet the professional standard of expectation (NMC, 2015)

Whilst I was aware of this, the research required that site activity was contemporaneously observed to mitigate risk. Additionally, the online activity was a source of data that was being analysed, thus my presence and observation were unavoidable. My strategy for addressing this potential source of stress for the Facewives was to remind them that they had the expertise in contemporary clinical practice, and to reassure them that their interactions were not being judged. My research interest was about the style of engagement rather than the content. I made a conscious decision not to comment about their posts or the professional information shared because I felt doing so would draw attention to the fact they were being observed. The Facewives reported feeling scrutinised at the start of the study but suggested that it had not affected their responses to posts. However, they did suggest that it took them much longer to prepare answers for Facemums than it would during a standard face-to-face consultation. They were not sure if this was because of the communication medium or because they were being observed.

Early discussions with the intention of reassuring the Facewives to continue with their usual practice revealed that the FWCs felt more aware of our presence than the FWBs. This may have been because the FWCs were less accustomed to engaging in professional dialogue online;

'I think that for me, as a Midwife, it was quite challenging, like from a point of view like, making sure that you got things right...sometimes, I was like over-thinking situations... I think the reason for that was because I was writing it down and that's perhaps defensive...not that I would ever say anything that I didn't stand by anyway, but sometimes, I think, sometimes you can give a response to a question, quite off the cuff and you probably will be right, generally, but like my initial reaction was: Oh, there's your answer and then I'd go, oh just let me check this, that and the other.' **FWC2**

FWC2 was clearly aware of being observed and of my presence on the site because she contacted me for a second opinion about a midwifery issue. When I did not respond to her request, she continued the dialogue away from the main site and used private messaging to continue the discussion. Dated field notes document my reactions and reflections.

Field Note: 17.08.2015 23.15hrs

FWC2 - Facebook Messenger seeking advice about info given to FMC5 at 21.00hrs. Non-acute situation, non-urgent response required. Routine scope of practice. ?reason for request ?My ability to see her advice ather than it being about her uncertainty about the correctness of the advice. Due to the time (22.51hrs)-decision made to respond in the morning. At 23.00 FWC2 messaged again to say she had resolved the situation and had advised FWC5 and didn't require any input.

Field Note: 29.08.15 16.00hrs

Private message review.

Re: FWC2s query on 17.08.15.

FWC2 privately messaged FMC5 to continue the conversation away from the main site and prevented a learning opportunity for the other Facemums. The request to conduct the message privately was from FWC2 not from FMC5.

Field note: 15.09.15

FWC2 privately asked FMC5 if she could discuss ectropions and vaginal bleeding in pregnancy on the site, so that other Facemums could learn from her experience. FMC5 agreed and FWC2 shared posts about ectropion and vaginal bleeding in pregnancy. FMC5 happy for FWC2 to share information with the group. ?after next focus group with Facewives discuss the whether conversations that aren't initiated privately should be moved into a private space? This willnot facilitate shared/unintentional learning

The reaction of FWC2 suggests that my presence did affect some of the interactions within the groups initially and my presence was not without influence (Rice & Ezzy, 1999).

When the sites were more established and the Facewives were accustomed to responding online they said my presence did not make a difference and they did not consider the research when responding to comments and queries.

'I would quickly give an answer, but then sometimes if it was something that was a little bit like, I need to check that, then I did, that's how I behaved.'

FWC2

'We didn't think about anything else, we just got on with it.' FWB2

During the research, there were occasions when I felt tension because I did not agree with the information the Facewives were sharing. This tension occurred when the Facewives informed Facemums and based their information on Trust policy and provision.

Field Note: 14.11.15

FWCs encouraging mothers to donate cord blood for Anthony Nolan Trust. I'm uncomfortable about midwives inviting third parties into the delivery room when I feel the focus should be on mum/baby attachment. Hospital policy is to offer all parents the option of donating cord blood. I understand the potential positive benefits of the research but whilst I am tempted to question this at the next meeting with the Facewives it is up to them if they think it is appropriate to bring an unknown third party into the delivery room. The ethical approval for this research states that I will only intervene if there is a risk and although I think there are some risks associated with this practice (the risk of focusing on stem cell collection and not optimising skin to skin contact) this research has been approved by the Trust and NHS ethics.

My role as a researcher was not to make a judgement or get involved about the advice or information shared unless it presented a risk, so although I was not entirely comfortable with the shared information, I felt it was not my place to intervene.

Observing but not contributing to the online activity on Facemums for over 35 weeks was difficult. Instinctively I wanted to engage with the Facemums, to inform and support them on their journeys towards new motherhood and I wanted to contribute to the information provided by the Facewives. Non-engagement was particularly difficult when I felt that Trust policies referred to by the Facewives were not based on best evidence. However, although it was difficult to be a voyeur, as the study progressed I realised my non-engagement was positive as it meant that there was sufficient distance between me and the Facemums to recognise the differences between the groups, in order to interpret and present the study findings.

Facemums disclosure and discussions

The individual interviews exposed my grounding as a clinical midwife more than researcher, than any other phase in the research process. During the first two interviews I realised the mothers wanted to talk about their births first and foremost,

this was their priority. Without intention, the first two interviews ran on for far longer than planned and exceeded over two hours each. I discussed this with my supervisors and explained that I did not want to stop the mothers from talking about their births, despite this not being an intended part of the research. They suggested allocating time before the interview formally commenced and prior to the digital recorder being switched on, to allow the mothers an opportunity to talk freely about their birth or any other issues (non-research but midwifery related). I advised Facemums in subsequent interviews that if they wanted to discuss their birth before discussing their Facemum experience I was happy and able to do so. All of the Facemums accepted the offer and spent a minimum of 30 minutes to 90 minutes enthusiastically talking about their birth experiences. I felt that it was unethical as a practising midwife to visit women so soon after their births and not allow them time to tell their stories or try to help them make sense of their experiences. Although this was not part of the study, it fitted with my desire to conduct research to improve women's' experiences of midwifery information and care during pregnancy, birth and early motherhood. It gave Facemums voice and an opportunity for an informal debrief. This also facilitated a degree of reciprocity, in that I was able to give the Facemums something back during the interview and was not just using them for their information (Oakley, 2016).

Having this free discussion time had two notable benefits. Firstly, it acted as an icebreaker to enhance the research based conversation, and secondly it allowed me to see if the Facemums individual information needs had been met in the antenatal period without asking direct questions.

It is questionable as to whether a researcher without midwifery experience could have engaged as well with the Facemums. My professional expertise and confidence in supporting mothers with new babies facilitated the research conversation. The discussion was not hampered because of distractions from crying babies or leaking breasts, I was very comfortable in the situation and was able to help and support the Facemums without losing sight of the discussion in hand.

The open discussion prior to focusing on their experiences of being part of Facemums provided an important opportunity for the women to discuss their maternity care generally;

Field note: 02.03.16 13.00hrs

FMC2 described her birth as 'easy' but had a massive obstetric haemorrhage post delivery. This was frightening and shocking and she had not been able to discuss it with anyone. She expressed how it was both upsetting and a relief to talk about it with me. On day 2 after having 'major' breastfeeding problems which were put down to tiredness and anaemia, her baby was found to have a cleft palate. FMC2 didn't want to share details of her birth on the group because it could scare other mums but she knew one of the other Facemums had a child with a cleft palate because she had seen the conversation between Facemum and Facewife. She 'tagged' the Facemum who provided her with a link to the Cleft lip and palate support group (CLAP). She found the group 'scary and depressing' and decided not to visit the site again. I was able to signpost her to SoMs and make a referral so she could be debriefed about events. FMC2 was discharged from maternity services when I met with her and described a gap in information and support post discharge.

On two occasions, SoMs were contacted due to reports of poor/substandard midwifery practice. Several issues were reported which illustrated poor hospital processes/policies and again with permission these were reported to the HoMs to be investigated. Without this discussion the women may not have been directed to other services or agencies which were important for their ongoing health and wellbeing (see Field note 02.03.17). The time pressures on midwives working in traditional models of maternity care means that women rarely get an opportunity to discuss their pregnancy and birth experiences with a midwife. My observation was that the individual interviews were as valuable for the Facemums as they were for the research. All Facemums commented on the Facemums wall or emailed me to thank me for the interview and for inviting them to be part of the study (See FBAD 61 and 62);

FBAD 61 –

Just had a lovely chat with Rosemary this afternoon and we came to the conclusion that I haven't posted very much, even tho I really enjoy reading all your posts I sometimes feel that I have nothing to add or that the questions had already been answered so I'm going to post a pic of my beautiful son smiling for the first time (and for the camera) and ask if you have captured any of your babies milestones ?

FBAD 62 –



Desirability bias

By sharing in the women's birth stories, enthusiastically listening and explaining uncertainties wherever possible, my relationship changed with individual Facemums. This too may have affected the resultant data collected and analysis. A degree of reciprocity was evident during the interview process, I asked Facemums about their births and they asked me about the project, mutual encouragement and appreciation was evident. Sharing birth stories and intimate processes is dependent on relationships, and creating bonds with women which enable midwives to develop therapeutic relationships (Savage, 2001; Farley 2003). Whilst I was not intending to engage in therapy, I was aware of the value of the exchange; formal opportunities to debrief following birth have been shown to provide benefits to psychological wellbeing (Lavender & Walkinshaw, 1998). Had I not been a midwife the significance of birth story narrative may have been overlooked and equally the Facemums desire to share may not have been so strong. The positive effects of this connection and sharing may have resulted in more positive reports about the research, and introduced a degree of desirability bias (Grimm, 2010). I slipped '*effortlessly and unconsciously*' into my clinical midwifery role (Carolan, 2003:12) and as such blurred the boundary between researcher and midwife. There was however, no evidence of desirability bias when the Facemums discussed the provision of NHS maternity care. They made frank and at times negative comments about the service and the

midwives within it, in full knowledge that I practised clinically as a midwife at a local hospital.

To conduct valuable and successful interviews it is important to invest into the process (Oakley, 2016). Being a midwife is part of what and who I am, and it would have been unnatural and possibly unethical for me to conceal that I was a midwife. Revealing that I was a midwife may have affected the degree of disclosure but I believe it enhanced rather than detracted from the process. The co-researcher, also a midwife, assumed the role of critical companion enabling me to actively reflect on the interviews and to be more reflexive throughout the whole research process (Titchen, 2001). Our shared midwifery knowledge was an integral part of this process.

Summary

This chapter has highlighted some of challenges faced when undertaking healthcare research as a healthcare professional. Reflexivity allows transparency in the research process to be demonstrated so that the research is considered to be authentic and trustworthy. I was reflexive throughout the research process, I reflected back and forth throughout every stage and considered how my perceptions and interpretations could be influencing the study. I have maintained self-awareness by keeping a research diary and making ad hoc field notes and re-visiting these at different points during the research. I discussed and presented my thoughts and ideas as they emerged with the supervisory team and the steering group. My supervisors who are not midwives and co-researcher, who is, challenged my assumptions and my positioning throughout the study. The steering group questioned my thinking and provided alternative viewpoints which enabled me to reflect throughout the process and consider my effect on the research process and influence on the discussions, disclosures and findings.

Chapter 9: Discussion

Introduction

A lack of information and support for pregnant women, poor midwifery continuity, absence of personalised care and a dearth of community and family support were the premise and drivers for this study. At the outset, the success of moderated online communities for pregnant women was unknown. This study has developed and delivered an intervention, evaluated and generated an evidence base to understand whether online communities can be fostered and investigated how different forms of community can exist to meet the needs of pregnant women. Simultaneously the research has captured unique knowledge to extend and challenge existing CoP theory.

The study findings clearly show that pregnant women are willing to engage with midwives online. In doing so they are empowered to manage personal information needs at their convenience. By accessing the same online midwives throughout pregnancy, women develop relationships which engender trust in the information provided and reduce the need to seek information from other sources. The level of trust in these online relationships, across both groups, surpassed that experienced in face-to-face encounters with NHS midwives. Furthermore, in one group (FMB) strong relationships developed between Facemums such that peer based information was equally accepted and trusted. This peer to peer support was not replicated in FMC who looked to Facewives for information throughout the study. However, regardless of the depth and extent of personal relationships, Facemums in both groups felt supported by their fellow Facemums and by Facewives, and were highly satisfied with the information provided. Across both groups the perception of support was felt, irrespective of whether support was forthcoming or not. Support was cultivated through shared experiences and an ensuing sense of connectedness.

This thesis reports that an online community can meet the information and support needs of pregnant women, providing a platform for sharing information, developing expertise and providing different types of support. The way and extent to which information and support needs were met depended in some part on the development

of the group and whether it became a CoP. This chapter will discuss the extent and ways in which information and support needs were met, how optimal conditions for information and support can be achieved, and how the relationships underpinning information and support provision map to CoP theory. Although CoP theory underpinned this thesis, Facemums did not speak about CoPs or CoP dimensions; they discussed information, support, and the shared experience. These features are relevant to CoPs but they are not explicit CoP dimensions (see Ch.2). Therefore the chapter ends with a discussion which relates the study findings to CoP dimensions and discusses why one group (FMB) is identified as a CoP but the other remains an online group.

Meeting information and support needs

Information

Information sharing is fundamental for CoP development and continuation (Wenger, 1998). CoPs provide the structure in which contextually relevant information is shared and provide the structure for potential knowledge creation. A community without focused information sharing and the potential to expand and create knowledge is not a CoP. However, when information is shared but originates from a single source within the community, nor is it CoP; it is not exhibiting CoP characteristics because within that community an individual carries responsibility for information provision and is considered to hold more knowledge than the community as a whole. Thus the 'community' in the CoP is rendered less important than an individual and the CoP concept is void. This concept is important when differentiating between Facemum groups because the way information was shared within the groups was significantly different, and the difference affected the evolution and recognition as FMB as a CoP. Therefore, as a fundamental component of CoP evolution and an overarching theme in the study findings, information need and information behaviours are explored further.

A need for information arises when there is a perceived '*difference between an ideal state of knowledge and the actual state of knowledge*' (Van de Wiinjegaert, 1999:463) whereas information behaviour describes the way that '*individuals perceive, seek, understand and use information in various life contexts*' (Case &

Given 2016:3). Information needs arise in all aspects of life but in pregnancy they are nearly always time limited and sometimes time critical. The traditional response to addressing information needs of pregnant women is to provide with them with information about all aspects of pregnancy at the outset, usually in leaflet form with some opportunities for discussion with a midwife or obstetrician during routine scheduled appointments (NICE, 2016; 2017). This approach is failing for several reasons; women state that that they do not get time to discuss concerns during their appointments (NHS England, 2016), they do not have access to midwives when their needs for information arise, and because they feel the information they are given is insufficient to meet their needs (Papen, 2013). These failings were recounted by the majority of the Facemums across both sites (Ch.6). Pregnant women value written sources of knowledge (Papen, 2013) but providing women with the same single source of printed information does not fit with the ethos of personalised care or meet their needs (NHS England, 2016; Papen, 2013). Social media enabled midwives to tailor information to meet the needs of Facemums by providing individualised online verbal responses linked to evidence based resources, and suggestions as to how to seek further information if required.

Analysis of the focus group data, individual interviews and FBAD suggests that that 'information' *per se* was a priority for Facemums. This is not surprising as it is well known that information seeking is an important part of preparing for motherhood (McKenzie, 2002). Importantly, women required information to be reliable and convenient, and the ability to differentiate fact from fiction and science from anecdote was an essential aspect of meeting their information needs. Facemums wanted the convenience of online access and the security of knowing the information was provided and sourced by a Registered Midwife, who was perceived to be a plausible and legitimate source of information.

Credibility

The importance of the credibility of the information source is in keeping with previous research in contexts where there are large volumes of potentially conflicting information (Papen, 2013, Rieh & Danielson, 2007; Sacks & Abenheim, 2013). Credibility is assessed by human judgement and credibility assessment relating to information sources are complex and context specific (Rieh & Danielson, 2007).

Individuals select multiple sources of information and use a number of different criteria to determine if the information and source of knowledge is credible to them (Papen, 2013; McKenzie, 2003). Individuals select people they trust and the information they share is accepted as valid. The people who are trusted act as 'cognitive authorities' (Wilson, 1983). The fundamental concept of cognitive authority is based on Wilson's (1983) assertion that people construct knowledge in two different ways; learning is either based on first hand personal experience or on what is learned second hand from others. Beyond the experience of their own lives people can only learn from what others have told them, but not all heresy is equally reliable. Only those individuals who are perceived to be trustworthy, competent and able to provide the information requested (which is believed and accepted) are cognitive authorities;

'The authority's influence on us is thought proper because he is thought credible, worthy of belief'

(Wilson, 1983:15)

Facewives were initially identified as the cognitive authorities in both groups. The data showing Facemums verified and checked information provided by other expert sources (i.e. not Facewives) (FBAD 1, FMC5, p164) indicated that this was based on perceptions of trustworthiness and reliability as much as expertise (see subsequent section- Relational Continuity, p278 and Appendix 11). When interviewed Facemums said they trusted Facewives over their NHS midwives which is surprising because at the outset of the study the Facewives were unknown to the Facemums and furthermore they were NHS midwives. The difference was the relationship between Facemums and Facewives was continuous; there were opportunities for ongoing dialogue, checking understanding and an unspoken recognition that the Facewives were still going to be there when decisions had been made and consequences were evident. Most Facemums commented that they did not see the same NHS midwives during routine appointments and therefore felt there was a risk that they might not be fully accountable for the advice given, whereas Facewives were deemed to be accountable (FMC5, p164).

Cognitive authorities are context specific and are not determined solely by their level of expertise (Wilson, 1983) which explains why Facemums checked information provided by ostensible experts such as obstetricians and Consultant Midwives.

Despite accepting that the 'expert' may have a superior level of knowledge and competence, the level of trust was not the same and therefore Facemums looked to their cognitive authority for final verification.

It can be difficult to identify why and how cognitive authorities become so, as the evaluation of cognitive authority is subjective and relative (Rieh, 2005:85). Traditionally midwives have challenged the concept of health professionals being 'specialists' in individual womens' pregnancies, instead encouraging the mother to assume the role of expert in their own health (Browne, O'Brien, Taylor et al., 2014; Hermansson & Martensson, 2011). Midwives have supported women in questioning the role of external experts, including other midwives and themselves, and have accepted the role of cognitive authority for pregnant women. Midwives do not claim to 'know' the most but act as advocates for women (NMC, 2015a; RCM, 2014) thus rendering them suitable for the role of cognitive authority as they consider the womans needs in conjunction with scientific evidence and alternative opinions. They have achieved this through developing informative and supportive relationships which aim to empower women to retain maternal autonomy (Hermansson & Martensson, 2011). Despite this underpinning midwifery philosophy, maternity services in the UK do not currently facilitate the an empowering and collaborative approach to midwifery care (Sandall et al, 2016; NHS, 2016), but Facemums provided a model which facilitated information sharing as part of ongoing and trusted relationships.

Cognitive authority is a fluid and context specific concept, this was evident as the study progressed, relationships formed between Facemums and differences between the two groups were exposed. FMBs were encouraged by FWBs to provide information and advice to each other. FWBs encouraged this by positively reinforcing information provided by Facemums and acknowledging their peer base of expertise (FBAD 35 & 36). In doing so FWBs promoted information sharing so that all Facemums could learn from each other regardless of whether they were experienced (parous) mothers or not (primigravid women). In their interviews the FWBs described how they intentionally delayed their responses to queries and signposted information requests back to the site and to information sourced and provided by Facemums (see Ch.6). The dynamics within the group changed with the FMBs moving from the

peripheries of the group and becoming more central to the group with less focus on FWBs, thereby demonstrating LPP (Wenger, 1998).

On completion of the study FWBs were not the only or even the primary source of accepted information. FWBs no longer had relevant professional credentials, that is they were not academically qualified in motherhood. FMBs developed trusting relationships with each other which led to them accepting each other as experts, thus illustrating not only LPP but the importance of context (FBAD13). Collectively FMBs became cognitive authorities because in the context of new motherhood they possessed the information, knowledge and experience sought after (Oliphant, 2009). The change from relying on the FWBs for information to expecting somebody within the group to know and provide it (FMB2, FMB6 p172; FMB7, p204) illustrates the development of a fundamental component of CoP concept; the belief that the community holds more knowledge than the individuals in isolation. This results in collective and individual knowledge advancement (Wenger, 1998; Johnson, 2001; Gheradi & Nicolini, 2000).

Throughout the study FMCs sought both scientific and anecdotally based information from FWCs but did not actively share or request information from the other Facemums (FMC10, pp205 & 209). There was an assumption and acceptance that the FWCs were the credible providers of information as opposed to FMCS. The FWCs knowledge and information was deemed more important than the knowledge held within the group and consequently the group did not assume shared responsibility for information provision. When FWCs were no longer the perceived experts they lost their position as the FMCs cognitive authority and the group dissolved. FMCs had not become alternative trusted sources of information and consequently the primary purpose for the groups existence dissipated (FMC12, p145).

Information becomes knowledge and has the potential to be empowering when it is integrated into an identity of participation, that is the information is known through involvement in relationships (Wenger, 1998). Without integration into social discourse and when separated from social practices, information can be disempowering, alienating and disconnected from reality. The act of participation transforms abstract

information into useable information and potential knowledge. At the beginning of the study Facewives in both groups provided information and facilitated understanding to enable Facemums to make sense of it. This mode of operating, with the FWCs as experts continued throughout FMCs group lifespan and LPP was not observed. In contrast, over the course of the study FMBs shared information through informal dialogue and spontaneous discussion unintentionally devolving the responsibility for information provision from Facewives alone, to being shared amongst the community. It is impossible to identify when this shift occurred, but it was clearly evident when at the end of the study the FWBs were invited to remain as part of the group, not as Facewives or midwives with externally acknowledged expertise, but as group members who were part of the community (Ch.5 Action cycle 3; Ch.6; FWB1, p207).

Whilst scientific and biomedical information retained theoretical supremacy, anecdotal, experiential and alternative stances were considered and negotiated within FMB. Opinions and support relating to breastfeeding illustrate the cognitive authority concept and shift. Prior to giving birth, all FMBs expressed their intention to breastfeed and acknowledged its superiority over artificial feeding. This intention to breastfeed was supported by FWBs through the provision of scientific information about the physical, social and emotional benefits of breastfeeding. However, after struggling with the practical realities of breastfeeding many FMBs sought a different perspective. This was provided mainly via FMBs who because of the changed circumstances provided information which was largely experiential and personal. Therefore, despite knowing and having previously accepted the biomedical/scientific information, the changed context meant that FMBs placed more value on lived experiences, and negotiated meaning within the group (Ch.2, p30, FBAD 17). Alternative opinions were offered and accepted (Oliphant 2009; Papen, 2013, Shaw, 2002) and new meaning was negotiated from the interpretations and experiences held within the group. Without the shift of cognitive authority from FWCs to all group members within FMC, negotiation of meaning was not possible. FMCs did not seek or share advice from each other and consequently opportunities to negotiate meaning did not arise. Thus a CoP element not seen (or possible) in FMC is clearly evident within FMB (Wenger, 1998) (See Ch.2, Tables 1 & 2).

Initially, Facemums wanted Facewives as cognitive authorities, to filter and synthesize information to facilitate their decision making. They wanted Facewives to provide anecdotal evidence and to express personal views which may or may not have been based on science. This paradox was evident in both groups and resonates with Papen's (2013) research which looked at pregnant women's information practices and found that women wanted '*authoritative knowledge...based on biomedical science*' (2013:9) but also wanted knowledge which challenged traditional sources of authority and was not science based (Papen, 2013). Facemums wanted multiple forms of knowledge from different sources with different authoritative claims. Facewives were trusted by Facemums to provide them with a range of diversely sourced information. Nonetheless, the FMBs shifted emphasis from individual information seeking behaviour from single sources, to being part of a collective of information practices, engaging with multiple forms of knowledge from different sources with different authoritative claims. The FMBs illustrate information practices as social practices rather than measurable skill based practices, and demonstrate that information seeking is not simply a cerebral, cognitive activity (Papen, 2013; Sundin, 2008).

Acknowledging the social component of information seeking as part of the theory of information practices is integral to CoP theory. It asserts that individuals will go to the people they know and trust to provide them with the information they need (Sudin 2008; Wenger, 1998). Information is received intentionally or unintentionally through interactions and as CoPs by nature consist of multiple individuals, the potential for multiple sources of information is apparent. Information convergence, using multiple sources to receive and validate information (Bernhardt & Felter, 2004) occurs as individuals find that some sources provide fast but less credible information and others more credible information that is less accessible (Bernhardt & Felter, 2004; Shie, McDaniel & Ke, 2008). The online communities in this study appeared to transcend both of these challenges by converging information in one setting. Convergence of more diverse sources of information was seen in FMBs with FMBs and FWBs providing evidence based and anecdotal information, whereas FMCs relied largely on the FWCs and their individual ability to converge information for them.

CoPs facilitate learning because of the multiple sources of expertise held within them. This was demonstrated in FMB. When information and knowledge are derived from a single source (Facewives), as happened in FMC, there is a lack of mutual engagement and the group does not meet CoP criteria. At best and with clear evidence of all other CoP dimensions, the CoP would constitute a negative CoP (see Ch.2, p44). Information convergence facilitates holistic information seeking and sharing and empowers women to remain in control of their pregnancies and to make their own choices regarding care options thus aligning with an underpinning midwifery philosophy.

Convenience

The information requested by Facemums at the beginning of the study related specifically to pregnancy i.e. the growing fetus, safety in pregnancy relating to diet, exercise, environment (see Table 22). However, as the study progressed the information seeking focused more on 'everyday life information seeking' (ELIS) (McKenzie, 2002). Facemums described reading all of the notifications and posts on the site even those which had no personal significance or obvious relevance. They read to be sociable, to meet an existing information need, and to encounter information that might be useful but which they weren't actively seeking (information encountering) (Case & Given, 2016). Information encountering was described as particularly useful by Facemums who explained that they didn't know what they needed to know.

The volume of information received at the start of the pregnancy can be overwhelming and may prevent incidental information encounters as women try to process essential information presented to them (Erdelez, 1999). Information encounters may be missed due to competing issues such as the need not to miss their name being called out, anxiety about the hospital environment, or caring for other children (Papen, 2013; Erdelez, 1999). The accessibility of social media, primarily through smart phone use, means that women can manage competing demands on their attention before engaging with the online community, thus maximising the potential for incidental information encountering and use. This type of information exchange could be used to satisfy pregnant women's information needs more effectively than the current model of providing expensive, potentially unwanted and unread

information leaflets. Furthermore, the information repository function of the sites (Ch.6, p186) negates the need for multiple leaflets as contemporary information and links are readily available and accessible to women.

The study demonstrated that Facemums found social media more convenient not only for incidental information encounters, but also for active information seeking. Information was retrieved in a convenient and timely manner because of asynchronous conversations (FMC12, p169). The high levels of satisfaction appeared to be related to Facemums being able to request information at their convenience as much as being able to retrieve the information (FMB7, p170). Asking the question, knowing that it had been put 'out there' provided the Facemums with a sense of security that had not been anticipated. Facemums accepted that Facewives would answer when they were able to and importantly would answer if it was urgent or time critical thus reassuring them and alleviating anxiety. This mutual understanding is a critical to the underpinning philosophy of a positive midwife-mother relationship and is based on partnership and collaboration and not power or control for either party. Without shared trust and respect, quality midwifery care cannot be achieved, thus potentially jeopardising opportunities for promoting optimal maternal wellbeing (Hunter, 2008; Kirkham, 2000). Facemums created real and mutually respectful midwife-mother relationships with opportunities to maximise maternal wellbeing.

Two phases of information processing and visible information practices were identified within the findings, which support McKenzies model of information seeking (2003). The phases of information processing (connecting and interacting), within four modes of information practice (active seeking and scanning, non-directed monitoring and by proxy) are visible within both groups. These phases (See Figure 8) illustrate the concept of information and knowledge being realised through relationships, whether intended or not (Wenger, 1998). Furthermore, although CoPs provide a framework for learning (Wenger, 1998), McKenzie's (2003) information seeking model illustrates that learning can occur regardless of whether a CoP has been formed as the behaviours were seen in both groups but to different extents (See Figure 8). There was more emphasis in FMC on active seeking, active scanning

and connecting, whereas within FMB there was more active scanning, non-directed monitoring and interacting.

Figure 8 – McKenzie (2003) modified two dimensional model of Information seeking with Facemums information practices in italics

MODE ↓	PHASE →	CONNECTING	INTERACTING
Active seeking <i>Evidenced in Facemums</i>		Actively seeking information with an identified source in a specific information ground <i>Logging onto the Facemums site with the intention of asking a question</i>	Asking a pre-planned question, active questioning strategies e.g. list making <i>Asking Facewife or Facemum a question</i>
Active scanning <i>Evidenced in Facemums</i>		Identifying a likely source in a likely information ground <i>Being on the Facemums to see what has been posted</i>	Identifying an opportunity to ask a question. Actively observing or listening <i>Asking Facewives or Facemums a question in response to something seen</i>
Non-directed monitoring <i>Evidenced in Facemums</i>		Serendipitous encounters in unexpected places <i>Receiving a notification linked to the group and following the link</i>	Observing or overhearing in unexpected setting, chatting with acquaintances <i>Following links, reading or engaging in the comments/discussion</i>
By proxy <i>Evidenced in Facemums</i>		Being identified as an information seeker. Being referred to a source through a gatekeeper <i>Being tagged in posts to read or share information</i>	Being told <i>Being told stories by Facemums or directly being given information by Facewives</i>

Information practices: may be used as counter strategies in the face of connection or communication barriers

Modified from McKenzie (2003:26)

The culmination of information convergence, fluid cognitive authority and the written word in conjunction with routine scheduled care, resulted in a comprehensive model which fulfilled Facemums complex and changing information needs, intentionally and unintentionally, meaning that they did not need to seek information elsewhere (Ch. 6). However, although all Facemums had their information needs met, FMBs needs were met by the whole group as opposed to FMCs who relied on Facewives for

information and knowledge. The FMBs engaged with each other but this mutual engagement was absent in FMC (See Ch. 2 Table 1 & 2).

Where there is a focus on information provision, there is a risk of it replacing care care (Spoel, 2009) but Facemums in the study had professional information provided via Facewives in addition to their routine and scheduled care. Empowering Facemums to make autonomous choices without risking substituting relationships or compromising care was possible, and was achieved within both groups (Salander & Moynihan, 2010). Facemums, as an adjunct to routine midwifery care not only addressed the information deficits associated with routine midwifery care but created opportunities for supportive professional and peer relationships to develop.

Support

Whilst Facemums initial motivation for joining the group was centred on the ability to access professional information, they also spoke about the importance of support. This initially focused on professional support (p191), but the positive effects of peer support were also recognised by both groups (p194). Neither support nor information were reported as being more or less important than each other, although Facemums in both groups joined primarily for professional information. Nonetheless, the perception of being well supported professionally was a constant theme across both groups. Facemums were not explicit about how Facewives or Facemums were supportive, just that they were (FMC5, p191). Much of the professional support described was linked with information and knowledge whereas the support associated with other Facemums was associated with shared experience.

Only FMB9 joined the group to meet other pregnant women (Ch. 6), other Facemums were very clear their motivation for joining was to access professional information. However, by the end of the study all Facemums, across both groups stated without prompt that support was an essential part of the group. Facemums did not rank or rate information over support or vice versa, however, within FMCs when the source of information was no longer perceived to be expert, the group dissolved, suggesting that information was in fact more important than support. In contrast, the FMBs shifted emphasis for information provision from the FWBs to the group as a whole,

thereby continuing the source of information and support, suggesting there is equal importance within a CoP.

House (1981) described four types of support behaviours - informational, emotional, appraisal and instrumental (see Table 28) which are clearly demonstrated within FMBs and can be observed between Facemums and Facewives, and between Facemums. Three support behaviours are seen within FMCs, and in the main the supportive interactions appear to be between Facewives and Facemums rather than between Facemums, although some peer support is seen. Instrumental support is the least commonly seen behaviour and is not evident in FMC.

Table 28. Support types and behaviours

Support type	Behaviour
Informational support <i>Evidenced in Facemums</i>	advice, suggestions, information for guidance and new perspectives on problem solving <i>FMB- between FWBs & FMBs, and between FMBs FMC – between FWCs and FMCs</i>
Emotional support <i>Evidenced in Facemums</i>	expressions of empathy, trust, acceptance, encouragement and reassurance of worth <i>FMB- between FWBs & FMBs, and between FMBs FMC – between FWCs and FMCs</i>
Appraisal support <i>Evidenced in Facemums</i>	emotional and informational support which is used for self-evaluation purposes <i>FMB- between FWBs & FMBs, and between FMBs FMC – between FWCs</i>
Instrumental support <i>Evidenced in Facemums</i>	tangible offers of assistance, goods or services <i>FMB- between FWBs & FMBs, and between FMBs</i>

Combined from House (1981) and Fleury (2009)

In relation to the positive effects of feeling supported, distinctions between types of support may be unimportant because the perception of being supported can as

beneficial as actually being supported (Wetherington et al., 1986). Having a strong sense of support creates an individual sense of confidence that facilitates coping without necessarily mobilising support resources (Gottlieb, 2010). Therefore, although FMCs did not appear to engage in supportive behaviours online as frequently as their FMB counterparts, the perception that they could if they wanted to, and that support would be forthcoming if required resulted in FMCs feeling supported (FMC10, p199).

Support can be broken down further into generalised and specific support (2005; Sarason & Sarason, 1990). Specific support relates to support that is focused on resolving identified problems or issues whereas generalised support relates to support that is available regardless of any particular stressors (Sarason & Sarason, 1990). Generalised and specific support were widely reported within FMBs whereas FMCs reported more specific support, in particular from Facewives. However, Facemums across both groups spoke about feeling supported. Findings in relation to the four support behaviours will now be discussed in turn.

Informational support

Facewives provided informational support from day one of live activity. The information ranged from that which was specifically requested, to general posts related to pregnancy (see FBAD 1, 3, 5, 6, 8). Facewives combined evidence based with anecdotal information (FBAD 9) and Facemums appreciated this. The provision of information is a type of support but does not appear to create the same feelings of connectedness as emotional support. This could explain why FMCs identified with the group less than FMBs as the support behaviours were more informational than emotional. Although FMC1 stated that the group was her *'go to for mummy stuff'* this appeared to be about information access and not necessarily other types of support. When FMCs had given birth and the FWCs no longer had relevant professional expertise, the group dissolved, suggesting that it was the expert information that held the group together rather than collective knowledge and support contained within the group.

When relationships had formed between FMBs they looked to each other for informational support (see Ch. 6). Even when the FWBs were explicitly named and

asked for information, the FMBs participated and shared stories, advice and opinions. This level of engagement and participation was not seen to the same extent within FMCs and consequently the sense of connectedness which is seen between CoP members (Wenger, 1998) was less evident.

Instrumental Support

Instrumental support is not commonly seen in online social groups as it refers to practical, tangible support that is difficult to demonstrate in an online environment. However, instrumental support is seen within FMBs. The clearest example (FBAD 14) is when FMB2 offers to ask her medical colleagues about the concerns FMB1 has about FMB1b. This represents instrumental support because FMB2 physically accesses resources that FMB1 does not have access to, in order to find information to assist her. Similarly when FMB13 was having relationship difficulties, in addition to offering words of support and advice FMB1 suggested they meet up for a coffee to get FMB13 'out of the house'. Although these actions could be seen as emotional support, they involved physical, tangible activity which would not have been seen otherwise within an online group. FMBs also suggested and created opportunities for each other to 'try out' baby slings and other such pieces of baby equipment, again this involved actual activity and moved Facemums from the security of their virtual environment. This instrumental support which required physical meetings between the FMBs did not occur within FMCs.

Appraisal support

Appraisal support can be seen as a type of informational and emotional support as it enables individuals to self-assess and evaluate performance and development. Appraisal support may be important for new mothers to feel confident about their mothering ability and parenting skills (Leahy-Warren, 2005). FMBs, because of their widespread engagement, were regularly able to give appraisal support. Initially this was elicited from Facewives as they confirmed and corroborated information shared among Facemums and regularly told individual Facemums that they were doing things well. As the group established however, Facemums appraised each other in relation to their coping ability and mothering skills. This type of appraisal post may have acted as a confidence booster for Facemums as their personal mothering,

advice or information was endorsed by both health professionals (Facewives), and their peers within the Facemums group.

The FMCs did not commonly engage in sharing information with each other and consequently the opportunities for appraisal support did not present as regularly. The examples of appraisal support on the FMC group relate largely to FWC1 and FWC2 validating each other. FWC1s comment about 'clearing up ridiculous advice' (FBAD 38), although said in humour, is value laden and may have influenced some FMCs reluctance to contribute, although nobody reported this in the focus groups or one to one interviews. In contrast, FWB1s comment illustrates the non-judgemental approach taken by the FWBs (FWB1, p196).

Emotional Support

Emotional support was seen throughout the study across both groups (See Ch.7; FBAD 9, 14, 16,17). Often emotional support underpinned information and advice, but both Facemums and Facewives in FMB also just offered words of support and encouragement (FBAD 42, 43). Emotional support in isolation was not seen as frequently within FMCs. Posts that were solely supportive were uncommon although the FWCs offered emotional support within the context of enquiry or informational posts (FBAD 44). In contrast the FMBs commonly endorsed each others posts by liking them even when they did not comment on them. This was not the custom in FMCs and most commonly posts were only acknowledged by Facewives or the individuals named in them.

This disparity highlights how Facemums approached the sites differently. FMBs used the group for support, information and sharing, whereas FMCs used the site more as an information forum. Although the FMCs enjoyed the presence of the other Facemums, their primary attraction and ongoing motivation to engage was their relationship with Facewives. A possible explanation for this is the is the different demographic makeup of the groups. The FMCs were older, with a higher level of education (See Ch.6 – Demographics). This may have meant that they were more able to mobilise support and resources from other sources, or did not want to access peer support online for fear of being judged (Negron, 2012). Whilst FMCs described feeling supported they often attributed the support to Facewives (FMC1, FMC3,

p192; FMC5, Appendix 11, column 2). The FMCs appreciated that their feelings would be understood by the other Facemums and would not be subject to criticism (FMC1, p219). Whilst this feeling was also described by FMBs they placed more emphasis on other support behaviours such as hearing the positive appraisals from other mums and not feeling isolated.

Alleviation of fear and anxiety

Facemums reported that the mutual support of mothers and midwives in both groups acted to alleviate the fear and anxieties caused by being pregnant. This expression of anxiety was ubiquitously reported by all Facemums from the moment they found out that they were pregnant. They repeatedly reported that the group alleviated anxiety through the constantly available peer support, and confidence that the explanations and knowledge transferred between Facemums and Facewives was accurate and reliable. The anxiety women experience during pregnancy appears to be attributable to the perceived risks they associate with decisions and choices they are responsible for making, which have impact on their pregnancies (Symon, 2006; Walsh et al., 2008). They fear doing something 'wrong' that could potentially harm their unborn child and want to do everything 'right'. Hence, their ongoing need for accurate, relevant and timely information. Women in both FMB and FMC reported alleviation of anxiety through information sharing and support.

Given the reported increase in perinatal mental health problems and their negative impact during the perinatal period (NHS England, 2017; Royal College of General Practitioners, 2017), interventions which reduce anxiety and improve mothers experiences during the perinatal period are imperative. In addition to the potential benefits to support positive perinatal mental health a satisfactory transition to motherhood is dependent on a positive experience of pregnancy. A larger study could demonstrate reduced perinatal intervention as well as an improved experience of motherhood in its entirety.

Optimal conditions for support

Social relationships

There was a difference between FWBs and FWCs in the degree to which they behaved 'socially' within their groups. From the start of the study the FWBs interacted with the FMBs in a professional way that was also sociable. They shared information about themselves, their families, their likes and dislikes and this was important to Facemums. The social interactions cemented the relationships between Facewives and Facemums. The FWCs were more reluctant to share aspects of their personal lives online and focused on the professional relationship (Ch.5, p135). Their reluctance to share appeared to inhibit the ongoing development of relationships, not only between Facewives and Facemums but also the between the Facemums themselves. That is not to suggest that the FMCs didn't appreciate or value the relationships they had with Facewives, they clearly did, but when they described their relationships with them the focus was on their professional role and the information they could provide (Appendix 11, column 1). The FMCs related to the FWCs as professionals midwives and not as group members. FMC3 was the most affectionate and positive about the FWCs and this may have been influenced by the fact that FWC1 was present during the birth of FMC3b thus strengthening her sense of personal connectedness (FMC3, p192). Contrastingly, the language used by the FMBs to describe the FWBs and the group in general was more emotive and suggested that they related to the FWBs as much as women and fellow group members as midwives (p204).

The early social interactions led by the FWBs resulted in participation and mutual engagement between group members. Social glue was created which appeared to lead to stronger feelings of connectedness and belonging (FMB1, p145) (Churchill, 2009). The FWBs facilitated group development through social dialogue so that it developed beyond social interactions with each other and evolved into a CoP. The FWCs particularly in the first three months of the study, did not spontaneously engage in social dialogue. There were some changes in the style of the comments and posts from the FWCs after the online engagement training (Ch. 5) but the FMCs did not significantly respond to the changed social tone or alter their posts or comments. The identity of the group was already fixed as an information forum and despite attempts to elicit more social dialogue the interactions and comments remained largely unchanged. The reluctance of the FMCs to engage in emotional exchanges was highlighted during the final focus group when FMC5 commented that

she had wanted the FWCs to initiate posts and comments that were not entirely information based (FMC5 p147). The FMCs had not detected the change in style or tone after the engagement training. The FMCs agreed that the site had not reached its full potential and expressed regret that it had failed to do so (see Ch. 5). The FMCs wanted more than information, they wanted relationships to go with the information. The absence of such relationships in FMCs relates to Wenger's concept of mutuality and mutual engagement, which refers to the relations of engagement that constitute the community. Without the relationships, and therefore without mutual engagement, the community is not a CoP.

Different kinds of situations require different kinds of social support and optimal matching models may ensure the support provided meets the support required (Cutrona, 1990). The necessity to match support to need can be illustrated by arguing that a wealthy bereaved man would not be consoled by offers of money, nor is it likely that a Nobel prize winner would need esteem (appraisal) support (Cutrona, 1990). Cutrona (1990) identified five dimensions to support that correspond with the four support behaviours described by House (1981) but adds the need for social integration or network support;

'social integration or network support (membership in a group where members share common interests and concerns)'

(Cutrona, 1990:7)

FMB support could be mapped to all the dimensions of Cutrona's (1990) model and matched the unique needs of the FMBs. FMCs had the potential as a group to meet all the dimensions of support but perhaps due to its late social connectivity or early dissolution, did not realise its full potential. Nonetheless, the positive effects of support within Facemums, both perceived and actual, are evident with Facemums describing their feelings of reassurance and lessened anxiety as a direct result of group membership.

Facemums – A Safe Place

Facemums from both sites identified that Facemums space was a safe place to share (Ch. 6). This safe space facilitated sharing which allowed them to overcome feelings of embarrassment and promoted the sharing of information and stories about

intimate, bodily and sensitive subjects. Feeny and Collins (2015) relate the concept of a safe haven to attachment behaviours such as seeking out closeness and support from relationships. This conceptualisation is based on Bowlby's notion of a safe haven in attachment theory (1984), and proposes that some support behaviours

'involve 'coming in' to a relationship for comfort, reassurance and assistance in times of stress'

(Feeny & Collins, 2015:3)

Relationships can represent a safe haven and good support providers are those who are able to restore an individual's sense of security by providing solutions to problems and emotional comfort (Feeny & Collins, 2015). Both groups of Facemums found the multiple relationships within the group constituted a safe haven for the specific purpose of pregnancy and new motherhood. The FMBs were more open and shared more than FMCs, again evidencing the emergence of a CoP where members engage freely and safely (Ch. 2, p45).

Facemums - A Source of Strength

Feeny and Collins (2015) argue that support is not only necessary for restoring feelings of personal security but is also vital for individuals to thrive. They argue that thriving i.e. personal growth, development and flourishing, is a fundamental support function which arises when support acts as a source of strength (SoS) (Feeny & Collins, 2015). Human flourishing theory further supports this by suggesting that individuals' potential for growth and development can be maximised through individual, group, and community relationships (Heron & Reason, 1997; Titchen & McCormack, 2010).

The Facemums sites were a safe space where Facemums could seek out and share advice, support and assistance, and offload worries and anxieties. The group space also provided an environment in which relationships and personal growth, learning and development could thrive and as such Facemums was a SoS support. Whilst it can be argued that pregnancy is not generally considered to be an adversity and therefore the 'thriving' did not result from adversity, nor is pregnancy stress free, it is known to be one of life's most stressful events which results in significant changes for women (Leigh & Milgrom, 2008). Providing midwife moderated social media based

groups to women during pregnancy may assist them in their transition to motherhood by becoming SoS support.

Individuals can not only be supported and have their sense of security restored through relationships, but can also thrive as a result of SoS support (Feeny & Collins, 2015). Facewives and Facemums, individually and collectively, demonstrated that they acted as a SoS. SoS support can only be achieved within a safe haven; all Facemums spoke about the site as being a unique and safe space for sharing issues related to pregnancy, birth and motherhood. When founded on the notion of a safe haven, SoS support promotes thriving through a series of processes, the first of which is *fortification*. Fortification results in the development of an individual's strengths by having the strengths identified and acknowledged by the SoS support (see Table 29). Clear examples of fortification are seen in FBAD when FMB12 was supported through the difficulties during early breastfeeding (FBAD 39). FMBs and FWBs recognised and identified and acknowledged the struggling individuals' resilience and strength, and drew attention to their spirit, tenacity and commitment. Suggestions and practical tips to enable the continuation of breastfeeding were offered. Facemums reinforced how much success had already been achieved and how ongoing success was possible (FBAD 39).

After fortification when the individual has summoned the required strength to continue, '*to stay in the game*' (Feeny & Collins, 2015:118), the *reconstruction* process takes place. This process reframes the adversity to create positive connections and to render the adversity as manageable, in order that it does not appear to be so intimidating or impossible (FBAD 39). Reconstructing adversities was observed when Facemums acknowledged the difficulties already experienced, but chose to refer to and focus on the strengths they already identified, thereby encouraging the continuation of breastfeeding (FBAD 39).

Whether the adversity (challenge) is successfully addressed or unsuccessful it is *reframed*. This can mean (in the case of success) that the adversity was not actually insurmountable, or in the case of failure i.e. breastfeeding discontinued and formula feeding commenced, that this is the the best result way forward for mother and baby (FBAD 39, 40). Fortification, reconstruction and reframing share similarities with

negotiation of meaning in that the members provide context and negotiate the meaning of knowledge, information and experiences which are fundamental elements of CoPs (Ch. 2, p30).

Facemums - Relational catalysts

The concept of support as a source of strength from which to thrive does not only relate to adversity. Supportive relationships can help people thrive without the presence of stress or adversity (Feeny & Collins, 2015). By engaging in relationships and the opportunities created as a result, positive wellbeing can be promoted by broadening and building resources. This support function is *relational catalyst* (RC) support which explains how support providers can act as catalysts for thriving. A series of processes also underpin the relational catalyst support theory for thriving. By validating goals and expressing enthusiasm about opportunities Facemums were able to *nurture desire* which is a key function of RC support and is essential for individual growth. *Perceptual assistance* encourages that opportunities are viewed positively and potential areas for personal growth and development are not missed. *Facilitating preparation* to harness life's opportunities involves developing plans, strategies and skills prior to providing the *launching function* of actual engagement and ongoing *capitalisation* to celebrate success (Feeny & Collins, 2015).

These RC processes can also be seen within the FMBs site with a clear example when FMB1 was considering returning to work. Over a series of days Facemums nurtured desire by encouraging FMB1 to see the positives for herself and FMB1b. They reminded her about being intellectually stimulated by work, being a positive role model and having better opportunities for the future with greater earning power. They also suggested that FMB1b would benefit from socialising with other babies, and family members acting as childminders would develop stronger relationships (perceptual assistance). Facilitating preparation activities were seen when Facemums and Facewives advised about having gradual introductions to nursery before work was resumed, planning expressing and storage of breast milk and tips to beat the exhaustion of being a working mother. The launching function support activity which relates to being available and staying connected, but not interfering with the opportunity was observed when Facemums wished her luck and checked in to see how she was managing. Arrangements to meet up with Facebabies were

focused around FMB1s availability to ensure she continued to feel included. Finally the group engaged in capitalisation by positively commenting and acknowledging FMB1s successful return to work and new identity as a working mother.

Mechanisms and processes for thriving through SoS and RC support are detailed in Table 29. All of these mechanisms were evidenced by FMBs and were seen at the focus group meetings, in FBAD or referred to in one to one interviews (see Table 29). Although some many of the mechanisms which typify SoS or RC support are evident in FMC activity data, there are no complete examples of all the stages of SoS or RC support . That is not to suggest that FMCs did not enjoy being part of the group or feel well supported. Rather, it may suggest that the relationships were more focused on informational support and as such did not create opportunities for the group to emerge as SoS or RC support.

The FWBs moderated FMB such that the group culture was one in which SoS and RC support prevailed, which facilitated flourishing. The FWBs developed these conditions by interacting in an intelligent, social and kind manner that brought about a culture of intelligent kindness (Ballat & Campling, 2011; Titchen & McCormack, 2010) (see subsequent heading – Intelligent Kindness).

The concept of thriving in the absence of adversity through participation in relationships is akin to social capital theory as it suggests that by engaging in relationships opportunities are created and positive wellbeing is promoted by broadening and building resources (Bourdieu, 1986; Feeny & Collins, 2015). Social support embedded in relationships is a key source of social capital which can be both a cause and effect of participating in social groups (LaCon, Godette & Hipp, 2008; Ellison Steinfield & Lampe, 2007; Putnam, 1995). Feeny and Collins' (2015) conceptual model builds on the concept of social capital by detailing the support behaviours which can achieve feelings of positive wellbeing and which were observed in FMBs as they evolved into a CoP.

Table 29. Source of Strength and Relational Catalyst support mechanisms.

Source of strength support (SoS) (support that strengthens as well as comforts in times of adversity)	Relational catalyst support (RC) (support that promotes engagement in life in non-adverse times)
<p>Definition: Functions to promote thriving through adversity, not only by buffering the negative effects of stress but also by helping others to emerge from the stressor in ways that enable them to flourish</p> <p>Components:</p> <ol style="list-style-type: none"> 1. Providing a safe haven—safety and protection; relief from burdens; emotional or physical comfort; a comfortable environment for the expression of negative emotion and vulnerability; expressing empathy, understanding, acceptance, reassurance; shielding and defending; tangible aid to alleviate adverse circumstances <i>(secret Facebook site, non-judgemental space)</i> 2. Providing fortification—assisting in the development/nurturing of strengths/talents; recognizing/nourishing latent abilities or helping to attain new ones <i>(appraisal support)</i> 3. Assisting in the reconstruction process—motivating and assisting one to get back up, stay in the game, use strengths to renew and rebuild the self, problem-solve, and cope with adversity in a positive manner <i>(emotional support)</i> 4. Assisting in reframing/redefining adversity as a mechanism for positive change <i>(emotional support)</i> 	<p>Definition: Functions to promote thriving through full participation in life opportunities for exploration, growth, and development in the absence of adversity</p> <p>Components:</p> <ol style="list-style-type: none"> 1. Nurturing a desire to create or seize opportunities for growth—expressing enthusiasm, validating goals and aspirations, encouraging individual to challenge or extend the self, leave one’s comfort zone <i>(emotional support, appraisal support)</i> 2. Providing perceptual assistance in the viewing of life opportunities—appraising opportunities as positive challenges vs. threats, assistance in recognizing opportunities <i>(appraisal support)</i> 3. Facilitating preparation for engagement in life opportunities - promoting the development of plans and strategies, development/recognition of skills and resources; providing instrumental or informational assistance; encouraging setting of attainable goals <i>(emotional support, informational support)</i> 4. Facilitating implementation by serving a launching function that enables one to fully engage in life opportunities by: <ol style="list-style-type: none"> a. Providing a secure base for exploration <i>(emotional, informational, appraisal support, TMI posts)</i> b. Supporting capitalization <i>(celebrating and sharing personal positive events, successes and achievements)</i> c. Assisting in tune-ups and adjustments; responding sensitively to failures/setbacks <i>(emotional support, appraisal support, sensitively responding to setbacks)</i> d. Perceiving and behaving toward individual in ways consistent with his/her ideal self <i>(emotional support, appraisal support)</i>

Adapted from Feeny and Collins Conceptual Framework for Thriving through relationships (2015:117)

Support is an important emotional tool for coping with life's stresses and is associated with positive health outcomes (Burlinson & MacGeorge, 2002). Previous research has suggested that high quality emotional support positively influences women's responses to pregnancy, birth and motherhood (Diniz et al., 2015; Meadows, 2011; Oakley, McPherson & Roberts, 1984) but much work has focused on specific stressors and adversity associated with pregnancy such as miscarriage or postnatal depression. Support in the absence of adversity can also facilitate personal growth and development and this was observed within Facemums (Feeny & Collins, 2015). Facemums reported feeling supported to such an extent that they expressed concern about subsequent pregnancies without the support of Facemums. This concern was voiced throughout Facemums suggesting the significant value of support in both groups despite their functioning differently. Irrespective of how support is defined Facemums demonstrated support or there was a perception of support from the group and/or the Facewives at every point in the study. Support was explicitly and ubiquitously reported as a benefit of Facemums.

Shared Experience

There was consensus amongst Facemums that sharing their pregnancy with pregnant women and new mothers improved their experience of pregnancy in general. The FMBs in particular admitted that they felt lonely and isolated, particularly in the first trimester of pregnancy, before the pregnancy had been announced to family, friends and other social groups. Facemums felt that their usual support networks were less able to offer support because initially they did not know about the pregnancy and when they did know they were not simultaneously experiencing pregnancy. Facemums were reluctant to announce news of their pregnancy before the completion of the first trimester for fear that the pregnancy would not continue. This delay further exacerbated feelings of isolation at a time when their anxiety levels were already heightened. Loneliness can be experienced by feelings of disconnectedness and isolation, and as the actual absence of crucial social relationships. The perception of being alone and isolated is as important as actually being alone (Mushtaq et al., 2014; Tiwari, 2013). Facemums from both groups stated that a relationship with a known midwife was crucial for support during pregnancy. They also identified that other pregnant women were vital for them to experience pregnancy feeling well supported. Thus, it can be concluded that crucial relationships

during pregnancy, birth and early motherhood include a known midwife and other pregnant women, but today's society means that not all women can access these relationships and feelings of loneliness can result.

There are 3 main types of loneliness; situational, developmental and internal (Tiwari, 2013). Situational loneliness can be caused by discrepancies between the levels of need and social contacts available (Tiwari, 2013). Pregnancy can elicit feelings of situational loneliness as expectant women can be both physically and emotionally separated from their non-pregnant friends (Rokach, 2004). Usual support networks are perceived to be less helpful as women feel separated from them by their changed physical status and changed behaviours, for example by not drinking alcohol or feeling the need to have more sleep. Whilst pregnant women are not generally considered to be ill they have an altered physiological state which usually becomes evident as pregnancy progresses. Pregnancy is clearly visible to outside observers as well as relatives and close friends, thus the pregnant woman is seen to be 'different'. Facemums strongly felt that only pregnant women would be able to fully appreciate this position, and the differences and consequences they were experiencing as a result of pregnancy (FMC1, p210). Regardless of other social demographics the actual state of 'being pregnant' created a sense of connectedness which Facemums felt could not be created without pregnancy (FMB8, Table 22).

Information sharing generates social glue which creates bonds and facilitates the development of relationships. Social glue is fundamental to the concept of shared encounters (Churchill, 2009). Sharing within FMBs was more prolific than within FMCs where the focus was on the midwifery information. The sharing of stories, information and experiences in FMB appears to have cemented the relationships thus creating stronger social glue, i.e. feelings of connectedness and stronger ties. Common life points, which can be likened to shared experiences, lead to more frequent interactions, with higher levels of interaction being related to higher levels of connectedness (Sanchiz et al., 2017). This may explain why the FMBs who interacted more frequently, continued as a community after completion of the study. Nonetheless, both groups reported feeling a sense of connectedness for the duration of the study. The principle of homophily underpins why the shared experience was so

important to Facemums and why both groups felt a sense of being connected despite engaging and forging relationships differently.

Homophily

Homophily is the sociological term used to explain ‘birds of a feather flock together’, that is human beings have a tendency to associate and connect with others who they see as being similar to themselves. The characteristics of homophily can be demographic, psychological or physical (McPherson, Smith-Lovin & Cook, 2001). Homophily is categorised as *baseline* which is the level of homophily that occurs by chance and *inbreeding* which refers to the level of homophily over and above this and is affected by personal preference and choice (McPherson et al., 2001). Homophily can be defined from two perspectives, status and values; status homophily relates to features which can determine status such as race, sex, age, occupation and education whereas value homophily is based on beliefs and attitudes such as political orientation or religious convictions (Lazarsfeld & Merton, 1954). Evidence consistently acknowledges the strength and effects of homophily (McPherson et al., 2001) but as yet it has not been suggested that pregnancy has status, or leads to values which are homophilous. This study however suggests that pregnancy results in homophily influenced by both status and value.

Pregnancy and motherhood are determined by sex, but pregnant women creating connections with other pregnant women are a combination of baseline and inbreeding homophily. Most adult women become mothers and consequently there are a greater number of women who are mothers than not, but women choosing to connect with other pregnant women during pregnancy is based on personal preference and choice (inbreeding homophily). Women choose friendship and networks with other pregnant women as opposed to there being more pregnant women by chance (baseline homophily). In the study, apart from Facewives, there were only pregnant women to connect with and the focus of the tie between Facemums was on the pregnancy itself. Discussing and sharing the physical and emotional experiences associated with pregnancy strengthened connections (FMC17, p210). A previous pregnancy was not a strong enough tie, it was important for Facemums to be in the same position at the same time, and this was as important to multiparous as primigravid Facemums (FMB5, p165; FMC12, p210).

People use those who are similar to themselves as a reference point for self-evaluation (Festinger, 1954). Non-pregnant women, in relation to the shared experience, are not similar to pregnant women. All Facemums knew other women who had been pregnant, had given birth and had children, but as non-pregnant women, they did not meet their needs for comparison. Comparing with others in the same situation is important to be able to evaluate and understand personal circumstances and events, and is needed to reassure, motivate and accept situations (Festinger, 1954). This may be particularly important for pregnant women as they undergo many physical changes throughout pregnancy and need ongoing comparison with other pregnant women to be able to share, compare and confirm normality. Non-pregnant women are too far removed even if they have previously had pregnancies and given birth. The need for sharing and comparison in pregnancy appeared to be more important than the strongest homophilous ties of family and ethnicity (FMC12, FMB17, p211).

The homophilous nature of the groups was enhanced by the shared virtual space. Close physical proximity strengthens the likelihood of developing friendships as the effort involved for contact is lessened and opportunities for face-to-face encounters are raised (McPherson et al., 2001). Although the geographical proximity of the Facemums varied in distance, the virtual environment was a place they regularly came together and thus became their neighbourhood. There were mixed opinions about the importance of Facemums being from the same geographical area with some Facemums seeing it as important and others less so (p196). A shared awareness of local geography and facilities was thought to be important in relation to shared stories about hospital visits and admissions. Facemums felt it helped them to understand each other's situations which could possibly enable them to form closer bonds. Small homophilous communities can often demonstrate a core-periphery arrangement where there are closely connected people at the core and a larger group of less connected people at the peripheries (McPherson et al., 2001). FMB6 alluded to this when she suggested that the FMBs who were not geographically close to each other would find it harder to maintain relationships (FMB6, p196). Close individual connections lead to greater interpersonal communication and thus stronger ties (McPherson, 2001) but the virtual space in Facemums promoted close connections which flourished regardless of physical proximity.

Granovetter (1973) categorised relationships based on their interpersonal tie strength. Strong ties refer to relationships with high levels of trust and connectedness, whereas weak ties refer to relationships with low levels of trust and connectedness. Status sources of homophily are more effective at creating ties than value sources, but whilst pregnancy is status based, pregnancy itself is transient and therefore values may be a more sustainable source of tie (McPherson & Lovin, 1987). Shared values however, may only become apparent through engagement and participation in relationships. The components of pregnancy and membership of a group in a shared virtual space created the potential for strong ties but these were not realised in both Facemums groups. The FMCs dissolved when the pregnancy and puerperium were complete suggesting that whilst pregnancy is a strong tie, motherhood itself does not create strong homophilous ties. The demographic similarity and Facemum to Facemum information sharing within the FMBs may have created stronger ties which made the group sustainable beyond the puerperium. The evolution of the group into a CoP created ties and connectedness which were not realised in FMC.

Intelligent Kindness

A unique feature and remarkable finding in this study was the positive and affirmative culture apparent in both groups. It was pervasive and evident in all interactions. On the rare occasions when there was some evidence of discord or disagreement, interactions continued with kindness (See Ch. 6).

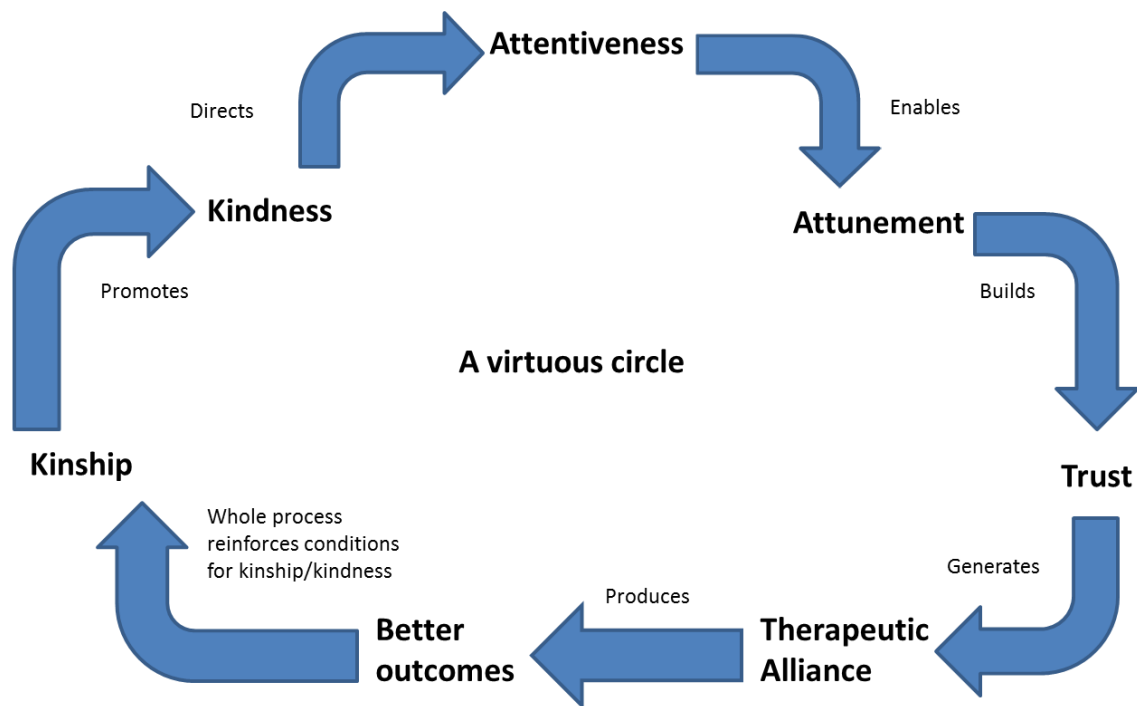
'Kindness implies the recognition of being of the same nature as others – being of a kind – in kinship'

Campling (2013:1)

The concept of kindness being part of kinship resonates with homophily and the understanding that people are more likely to co-operate and treat each other well if they are considered to be like family members. Certainly this was the case with FMBs who used familial terms to describe group members (FMB13, FMB17, p208). FMCs did not liken the group to family, but when talking about Facemums they did use positive terms and described the group affectionately, FMC4 was typical when she spoke about '*loving*' the group, despite the fact she emphatically stated that the main focus of her appreciation was the midwife access (FMC4, p161).

Referring to reports highlighting inhumane health care and neglect (Keogh, 2013; Francis, 2013), Campling (2013) emphasises the importance of intelligent kindness in health care and describes a virtuous circle which should underpin all interactions. The kindness and behaviours seen in both Facemums groups but which dominated in FMB mirror those identified Campling’s (2013) model (see Figure 9); Attentiveness enables individuals to become attuned to one another. Attunement builds trust which generates a therapeutic alliance resulting in better outcomes. The process of attentiveness, attunement and therapeutic alliances which result in improved outcomes reinforce the conditions for kinship which promotes kindness. Kindness results in attentiveness and so on and so forth, a cycle develops (see Figure 9).

Figure 9 – Campling (2013) Virtuous circle



Campling (2013:2)

Campling’s (2013) analysis of kindness in health care focused on ill patients and the complexity of caring for them within large systems, nevertheless the concept is relevant and applicable to modern maternity services which form part of the wider health care system. Large systems can be prone dysfunctional cultures such as that of perversion (Long, 2008). A culture of perversion presents when the system uses

people as a means to an end rather than as respected citizens (Long, 2008). Maternity services may be accused of having a dysfunctional culture if pregnant women are viewed as something to be managed or processed for the outcome (live birth of a baby) and options for care are not fully discussed and choices not respected. Within this type of dysfunctional environment 'a blind eye' is turned to unacceptable behaviours such as those reported in the Mid-Staffordshire NHS Trust inquiry (Francis, 2013). Maternity services are part of the vast NHS structure and are as susceptible to a dysfunctional culture as any other part of the service; they have not been untainted by criticisms of failing service users (Francis, 2013; Kirkup, 2015). There are clear examples of health care interactions in maternity services which are not underpinned by evidence or compassionate care as the mechanical delivery of processes and systems prevents individuals from developing positive relationships (Davis-Floyd, 1994; Kirkup, 2015). Facemums has demonstrated that moderated social media based groups can provide a mechanism for facilitating kind and compassionate interactions between mothers and midwives with the potential for wider positive implications within health services, between health care professionals and the wider patient population.

Compassionate connections were observed in both Facemums groups, between Facemums, and Facewives and Facemums. Facemums created a virtuous circle through which the intelligent and kind interactions extended beyond health professional and user, to a wider community of pregnant women. Facemums appreciated the opportunity to be in a kind and supportive environment which fostered personal motivation to be kind and supportive (FMB8, FMB 16, p196; FMB7, FMC1, FMC12, p199). Facewives and Facemums were attentive; they visited the group site often. They were attuned to each other because they were sharing the experience and they empathised with each other's concerns and vulnerabilities. The warmth and understanding in interactions led to decreasing levels of anxiety and increasing levels of trust. This facilitated the development of therapeutic alliances. Therapeutic alliances generally refer to relationships between psychotherapists and their clients and assume that the relationships serve the best interest of the client (Bachelor, 2013). The relationships between Facewives and Facemums and between Facemums became therapeutic alliances. The best interests of Facemums were met in a way similar to group therapy whereby individuals are able to make

positive and constructive use of the group members (Facemums), led by a non-judgemental and open therapist (Facewives) (Ballat & Campling, 2011). The improved outcomes for Facemums are improved access to filtered and synthesised information, the actual and perceived support felt by Facemums and inclusion in a positive shared experience throughout pregnancy and the early days of motherhood.

Facemums embodied the concepts of intelligent kindness, kinship and midwifery; women supporting and aiding each other through a period of transition. Kindness was

‘generated by an intellectual and emotional understanding that self-interest and the interests of others are bound together.’

(Ballat & Campling, 2011:5)

Online relational continuity facilitated trust and sharing which created virtuous circles of kindness and care (Campling, 2013).

Relational continuity

Given that Facemums joined the site to access a midwife, ostensibly for information, it is not surprising that a degree of informational continuity was achieved. What was unexpected however was that the Facewives became the preferred and primary source of information provision for Facemums. The reasons for this are manifold and include; availability, ease of access and the perceived trustworthiness of the source. Nonetheless, each of these reasons is linked with relational continuity; that is the information was accessed and trusted because of the relationship with the individual providing it. Had the Facewife had been part of a team or randomly allocated to the site by a manager on a daily basis the relational continuity may have been lost and the informational continuity compromised (Sandall et al., 2016; 2016a).

In the context of health, continuity is associated with improved care and is realised when relationships, information provision and management of care is ongoing (See Ch.1, p7). Relational continuity in maternity services is based on having a sustained and ongoing midwife-mother relationship. This type of continuity has the greatest influence on women’s experiences of care with mothers reporting higher levels of satisfaction with their childbirth experiences when relational continuity is realised (McLachlan et al., 2016; Sandall et al., 2016; Walsh & Devane, 2012). High quality

relationships can promote positivity throughout the childbirth continuum and relational continuity is fundamental to a positive childbearing experience (Dahlberg & Aune, 2013; Sandall et al., 2016; Sandall et al., 2016a).

Although continuity models of midwifery care have been advocated since 1993 widespread implementation has been unsuccessful and most women do not receive relational continuity (Kenny et al., 2015; McLachlan et al., 2016; NHS England, 2016; Sandall et al., 2016a). Midwives and mothers are unable to develop the high quality trusting relationships that impact so positively on health outcomes (Page & McCandlish, 2006; Renfrew et al., 2014). The unexpected finding in the Facemums study was that the crucial elements of relational continuity and informational continuity were realised, thus demonstrating that social media based communities can provide relational continuity.

The Facewives were Facemums' cognitive authority (Wilson, 1983); they were the known and trusted individuals and because of this Facemums did not feel the need to find alternative sources of information. Facewives became familiar with individual Facemums' histories, they knew the person not just the pregnant women, which meant that the frustrating and common problem of having to repeat histories or back stories to multiple health professionals was avoided (NHS England, 2016). Even when Facewives were unable to reply immediately Facemums did not seek out other information. The strong relationship and its ongoing nature meant that Facemums felt assured that they would receive accurate information when it was convenient for the Facewives to provide it. The relationship was reciprocal in that Facemums were considerate of the other demands Facewives may be experiencing. This meant that Facemums were comfortable asking for information when they thought about it, rather than waiting for an opportune moment that might never arise. Facemums could ask without hesitation, because they didn't feel that they were '*mithering*' (FMB10, FMB18 p170) or being over-demanding. Facemums placed significant importance on the fact that the information received was accurate and personalised and came from a midwife that they knew and trusted (FMB8, p175; FMC5, Appendix 11, columns 1 and 2).

Several Facemums described feeling 'silly' and unreasonable when they contacted NHS midwives about issues that they perceived to be minor, but that worried them nonetheless. They did not feel the same way when they contacted Facewives. This may have been due to the 'faceless' contact as more open information seeking and sharing can be aided by physical separation (Hasler, Ruthven & Buchanan, 2014; McKenna & Bargh, 1998). Facemums were not anonymous within the groups but the interactions were not face-to-face and this appeared to make it easier to ask for information and advice. Moreover, as Facemums knew that Facewives would reply when it was convenient for them to do so, they may have felt that they were not interrupting other more important work and consequently felt more comfortable making requests.

The lack of face-to-face interaction within Facemums did not negatively affect the development of important, positive midwife-mother relationships (Kirkham, 2010). Conversely, Facemums spoke of having stronger relationships with their Facewives than with their NHS midwives (FMB1, FMB5, FMB9, FMC6, p205). Even when Facemums reported good relationships with their NHS midwives the relationships with Facewives exceeded expectations. Valued relationships formed and relational continuity was achieved in the virtual meeting space despite the fact that the face-to-face contact between Facewives and Facemums was extremely limited and in some cases did not occur at all. This suggests that relationships between mothers and midwives are not determined by or dependent on face-to-face personal interactions, but ongoing accessibility to a known midwife is important for relational continuity to be realised and high levels of relational satisfaction can be achieved through online contact. Furthermore, it appears that interactions do not need to be specific or personal to the individual, but a sense of being available if and when required is important.

Relational continuity is not only important for mothers; it is also associated with increased job satisfaction for midwives (Kirkham et al., 2006; Newton et al., 2014; Warmelink et al., 2015). Moderating the group was viewed positively by the Facewives who expressed satisfaction in terms of their online contact with mothers, and the quality of their midwife/mother relationships, thus increasing their overall feelings of job satisfaction. Work life balance for midwives providing continuity has

been associated with occupational burnout and stress (Yoshida & Sandall, 2013) but it may be that by using social media to facilitate relational continuity midwives are afforded the flexibility that enables them to achieve job satisfaction and a positive work life balance (FWB1, p233). Facewives in the study did not report feeling stressed or overburdened by the Facewife role, but this may not be the case if the model was ongoing particularly if midwives treated the model as a social interaction rather than a job. Certainly, in first months of the study both FWB1 and FWB2 said they had difficulty not checking the group page even when they didn't need to. FWB2 revealed that if she woke in the night she would have a look at the site and FWB1 said that she had difficulty not looking when she was on her days off. However, they both argued that it was because they were excited by the group and it was not because they were anxious or felt obliged to look. Nonetheless, such commitment, even though unrequired and unrequested, could contribute to burn out in the long term if it was sustained. FWC2 likened being a Facewife to being a case-holding midwife (FWC2, p206) but in order for case holding to be positive for both midwives and mothers strong working partnerships (between midwives) are necessary (Devane et al., 2010). This strong professional relationship was evident between FWB1 and FWB2, but FWC2 felt less able to rely on FWC1 and this caused her stress and she felt additional pressure (FWC2, p206). FWC1 was unaware that FWC2 thought that she was unreliable. FWC1 did not report any problems with the working relationship or report feeling additional pressure.

Strong working partnerships between Facewives would be fundamental to avoid professional burnout if Facemums was rolled out as a potential continuity model (Sandall et al., 2016; Yoshida & Sandall, 2013). The midwives recruited for this study may have put themselves forward because of their positive bias to social media and this may not be the case amongst midwives generally. Despite having a positive bias to social media FWC2 felt a burden of responsibility, which was not experienced by the other Facewives. Measures to facilitate fairness and equity to ensure positive working partnerships would need to be considered if the Facemums model was to be adopted in practice. Nonetheless, in this study, despite some concerns from FWC2, the ability to provide continuity was described as liberating and enjoyable by all of the Facewives.

Facemums Bolton - A Maternal Community of Practice

An aim of this thesis was to discover if maternal CoPs could develop from online communities. The findings suggest that CoPs can evolve from social media based professionally moderated communities, and the dimensions of mutual engagement, joint enterprise and shared repertoire differentiate CoPs from other online communities. One major and several minor differences between groups were identified (see Table 30) and it is proposed that FMB represents a CoP and FMC is an online community. The dimension of mutual engagement and its inherent facilitation of relationship development is fundamental for CoP formation. It is this dimension: the interaction, participation and development of relationships between and amongst members, that differentiates the groups.

The main theme of support resonates with the concept of mutual engagement in that both focus on the interaction and engagement amongst and between Facemums. The Facemums described support in an abstract way, it was clearly felt but not explicit what it consisted of or exactly why it was important to the Facemums, nonetheless it was important. Similarly, mutual engagement which is intrinsically part of CoP concept, results from the social interaction *amongst and between* members and is necessary for participation. This dimension occurs in conjunction with joint enterprise and shared repertoire and is fundamental to a community being considered a CoP (See Table 1).

Joint enterprise is the shared interest, understanding and common endeavour that binds members together. In the context of Facemums, two features are analogous to joint enterprise; the interest in pregnancy, birth and motherhood brought about by their altered physical state (pregnancy) and the shared need for information. Facemums participation was initially motivated by a need for credible and trusted information. The common endeavour was to avoid misinformation and Facemums were bound by the belief that Facewives would meet their information needs.

Shared repertoire refers to the artefacts and history created by CoPs as part of their engagement and joint enterprise. A shared repertoire is evidenced in the FBAD during the 35 weeks of the study. The comments and posts comprise the shared

repertoire which represents Facemums journeys through pregnancy to motherhood. The 'bump' photographs shared within FMB were private and confidential and were not shared beyond the group. Photographs of baby rashes and caesarean section scars within FMC were shared and used to inform other Facemums about what to expect, again these were not shared outside of the group. Shared language and abbreviations are also part of shared repertoire. The 'TMI' abbreviation is used in common speech but meant something unique to Facemums, it alerted them to posts about pregnancy and birth bodily functions which they enjoyed reading and sharing. The term Facebabies evolved from the FMB group and was used to refer to their babies in comments and posts. The language which has meaning for Facemums but may not have the same meaning beyond the group and the site content represents their shared repertoire.

Despite both groups of Facemums ostensibly demonstrating all three CoP dimensions, between groups there are dimension differences which indicate that they were not both CoPs. Initially, the groups in this study were analogous; they were set up for the same purposes, with similar groups of women and midwives. Membership and easy access to members which are central to the notion of CoPs was the same for both groups of Facemums. Nevertheless FMB and FMC functioned and developed differently, and the differences are most closely connected to the concept of mutual engagement whereas the dimensions of joint enterprise and shared repertoire are more comparable. Table 30 charts the differences between the groups which are most notable in the dimension of mutual engagement.

Table 30. Mapping CoP dimensions to Facemums

Dimension	Characteristics	Mapped to study Findings	FMB	FMC
<p>Mutual engagement The social interaction and involvement between and amongst members, which is necessary for participation to occur.</p>	<p>Continuity of mutual relationships Shared ways of engaging in activities/practice Rapid and ongoing flow of information (grapevine) Absence of ceremony or order (informality) Ongoing and easily resumed conversations</p>	<p>Support – emotional, informational, appraisal and instrumental. Source of Strength support Relational Catalyst support Shared cognitive authority</p>	<p>Mutuality of engagement seen i.e. Engagement between FWs and FMs for the duration of the study and post study - information based and social dialogue Engagement between FMs for the duration of the study and post study – information based and social dialogue FWs re-joining group as non-professional members</p>	<p>No mutual engagement. Engagement between FMs and FWs for the duration of the study – information based dialogue with some limited social dialogue Engagement between FMs for the duration of the study – occasional social dialogue</p>
<p>Joint enterprise The shared understanding, interest and common endeavour that binds the members together</p>	<p>Problems identified quickly without extensive background Awareness of member’s strengths, weaknesses, competence, expertise. Shared evaluation of effectiveness and appropriateness of actions Overlap in members descriptions of who belongs</p>	<p>Information exchange Informational support Appraisal support Learning</p>	<p>Exchange of pregnancy, birth and motherhood related information Shared accountability for information Learning attributed to FWB and FMBs and to resources provided by FWBs and FMBs</p>	<p>Exchange of pregnancy, birth and motherhood related information FWC accountability for information Learning attributed to FWC and to resources provided by FWCs</p>
<p>Shared repertoire The ongoing development of shared resources such as stories, language, symbols and history</p>	<p>Common tools, stories and language Behaviour patterns and interactions recognisable as a sign of membership Common standpoint about the relevant external environment</p>	<p>Shared experience Positive affirmation</p>	<p>FBAD (info repository) FWBs, FMBs, Facebabies Bump photos Birth announcement and photos Baby photos Too much information (TMI) posts Catch-up Friday posts Mutual disregard of alternative SoMe sites</p>	<p>FBAD (info repository) FWCs, FMCs, Facebabies Baby shower photos Baby photos Birth announcement and photos TMI posts Mutual disregard of alternative SoMe sites</p>

Facemums and Mutual Engagement

CoPs are not simply a network of interpersonal relations through which information flows: *'not just an aggregate of people defined by some characteristic'* (Wenger, 1998:74). A CoP reflects the shared enterprise (in Facemums, an informed and supported pregnancy experience) and the attendant social relations which result in learning (Wenger, 1998). Facemums in both groups originally sought information and advice from Facewives but by the end of the study the FMBs sought information and advice from each other. They engaged with each other in a social way and recognised over time that as a collective, they held more information than any of the individuals within the group. The coherence that transforms mutual engagement into a CoP requires work (Wenger, 1998), this work was initially undertaken by the FWBs. They achieved unity through regular participation and active encouragement and facilitation of relationships between and amongst Facemums. This created the mutuality of engagement necessary for a CoP to emerge (Wenger, 1998). The relationships FMBs developed with each other led to an understanding that individually and collectively, they could give and receive information, support and advice from one another thus aiding their transition into motherhood.

Conversely the FMCs, who also developed relationships with each other, did not look to each other for information and advice. The FWCs were the focus of the group and were seen as the cognitive authority throughout the study. The FMCs were not mutually engaged. They did not look to the community for information, expertise or knowing instead they relied on the Facewives.

Mutuality depends on the strength of personal relationships which are influenced and affected by ongoing interactions and engagement. Group size is important because strong personal relations cannot be achieved in excessively large groups. It is not possible to predict exactly what size groups should be as CoPs are unique. FMBs placed importance on the fact that they knew each other well and had formed connections, understanding and bonds with each other. This would be difficult to achieve in large groups. However, the FMCs suggested their group was too small and there was not enough participation for FMCs to get to know each other perhaps resulting in a continued focus on the FWCs.

The value in CoPs is the ability to access trusted information from multiple sources in order to determine meaning which is relevant and acceptable for the individual or situation. FMBs generated enough activity through building relationships for this process to take place, whereas FMCs did not converge information other than that provided by Facewives. Nor did they access the knowledge held within the community or expertise amongst their peers. Thus when the Facewives were no longer perceived to be experts, engagement in the site discontinued. FMC did not evolve beyond the initial configuration or purpose and this important finding distinguishes the groups from each other and identifies FMB as a CoP.

'Communities of Practice should not be reduced to purely instrumental purposes. They are about knowing but also about being together, living meaningfully, developing a satisfying identity and altogether being human'

(Wenger, 1998:134)

Facemums and Legitimate Peripheral Participation

FMB became the structure in which LPP occurred, whereas in FMC there was little evidence of centripetal Facemum movement. Peripherality in Facemums relates to their peripherality on the margins of new motherhood but also their peripherality in relation to the group. Through LPP, FMBs became fully immersed in the group with the FWBs being less of focus, but remaining part of the group. This development was not evident in FMC. Initially learning in both groups occurred as a result of intentional information seeking and casual browsing. However, as FMBs interacted more with each other, they became increasingly confident responding to requests for information and engaged in more social dialogue. This resulted in further unintended information sharing and additional learning .

In FMB learning was not restricted to FMBs; the FWBs said they too had learned a result of being part of the group (p180). Both FWBs claimed that they had a better understanding of the impact of pregnancy on women and their families thereby emphasising the unintentional learning that occurs for all members within CoPs. In contrast the FWCs spoke about their personal learning but this was separate to the group and related to them personally researching information to pass on to the Facemums. FWCs could not identify any learning intended or not, as a result of being part of the group.

The theory of CoPs is founded on the premise that CoPs are a framework which describe and explain LPP, therefore without LPP the community cannot be considered a CoP. The absence of LPP in the FMCs does not mean that they did not transform into mothers, clearly when they gave birth they did. Rather it suggests that membership of FMC did not significantly affect Facemums transformation. The absence of LPP within FMCs is explained by their failure to develop mutual relationships thereby minimising their opportunities to learn from the CoP as a whole, instead focusing on FWCs as the source of knowledge. The FMCs were a community, but their learning and social interactions were not distributed throughout the group, they were largely attributable to the Facewives.

Facemums and Joint Enterprise

In both groups the joint enterprise was the state of being pregnant coupled with the desire to access professionalised information and to observe information shared with other pregnant women. In the context of FMCs the joint enterprise bound the women together for the duration of their pregnancy but did not extend beyond early motherhood . Their sense of joint enterprise did not create the same relations of accountability which developed in FMB. The FMBs developed a sense of responsibility to each other that motivated them to participate and to provide ongoing information and support to each other. This mutual accountability constitutes part of the practice within the CoP (Wenger, 1998). The increased levels of engagement and participation seen in FMBs resulted from the sense of joint enterprise further facilitating the emergence of a CoP. The focus of most groups is their joint enterprise, that is the interest and common endeavour that binds them together, but without mutual engagement such groups are communities of interest, not CoPs.

Facemums and Shared Repertoire

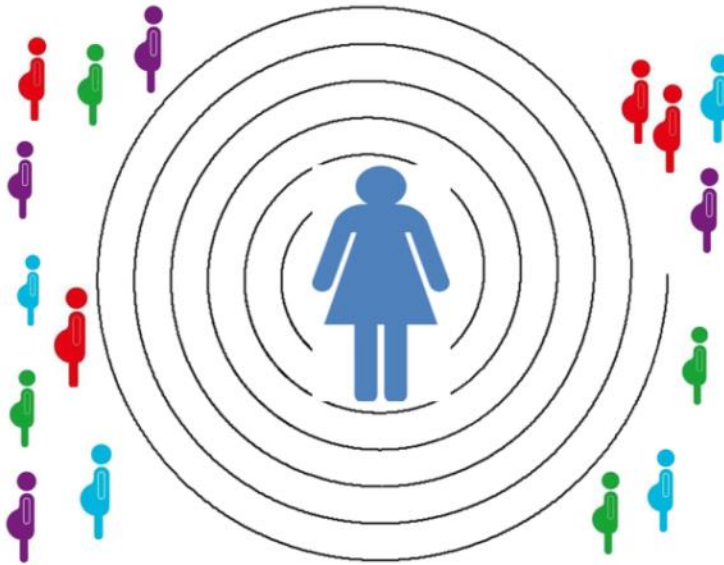
Both groups created a shared repertoire based on their online history which resulted from participation. The Facebook activity data, shared photographs, memes and comments posted on the site represent the groups unique histories. Both groups used language unique to Facemums, although this was more prevalent in FMB. As a result of more widespread use and engagement FMB shared repertoire is more comprehensive than FMC. Furthermore FMBs were more sentimental about the site content. Several FMBs likened the site to a pregnancy diary and commented that

they enjoyed looking back at photographs and comments after the initial posting. The site content represented a history of FMBs journeys into motherhood, their transformation into being mothers and their development as a community (FMB8, p208).

Both groups originated as online communities cultivated for the purpose of research, but through their participation and engagement the FMBs evolved into a CoP. Given that social relationships between CoP members are fundamental to their formation, it is contested that any cultivated group at its inception is a CoP, although much of the health related CoP research suggests this is the case. Initial membership of both groups was based on individuals with a shared interest (pregnancy and pregnancy related information) but the engagement at FMC was not enough to create adequate cohesion for it to evolve into a CoP. FMC is akin to a cultivated community of interest because it was focused on information and information access, and did not share the same level of identification with the group or group activities as FMB (see Table 3, p39). The dimensions of mutual engagement, joint enterprise and shared repertoire are necessary for a CoP to be deemed as such, and although it is not specified as to what extent they needed to be evident (Wenger, 1998), this study suggests that mutual engagement is fundamental to CoP formation. Mutual engagement results in LPP which is essential for a group to be considered a CoP. The LPP demonstrated in FMB but not observed in FMC is illustrated in Figures 11-15.

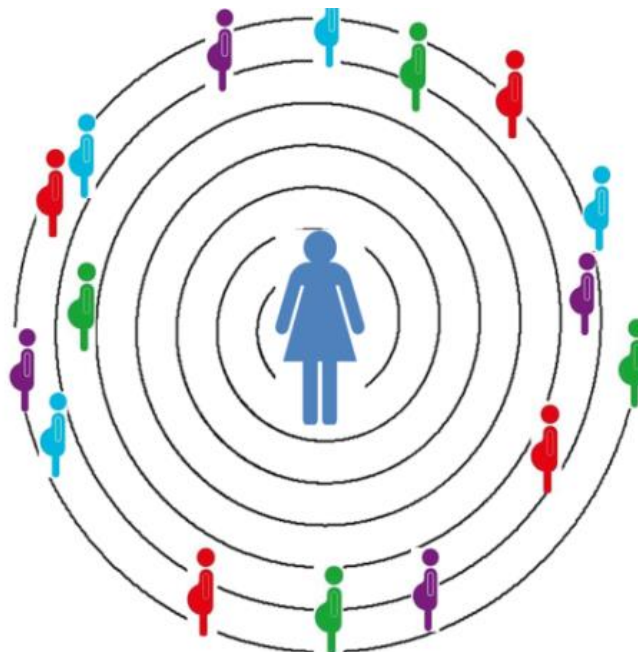
Figures 11-15 illustrate the concept of LPP and identify different stages in Facemums development. The variation in movement and transformation of Facemums groups resulting in the emergence of a CoP from FMB is demonstrated.

Figure 10 – FMB and FMC



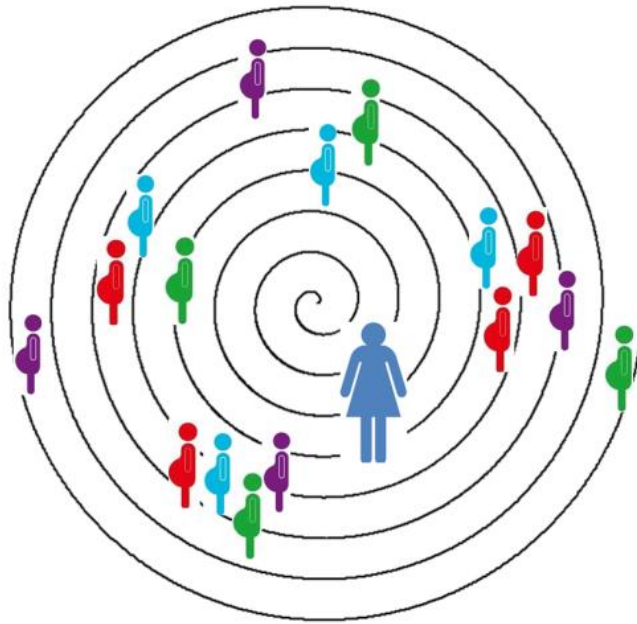
The midwife – ‘Facewife’ is the dominant focal point for the group and is the ‘hook’ to recruit new members ‘Facemums’.

Figure 11 – FMB and FMC



Facewives are dominant members and are the focus of the group. Facewives initiate most communications and provide information to Facemums who are peripheral group members.

Figure 12 – FMB and FMC



Facemums start to form relationships and communicate with each other without prompts from the FWBs. FWBs are less dominant in communications, but remain the main source of information. FWCs remain dominant, continue to instigate most dialogue and are the main source of information. FMC does not move beyond this stage of development.

Figure 13 – FMB



FMBs communicate independently without prompts from FWBs. FWBs and FMBs provide information, knowledge and support to each other. FWBs withdraw as professional moderators and re-join as group members.

Figure 14 – FMB: A Community of Practice



FMBs are no longer pregnant. FWBs are no longer paid professional moderators but are group members, part of the CoP. All members are legitimate and have equal value.

Figures 11- 15 illustrate the different stages of community development and CoP evolution seen within the study. The concept of centripetal movement which is not about moving to the centre of something but relates to the full involvement of the individual into the community, so that all members are equal, is evident. Yeoman, Urquhart and Sharp (2003) identified typical stages of CoP evolution from a literature review of internet use supporting organisational working, information and learning (with emphasis in the health sector). The stages move from identifying a potential group to one which is innovating and generating knowledge and highlight the differences between Facemums groups. Mapping Facemums to this model shows that FMCs did not evolve fully through the engaged stage, failed to become fully

active and did not innovate or generate new knowledge. Furthermore the building stage which corresponds with mutual engagement, was not fully exploited resulting in the failure of FMC to evolve as a CoP.

Table 31. Stages identified in typical patterns of CoP evolution

Stages in CoP evolution		FMB	FMC
Potential	Connecting individuals	Facemums joined the group individually and were welcomed to the group by FWBs. When new members joined FWBs 'tagged' existing members which prompted welcomes, comments and further introductions	Facemums joined individually and were welcomed by the FWCs. Existing Facemums welcomed new members but were not tagged by the FWCs.
Building	Individuals to learn more about each other, share experiences, create shared norms	FWBs shared professional and personal stories and information FMCs shared personal stories and information	FWCs shared professional information FMCs responded to the information posted by the FWCs
Engaged	Emphasis on access and learning, to provide support to new members and add to the knowledge base	Emphasis was on access to information and learning, and support from all members of the group FMBs and FWBs	Emphasis was on access to information and learning from the FWCs
Active	Emphasis on collaboration and shared work tasks	The FWBs created space and opportunities for the FMBs to provide information and support. The FMBs shared responsibility and accountability with the Facewives for meeting individual and group needs	The FWCs provided information. Support was perceived by group members but was not explicit.
Innovation and generation	Develop new products/services and new CoPs	A live repository of information was created and an ongoing maternal support group established	A repository of information was created during the moderated timeframe. The group dissolved at the end of the study.

Adapted from Yeoman, Urquhart and Sharp (2003:243).

Limitations

Several attempts were made to apply strict systematic review principles to the existing literature. Whilst a systematic review is included in this thesis it was limited to some degree by the paucity and lack of clear definition of CoPs in the literature. The change in the emphasis of CoPs from a social learning theory to a commodified model for knowledge exchange further restricted the review. Furthermore, the literature review in this study did not focus on educational or commercial CoPs which is where most of the literature supporting CoPs is to be found.

This study does not follow a single conventional qualitative methodology. This resulted from a desire to give Facemums voice, to maintain a collaborative relationship with Facewives and Facemums and to optimise the development of the groups. A more specific approach may have generated more understanding in one or more areas. The limited published literature focusing on CoPs required a broad methodological approach which was always likely to provide broad thematic observations rather than refine current theories of social learning.

The study sample was small, self-selecting and the women were drawn from two urban maternity units. Therefore, both the findings and the model described in this study may not be transferable to other settings. The participants' level of educational attainment was higher than expected, but this is more likely to reflect the type of women that engage in research, as opposed to the type of women who use social media. One hundred and eleven women expressed interest in participating but more than 70% declined joining on being given further information. They declined because the collaborative action component was too onerous. This initial recruitment barrier was resolved to some extent when online focus groups were offered. The study recruited 31 participants but FMC under recruited. No further women joined FMC despite its own members requesting further recruitment. The failure to recruit more women may have led to the reduced levels of engagement.

A framework analysis was proposed because the study was likely to produce a large quantity of information and it was necessary to be pragmatic in analysis to accommodate as wide a variety of emergent themes as possible whilst addressing

the key research questions. This has produced a more descriptive than theoretical narrative. This study produced a large volume of data and whilst cursory study of the data was comprehensive, detailed analysis of all the online data was not feasible within the limitations of a PhD. Further analysis of the data using different methodological approaches remains possible and may produce further understanding of pregnancy and motherhood.

Summary

Online communities can meet the information and support needs of pregnant women. Depending on the level of mutual engagement CoPs may form, however regardless of whether the group evolves into a CoP or not, women's pregnancy experiences in relation to information and support are improved. Information needs can be fully met by professional moderators, or through a combination of professional and peer sourced information. Two essential components were found in relation to information; that the information is provided by a cognitive authority and therefore is trusted and deemed relevant, and that the information is accessible and convenient. Both Facemums groups demonstrated these essential components but FMB shifted accountability for information and attributed cognitive authority to all group members.

Irrespective of the information source and how information needs are met, simply being a member of a group of women at the same stage of pregnancy leads to a sense of shared experience which results in feeling supported. Irrespective of whether different types of support are actually given or are just perceived to be available, pregnant women in moderated online communities with other pregnant women feel supported.

The foundation for trusted information and valued support are based on relationships instituted by pregnancy. The depth and ongoing development of relationships creates connections which result in increased access to information and support, and ongoing access to information and support leads to further development of relationships. Failing to engage and share with group members results in weaker relationships but does not appear to affect the quality of information or perception of support. However, without strong relationships and shared accountability for information moderated online communities for pregnant women may not be

sustainable beyond the early postnatal period. Whilst sustainability was not a focus of the study the benefits of having a readily accessible support network could have positive implications for ongoing maternal health and wellbeing.

Whilst information, support and ongoing relationships are fundamental to quality midwifery care, they do not guarantee the development of CoPs. CoPs are recognised by mutual relationships whereby all members can learn from one another. This key characteristic, mutual engagement, which determined CoP formation in this study is vital for LPP. Without mutual engagement and the relationships which create and maintain it, LPP cannot occur. Without LPP the community is not a CoP.

Chapter 10: Conclusions and practice and policy implications

Introduction

Previous literature, combined with my reflections on 30 years as a practicing midwife, proposed that pregnant women did not know other pregnant women nor did they have continuous, positive relationships with midwives. Together, these factors led to a need for information and support that was not fulfilled. Review of the literature centred on information sharing, learning and support suggested that a group of pregnant women who were able to operate as a 'Community of Practice' (CoP) (Lave & Wenger, 1991; Wenger 1998) might improve the experience of motherhood by addressing these issues.

The study has shown that moderated online communities can address the failings in current maternity services to meet information, support, and relational continuity needs of pregnant women. These factors are considered essential for a positive pregnancy experience and quality midwifery care.

Furthermore this study has confirmed that Wenger's (1998) concept of CoPs as a framework for social learning, based on the key dimensions of mutual engagement, joint enterprise and shared repertoire are valid and can differentiate CoPs from other groupings and communities.

The key achievements of this study have significant implications for maternity policy and practice, and the potential to impact wider health care communities. This final chapter identifies the new knowledge, discusses its' implications for pregnant women, midwifery and maternity services, and identifies future potential for impact, and research.

Conclusions

This study found that an online community of pregnant women and midwives could provide for the information and support needs of pregnant women and that key features were important moderators of success. These optimal conditions for success

were that the relationships with the midwives were social in addition to professional; that the community was seen as a safe place i.e., non-judgemental; that there was a belief in the shared experiences of group members and that there were relational catalysts i.e., supportive emotional and practical advice shared between group members. The development of a CoP was not found to be an automatic and inevitable part of online community development: one group developed into a CoP whilst one did not. The development into CoP or not hinged on the nature of the relationships that developed within the group, with the group who began to accept the expertise of the other group members evolving into a CoP. The development of mutual relationships appeared to be the main driver for CoP formation, suggesting that mutual engagement has more importance than joint enterprise and shared repertoire which are commonly seen in non-CoP groups. Mutual engagement itself does not create the CoP, it has to co-exist with the other dimensions to create the CoP framework in which LPP takes place (Wenger, 1998). Whilst all three dimensions are required for CoP formation, mutual engagement is vital for LPP which is the hallmark of CoP.

Whilst CoPs can provide a framework for learning, sharing and support, evolving into a CoP is not essential for the group success as both groups reported high levels of satisfaction as a result of membership. Nonetheless, CoPs promote effective utilisation of resources already present in the community thus reducing overreliance on health professionals for information and support.

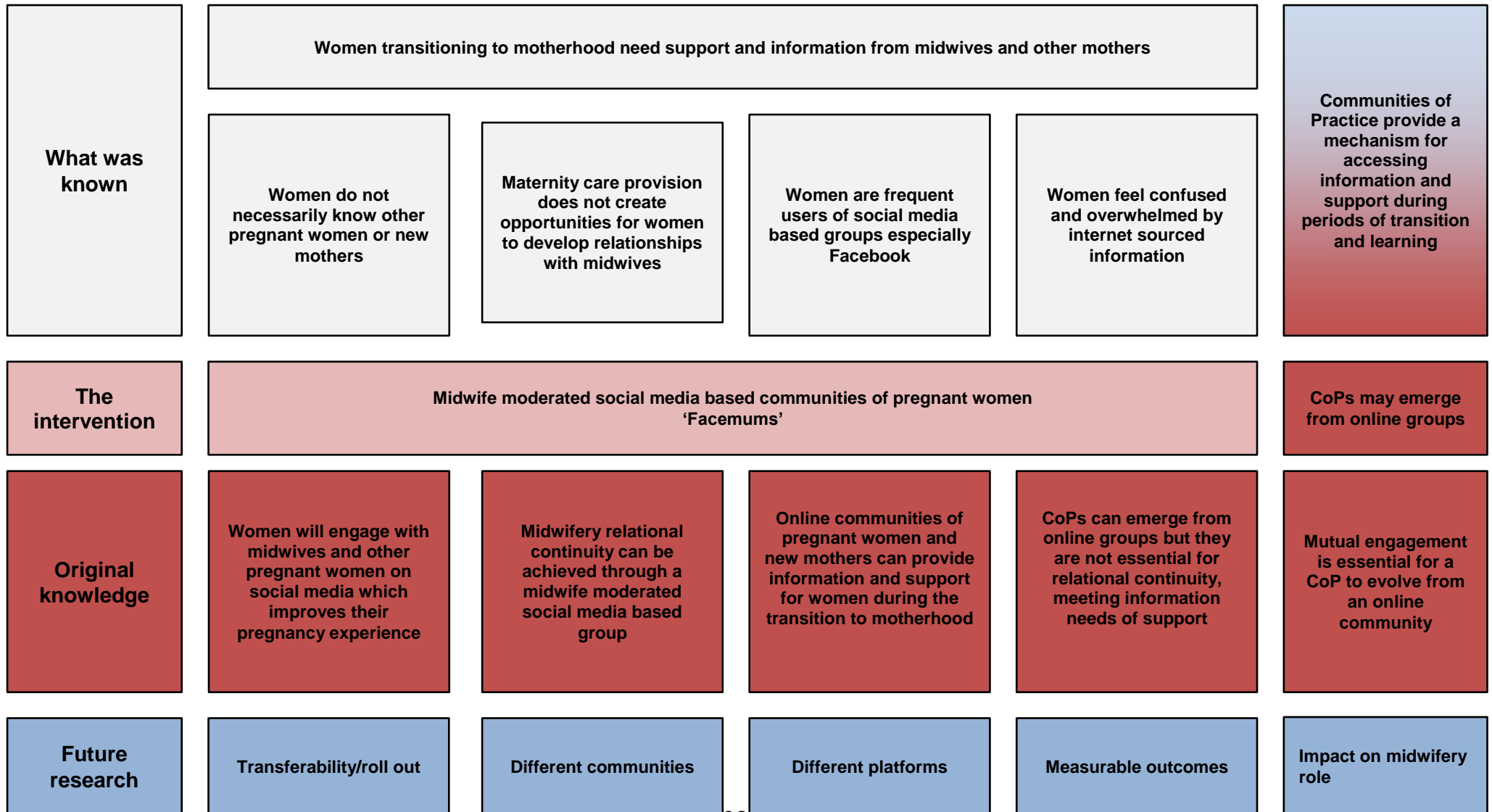
Pregnant women will join social media based groups to access midwives and the study found that many women would prefer to engage with midwives using social media rather than the traditional routes of clinics, triage and by telephone. The lack of face-to-face meetings did not negatively impact the midwife-mother relationship or deter women from sharing information with the midwives. The mothers in the study reported positive relationships with Facewives and in contrast most of them did not feel they had relationships with their NHS midwives. In keeping with other study findings, communicating through a virtual medium may actually have enhanced disclosure as mothers found it easier to address some issues online. As the group developed, the depth and quality of dialogue appeared to increase with women feeling very comfortable sharing the complexities of motherhood not just with the

midwife but also with their peers. These findings were evident regardless of CoP formation. Nevertheless, CoP formation added the potential for group sustainability beyond the postnatal period, thus maintaining information access and providing an ongoing support mechanism for women. Figure 15 provides a complete overview of the study findings and identifies the unique contributions and potential for future research.

The Key achievements of this study and unique contributions to knowledge are:

- It is the first study to examine a midwife moderated group of pregnant women using a social media platform.
- It is the first study to examine the concept of CoPs in a non-organisation context.
- Online communities can provide pregnant women with information and support needs that are otherwise not easily accessible.
- Online communities may become CoPs but that they will not become CoPs unless specific criteria are met.
- Mutual engagement is the key element for online groups to form a CoP.
- Mutual engagement within a CoP is essential for LPP
- Irrespective of whether communities fulfil the CoP criteria, information and support needs are met.
- Midwife-moderated online communities such as those in the study provide relational continuity between midwife and mother throughout pregnancy and early motherhood.

Figure 15 – Study overview, unique contributions to knowledge and potential for future research



Implications for Practice

The finding that information and support needs can be met by the type of online groups described in this study has significant implications for practice. As midwifery appointment times have become more focused on physical screening and checklists, and offer less time for midwives and mothers to engage in conversation and dialogue, opportunities to ask and answer questions, and to give information and check understanding have become significantly reduced. Women are aware of the time constraints and modify their actions and interactions to accommodate the midwife's need to manage the ten-minute appointment slot. Facilitating online midwifery access means that women can ask questions when they arise. They can ask about any type of situation and are not hampered by time restrictions, embarrassment or a lack of knowledge on the part of the midwife. Midwives do not have to answer non-urgent questions immediately allowing for better time management, and can research answers to queries which they lack knowledge about possibly resulting in more comprehensive information exchanges. The absence of face-to-face interaction facilitates the asking of questions which mothers perceive to be silly or embarrassing, but that generate anxiety nonetheless. Being able to ask any type of question and to receive an informed response breaks down barriers and creates opportunities for ongoing relationship development. Thereby achieving fundamental midwifery aims, to develop therapeutic relationships with women and to provide information in order that they can make informed choices. Through observing interactions and relating to shared experiences mothers feel and develop a sense of 'kinship' which creates further bonds and further enhances the development of mutually supportive relationships.

Only one of the Facemums groups met Wenger's (1998) criteria to be defined as a CoP, but both were valued online communities which functioned effectively to meet information needs and some support needs for women during pregnancy and the early post-partum period. Intentional and unintentional individual learning occurred in both the CoP and non-CoP communities through the exchange of requested and unrequested information. However, the learning within the non-CoP group was

generally restricted to information provided by Facewives rather than mutually exchanged information between mothers.

If online communities are to be sustained beyond the period of perceived expertise of the healthcare professional (in this case pregnancy and early motherhood), the community needs mutual engagement and participation, which results in the members themselves sharing expertise. Opportunities to develop mutuality and engagement can be facilitated through social dialogue on the part of the moderators. Techniques to refine and enhance engagement (in the context of health professional moderation) require further research.

Implications for Policy

This study uncovered a series of findings which have relevance both to the role of midwives within 21st century Britain, and to policies about service provision to improve both the outcomes and experience of maternity care.

This study suggests that all services for pregnant women do not have to be face-to-face. Accessing professional midwifery advice and support electronically met both the informational and support needs of the participants and in many of the women's experiences the online midwifery support surpassed the care and service provided by the local NHS midwives.

This study suggests that midwife participation in online communities with pregnant women may increase midwife job satisfaction. The midwives within this study expressed increased satisfaction with their role, both in terms of their online contact with mothers and the quality of their midwife/mother relationships. The midwives spoke positively about their role as midwife moderators and felt improved job satisfaction as a result. Models of care that promote relational continuity and facilitate the development of relationships between midwives and mothers are associated with increased job satisfaction (Kirkham et al., 2006; Newton et al., 2014; Warmelink et al., 2015). Job satisfaction is important in order to retain midwives as the reported numbers of midwives leaving the profession are rising, with more registrants leaving the professional register than joining (NMC, 2017). This trend is likely to continue as student midwives now incur tuition fees and no longer receive a student bursary.

This study did not find occupational burnout and stress due to negative impacts on work-life balance (Yoshida & Sandall, 2013) caused by participation in online communities. This may not be the case if the model was ongoing particularly if midwives treated the model as a social interaction rather than a job. The midwives in this study reported a positive bias towards social media, in fact this was a characteristic which made them suitable for the post and may have been why they put themselves forward for the role. This may not be the case if midwives are not familiar or regular users of social media. Nonetheless, in this study, the ability to provide continuity was liberating for the midwives and was not considered a restricting aspect of the role.

The potential financial and human expense of implementing continuity models has created controversy about them being recommended as the standard model for high quality midwifery care (NHS England, 2016; Sandall et al., 2016b). Maternity service providers have suggested that continuity models are not feasible at scale and barriers which allegedly prevent their implementation are emphasised. Thus models of care which do not have relational continuity at their core continue to be the norm and are maintained throughout NHS maternity services (NHS England, 2016). The option for women to join midwife moderated networks such as those described in this study could facilitate relational and informational continuity, and may provide opportunities to achieve high quality midwifery care with increased satisfaction for mothers, and satisfying, flexible working for midwives at less financial expense. Furthermore, there may be the potential to reduce other NHS costs by detecting early health problems and preventing escalation. This could be explored in future research. Potentially, this can be achieved regardless of whether the online communities actually develop into CoPs.

The 'Five Year Forward View' is a key policy for healthcare transformation in the UK. It is an attempt by the National Health Service to respond to the challenges faced by society's increasing health care demands. Key to its strategy for transformation is the need for improved population health and wellbeing, a move away from process driven, medical models of care and the need to more effectively utilise resources that are already present in communities. Evidence from this study did not suggest that benefits would be confined to pregnant women. Whilst motherhood is a unique

experience for women, the needs for dynamic knowledge sharing, support and relational continuity is not exclusive to pregnancy. A wide variety of groups could benefit from membership of health professional moderated, confidential, social media-based communities. Examples could include families and parents of children with specific disabilities, marginalised groups and communities, substance addicts, people with specific chronic illness and those who have experienced psychological insult. More research is required to unpick the scope of such programmes. There may also be potential for interventions such as Facemums within isolated and health deprived communities in the UK and in low and middle-income countries. Whilst fundamental health care, is highly dependent on the availability of skilled healthcare workers, advocacy, information provision and support through social media could be delivered to areas of health poverty without the physical presence of healthcare workers and at extremely low cost.

The findings about relational continuity, which are so important for midwifery practice, have already been published in a peer reviewed journal (Appendix 14). Plans for future publications include: a 'why and how to develop maternal groups for information and support during pregnancy', a systematic review of CoPs in health care, an academic paper relating to the general study findings and a project report for HEE.

Implications for Midwifery Education

This study has implications for midwifery education as it suggests that women want to engage with midwives through electronic platforms. For the women in this study engaging with midwives through social media enhanced their experience of pregnancy and facilitated midwifery relational continuity. Therefore midwives need to understand the importance of social media per se and be trained in its use as part of undergraduate midwifery curricula.

A workable, sustainable model for Midwifery

The model used in this study could be simply replicated or adapted for use within NHS Trusts and organisations commissioned to provide maternity care.

The model could be adapted to suit different organisational structures and requirements, and the specific needs of diverse populations. The model could be established to create either a moderated online community for the duration of pregnancy or a Maternal CoP with the potential to be sustained beyond the postnatal period.

The following principles need to be adopted;

- The group is established on a non-indexable, non-searchable social media site.
- The group is small enough that the members can get to know each other, but is large enough to generate activity with a target group size of 20 aimed for.
- Two midwives moderate each site to ensure adequate cover for annual leave, sickness and absence but midwifery continuity is facilitated.
- Midwife moderators lead moderation in one group and co-lead on a second group.
- Instruction about online communications and engagement training is offered to moderators to maximise opportunities for CoP development and sustainability.
- Women are recruited at booking to join a group of women with an EDD within of 8 weeks of each other (to maximise potential for relationship development).
- Women are allocated to groups in the same geographical area/community to maximise the potential off line socialising and for sharing local information.
- Midwife moderators would withdraw completely from the group within 6 weeks of the last EDD.

Personal reflections

During this unique study I was able to observe journeys which shared a common 'Facemums' path. The FMCs joined an online community and became members of a community which met their support and information needs in pregnancy. The FMBs through a process of mutual engagement and participation became members of a CoP. This CoP met their support and information needs and provided a forum in which they could socialise, share and learn about pregnancy, birth and motherhood.

My journey, also on the Facemums pathway, was filled with reflection and contemplation as I have observed women's interactions with midwives and with each other in private spaces, to which I had continuous access. For most Facemums, group membership became as much of a focus for daily life as it was for me. This privileged access to Facemums became as much of a life experience and rite of passage for me, as it did an academic exercise. Moreover, I grew to realise that the transition from midwife educator to midwife researcher that I was undergoing, whilst important, could never eclipse the extraordinary transition to motherhood that I was observing and the legacy that this transition brings.

Arguably, pregnancy and the transition to motherhood is the ultimate apprenticeship. This description however woefully understates the critical rite of passage that underpins all human life. As a society we have a responsibility to recognise this crucial time and invest in it to ensure that we can apply the most up to date knowledge, skills, and technology available. Paradoxically the best investment is not always the most expensive and this study demonstrates that a simple adaptation of 'what we know' into 'what we do' can transform motherhood from a state of anxiety and uncertainty to a rich period of growth for both mother and developing child.

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Appendix 1. Initial retrieval 228 papers

	Paper	Q1	Q2	Q3	Q4	Q5	Q6
1	Abos Mendizabal, G., Nuno Solinis, R., & Zaballa Gonzalez, I. (2013). HOBE+, a case study: a virtual community of practice to support innovation in primary care in Basque Public Health Service. <i>BMC Family Practice</i> , 14, 168. doi: http://dx.doi.org/10.1186/1471-2296-14-168	y	y	n	y	y	Y
2	Anastassova, M., & Burkhardt, J.-M. (2009). Automotive technicians' training as a community-of-practice: implications for the design of an augmented reality teaching aid. <i>Applied Ergonomics</i> , 40(4), 713-721. doi: 10.1016/j.apergo.2008.06.008	Y	N	N	N	Y	Y
3	Anderson-Butcher, D., & Weist, M. D. (2011). The Mental Health Education Integration Consortium (MHEDIC): A community of practice working to advance school mental health. <i>The Community Psychologist</i> , 44(4), 23.	N					
4	Anderson, J. Building a community of practice—the 'Mental Health in Higher Education' website. Lynn Tang CEIMH (The Centre of Excellence in Interdisciplinary Mental Health), University of Birmingham I. tang@ bham. ac. uk and.	N					
5	Andrew, N., Ferguson, D., Wilkie, G., Corcoran, T., & Simpson, L. Developing professional identity in nursing academics: The role of communities of practice. <i>Nurse Educ Today</i> , 29(6), 607-611. doi: 10.1016/j.nedt.2009.01.012	N					
6	Avery, R., Clauss, H., Danziger-Isakov, L., Davis, J., Doucette, K., van Duin, D., . . . Subramanian, A. (2010). Recommended curriculum for subspecialty training in transplant infectious disease on behalf of the American Society of Transplantation Infectious Diseases Community of Practice Educational Initiatives Working Group. <i>Transplant Infectious Disease</i> , 12(3), 190-194. doi: http://dx.doi.org/10.1111/j.1399-3062.2010.00510.x	N					
7	Back, A. L., Safyan, R. A., & Edwards, K. A. (2015). What Residents Learn From Inpatient Hematology-Oncology: A Call to Rebuild a Community of Practice. <i>Journal Of Oncology Practice / American Society Of Clinical Oncology</i> , 11(4), 296-297. doi: 10.1200/JOP.2015.005561	N					
8	Banister, E. M., & Begoray, D. L. (2006). A community of practice approach for Aboriginal girls' sexual health education. <i>Journal of the Canadian Academy of Child & Adolescent Psychiatry = Journal de l'Académie canadienne de psychiatrie de l'enfant et de l'adolescent</i> , 15(4), 168-173.	N					

9	Barnett, S., Jones, S. C., Bennett, S., Iverson, D., & Bonney, A. (2012). General practice training and virtual communities of practice-a review of the literature. BMC Family Practice, 13(1), 1.	N					
10	Barnett, S., Jones, S. C., Bennett, S., Iverson, D., & Bonney, A. (2013a). Perceptions of family physician trainees and trainers regarding the usefulness of a virtual community of practice. J Med Internet Res, 15(5), e92-e92. doi: 10.2196/jmir.2555	Y	Y	N	Y	Y	Y
11	Barnett, S., Jones, S. C., Bennett, S., Iverson, D., & Bonney, A. (2013b). Usefulness of a virtual community of practice and web 2.0 tools for general practice training: experiences and expectations of general practitioner registrars and supervisors. Australian Journal Of Primary Health, 19(4), 292-296. doi: 10.1071/PY13024	Y	Y	N	Y	Y	Y
12	Barnett, S., Jones, S. C., Caton, T., Iverson, D., Bennett, S., & Robinson, L. (2014). Implementing a virtual community of practice for family physician training: a mixed-methods case study. J Med Internet Res, 16(3), e83. doi: http://dx.doi.org/10.2196/jmir.3083	Y	Y	N	Y	Y	Y
13	Barton, A. J. P. R. N. (2005). Cultivating Informatics Competencies in a Community of Practice. Nursing Administration Quarterly Will Technology Change Our Practice? October/December, 29(4), 323-328.	N					
14	Bate, P. (2004). The role of stories and storytelling in organisational change efforts: a field study of an emerging "community of practice" within the UK National Health Service. Narrative research in health and illness, 325-348.	Y	Y	N	N		
15	Benton, D., & Mitchell, J. (2004). A community of practice. Nurs Stand, 18(52), 16-17 12p.	N					
16	Berry, L. E. (2011). Creating Community: Strengthening Education and Practice Partnerships through Communities of Practice. International Journal of Nursing Education Scholarship, 8(1), 1-18 18p. doi: 10.2202/1548-923X.2180	N					
17	Bindels, J., Cox, K., Widdershoven, G., van Schayck, C. P., & Abma, T. A. (2014). Stimulating program implementation via a Community of Practice: a responsive evaluation of care programs for frail older people in the Netherlands. Evaluation And Program Planning, 46, 115-121. doi: 10.1016/j.evalprogplan.2014.06.001	Y	Y	N			
18	Binot, A., Duboz, R., Promburom, P., Phimpraphai, W., Cappelle, J., Lajaunie, C., . . . Roger, F. L. (2015). A framework to promote collective action within the One Health community of practice: Using participatory modelling to enable interdisciplinary, cross-sectoral and multi-level integration. One Health, 1, 44-48.	N					

19	Boucher, J. A., & MacIntyre, D. L. (2015). Survey of a Pelvic Health Physiotherapy Community of Practice: A Pilot Study to Gain Member Input to Help Sustain and Advance the Group. <i>Physiotherapy Canada</i> , 67(1), 10-16 17p. doi: 10.3138/ptc.2013-74	Y	Y	N	Y	Y	
20	Burgess, J., & Sawchenko, L. (2011). Community of practice: a nurse practitioner collaborative model. <i>Nursing leadership (Toronto, Ont.)</i> , 24(2), 99-112.	Y	Y	N	Y	Y	
21	Burrell, A. R., Elliott, D., & Hansen, M. M. (2009). ICT in the ICU: using Web 2.0 to enhance a community of practice for intensive care physicians. <i>Critical Care & Resuscitation</i> , 11(2), 155-159.	N					
22	Chamberlain, L. J., & Kaczorowski, J. M. (2014). "You get what you pay for": resources for training and practice in community pediatrics matter. <i>Pediatrics</i> , 134(1), 173-175. doi: 10.1542/peds.2014-1130	N					
23	cHAMPION BRIeF, N. (2014). Menengage tanzania: Building a Community of Practice for Engaging Men in Health and Gender Equity.	N					
24	Clarke, D. K. (2007). A Personal Development, Health and Physical Education (PDHPE) community of practice responding to curriculum change.	N					
25	Clary, J. (2010). " MISSISSIPPI IN MOTION" AND" FAMILIES FOOD AND FITNESS COMMUNITY OF PRACTICE" VIRTUAL EDUCATION SITE: IMPROVING THE HEALTH OF AMERICANS. <i>EDULEARN10 Proceedings</i> , 2487-2496.	N					
26	Cleland, J., Gale, M., Nicol, L., Hogg, M., Watson, A., & Walker, K. (2015). PWE-407 Scottish surgical boot camp: an induction to a community of practice. <i>Gut</i> , 64(Suppl_1) Supplement(1), A389.	Y	N	N	N	Y	
27	Clement, T., Brown, J., Morrison, J., & Nestel, D. (2016). Ad hoc supervision of general practice registrars as a 'community of practice': analysis, interpretation and re-presentation. <i>Advances in Health Sciences Education</i> , 21(2), 415-437. doi: http://dx.doi.org/10.1007/s10459-015-9639-4	N					
28	Coleman, A. (2012). A virtual community of practice framework to support doctors' practices in national health insurance (NHI) in South Africa. <i>Stud Ethno-Med</i> , 6(3), 155-160	Y	Y	N	Y		Y
29	Curran, J., McLeod, D., White, M., & Dumont, S. (2008). The IPODE Project: Evaluation of a Community of Practice Using Social Network Analysis: 7S-3. <i>Psycho-Oncology</i> , 17 Supplement(2), S29.	N					
30	Curran, J. A., Murphy, A. L., Abidi, S. S. R., Sinclair, D., & McGrath, P. J. (2009). Bridging the gap: knowledge seeking and sharing in a virtual community of emergency practice. <i>Evaluation & The Health Professions</i> , 32(3), 312-325. doi: 10.1177/0163278709338570	Y	Y	N	Y	Y	

31	Daniel, B., & Horsburgh, B. (2009). Stakeholders Analysis as a Research Methodology: Implications for Development of a Distributed Community of Practice for Health Research and Innovation. Paper presented at the World Conference on E-Learning in Corporate, Government, Healthcare, and Higher Education.	N					
32	Davis, J. (2006). The importance of the community of practice in identity development. <i>Internet Journal of Allied Health Sciences & Practice</i> , 4(3), 8p-8p 1p.	Y	N	N	N	Y	
33	De Jager-Loftus, D. P., Midyette, J. D., & Harvey, B. (2014). A community of practice: librarians in a biomedical research network. <i>Med Ref Serv Q</i> , 33(1), 60-74. doi: http://dx.doi.org/10.1080/02763869.2014.866487	N					
34	Delbridge, R., Wilson, A., & Palermo, C. (2014). SUPPORTING DIETITIANS WORKING IN INDIGENOUS HEALTH USING A COMMUNITY OF PRACTICE. <i>Nutrition & Dietetics</i> , 71 Supplement(1), 41.	N					
35	Dessein, J. (2008). Farming for health: proceedings of the Community of Practice Farming for Health, November 2007, Ghent, Belgium: ILVO. Health (Medical) Informatics; Building Sustainable Health Systems.	N					
36	Diaz-Chao, A., Torrent-Sellens, J., Lacasta-Tintorer, D., & Saigi-Rubio, F. (2014). Improving integrated care: modelling the performance of an online community of practice. <i>International Journal of Integrated Care [Electronic Resource]</i> , 14, e007.	Y	Y	N	Y	Y	
37	Dijkmans-Hadley, B., Bonney, A., & Barnett, S. R. (2015). Development of an Australian practice-based research network as a community of practice. <i>Australian Journal Of Primary Health</i> , 21(4), 373-378.	Y	N	N	Y	N	
38	Donald, M., Skrabka, K., Avinoam, G., Ottawa, C., Willems, J., Sharp, S., & Linkewich, E. (2015). Driving screening across the continuum of care: Creating a virtual dialogue using the Toronto Stroke Networks' virtual community of practice: HS.26 [Abstract]. <i>International Journal of Stroke</i> , 10 Supplement(4), 46.	N					
39	Donald, M., Skrabka, K., Avinoam, G., Willems, J., Sharp, S., & Linkewich, E. (2015). Abstract T P345: Knowledge Translation in Stroke Care in Toronto: Impact of member informed improvements to a Virtual Community of Practice. <i>Stroke</i> , 46(Suppl_1) Supplement(1), ATP345.	N					
40	Dong, C., Cheema, M., Samarasekera, D., & Rajaratnam, V. (2015). Using LinkedIn for Continuing Community of Practice Among Hand Surgeons Worldwide. <i>The Journal Of Continuing Education In The Health Professions</i> , 35(3), 185-191. doi: 10.1002/chp.21300	y	y	N	Y	N	

41	Doriccah Peu, M., Mataboge, S., Chinouya, M., Jiyane, P., Rikhotso, R., Ngwenya, T., & Mavis Mulaudzi, F. (2014). Experiences and challenges of an interprofessional community of practice in HIV and AIDS in Tshwane district, South Africa. <i>Journal of Interprofessional Care</i> , 28(6), 547-552. doi: http://dx.doi.org/10.3109/13561820.2014.917402	Y	Y	N	Y	N	*
42	Dryden-Palmer, K., & Greenberg, R. (2014). ABSTRACT 148: BUILDING AN ETHICAL COMMUNITY OF PRACTICE: A PROGRAM OF BIOETHICS SUPPORT IN PAEDIATRIC CRITICAL CARE. <i>Pediatric Critical Care Medicine</i> , 15(4_suppl) Supplement(1), 38.	N					c
43	Dunn, L. J. (2007). A Knowledge Portal for the Illawarra Community Mental Health Rehabilitation Services Community of Practice. Paper presented at the Medinfo 2007: Proceedings of the 12th World Congress	N					C
44	Durham, C. F. (2013). The International Nursing Association for Clinical Simulation and Learning (INACSL), A Community of Practice for Simulation. <i>Clinical Simulation in Nursing</i> , 9(8), e275-276 271p. doi: 10.103816/j.ecns.2013.06.005	N					
45	Ellery, A. E. L., Pontes, R. J. S., & Loiola, F. A. (2012). Community of practice as a collective way of learning and development of practices and knowledge of the family health strategy: a theoretical study. <i>Brazilian Journal in Health Promotion</i> , 25(2s), 104-112.	N					
46	Ennals, P., Williams, A., Kohn, H., Darzins, S., Neilson, C., McKinstry, C., & Fortune, T. (2015). GROWING SCHOLARSHIP BY RESEARCHING AN ACADEMIC COMMUNITY OF PRACTICE: O223. <i>Australian Occupational Therapy Journal</i> , 62 Supplement(1), 90.	N					C
47	Evans, C., Yeung, E., Markoulakis, R., & Guilcher, S. (2014). An online community of practice to support evidence-based physiotherapy practice in manual therapy. <i>Journal of Continuing Education in the Health Professions</i> , 34(4), 215-223. doi: http://dx.doi.org/10.1002/chp.21253	Y	Y	N	Y	Y	E*
48	Fairtlough, A., & Geyer, C. (2011). Standards and training for work with parents across Europe: successes and challenges in developing a community of practice. <i>European Journal of Social Work</i> , 14(4), 563-578 516p. doi: 10.1080/13691457.2010.516494	N					*
49	Falkman, G., Gustafsson, M., Torgersson, O., & Jontell, M. (2008). Collaboration patterns in an online community of practice in oral medicine. <i>Studies in Health Technology & Informatics</i> , 136, 175-180.	N	Y	N	Y	N	
50	Farrell, M. M., La Porta, M., Gallagher, A., Vinson, C., & Bernal, S. B. (2014). Research to reality: moving evidence into practice through an online community of practice. <i>Preventing Chronic Disease</i> , 11, E78-E78. doi: 10.5888/pcd11.130272	N	Y	N	Y	N	

51	Ford, J., Korjonen, H., Keswani, A., & Hughes, E. (2015). Virtual communities of practice: can they support the prevention agenda in public health? <i>Online J Public Health Inform</i> , 7(2).	Y	Y	N	Y	Y
52	Fortin, J., Skryabka, K., Avinoam, G., Sharp, S., Willems, J., & Linkewich, E. (2014). Abstract W P274: Developmental Evaluation Enhances Utility of the Toronto Stroke Networks Virtual Community of Practice. <i>Stroke</i> , 45(Suppl_1) Supplement(1), AWP274.	Y	Y	N	Y	C*
53	Fowler, E. (2011). Developing a Medical Education Community of Practice with Reflective Blogs. <i>MEDICAL EDUCATION</i> , 45 Suppl(2), 79-80.	N				
54	Francis-Coad, J., Etherton-Ber, C., Bulsara, C., Nobre, D., & Hill, A.-M. (2015). Investigating the impact of a falls prevention community of practice in a residential aged-care setting: a mixed methods study protocol. <i>Journal of Advanced Nursing</i> , 71(12), 2977-2986. doi: 10.1111/jan.12725	N				
55	Francis-Coad, J., Etherton-Ber, C., Bulsara, C., Nobre, D., & Hill, A.-M. (2016). Using a community of practice to evaluate falls prevention activity in a residential aged care organisation: a clinical audit. <i>Australian Health Review: A Publication Of The Australian Hospital Association</i> . doi: 10.1071/AH15189	Y	Y	N	N	*
56	Frankfurter, D. (2011). A new paradigm for studying and treating primary ovarian insufficiency: the community of practice. <i>Fertility & Sterility</i> , 95(6), 1899-1900; discussion 1902. doi: http://dx.doi.org/10.1016/j.fertnstert.2011.03.007	N				
57	Freed, A. F. (1999). Communities of practice and pregnant women: Is there a connection? <i>Lang. Soc.</i> , 28(2), 257-271.	Y	N	Y	N	N
58	Friberger, M. G., & Falkman, G. (2013). Collaboration processes, outcomes, challenges and enablers of distributed clinical communities of practice. <i>Behaviour & Information Technology</i> , 32(6), 519-531 513p. doi: 10.1080/0144929X.2011.602426	Y	Y	N	N	
59	Fung-Kee-Fung, M., Watters, J., Crossley, C., Goubanova, E., Abdulla, A., Stern, H., & Oliver, T. K. (2009). Regional collaborations as a tool for quality improvements in surgery: a systematic review of the literature. <i>Annals of surgery</i> , 249(4), 565-572.	N				
60	Fung-Kee-Fung, M., Boushey, R. P., & Morash, R. (2014). Exploring a "community of practice" methodology as a regional platform for large-scale collaboration in cancer surgery-the Ottawa approach. <i>Current Oncology</i> , 21(1), 13-18. doi: http://dx.doi.org/10.3747/co.21.1662	N				

61	Fung-Kee-Fung, M., Boushey, R. P., Watters, J., Morash, R., Smylie, J., Morash, C., . . . Sundaresan, S. (2014). Piloting a regional collaborative in cancer surgery using a "community of practice" model. <i>Curr Oncol</i> , 21(1), 27-34. doi: 10.3747/co.21.1663	Y	Y	N	N	N	*
62	Gabbay, J., le May, A., Jefferson, H., Webb, D., Lovelock, R., Powell, J. & Lathlean, J. (2003) A case study of knowledge management in multi-agency consumer-informed "communities of practice": implications for evidence-based policy development in health and social services. <i>Health: An Interdisciplinary Journal for the Social Study of Health, Illness and Medicine</i>	Y	Y	N	N	N	b
63	Gardner, K., Bridges, S., & Walmsley, D. (2012). International peer review in undergraduate dentistry: enhancing reflective practice in an online community of practice. <i>European Journal of Dental Education</i> , 16(4), 208-212. doi: http://dx.doi.org/10.1111/j.1600-0579.2012.00743.x	Y	N	N	Y	Y	e
64	Garrow, A., & Tawse, S. (2009). An exploration of the assessment experiences of new academics as they engage with a community of practice in higher education. <i>Nurse Educ Today</i> , 29(6), 580-584. doi: http://dx.doi.org/10.1016/j.nedt.2009.01.013	Y	N	N	N	Y	e
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165	Olson, R., Wright, R. R., Elliot, D. L., Hess, J. A., Thompson, S., Buckmaster, A., . . . Wipfli, B. (2015). The COMPASS Pilot Study...Community of Practice and Safety Support. <i>Journal of Occupational & Environmental Medicine</i> , 57(4), 406-416 411p. doi: 10.1097/JOM.0000000000000374	N					
166	Patch, C. (2006). Newborn screening policy in the United Kingdom & the United States: two different communities of practice. <i>MCN: The American Journal of Maternal Child Nursing</i> , 31(3), 164-168 165p.	N					
167	Perrotta, K. (2014). Building a community of practice: Healthy Canada by Design CLASP Renewal--Postscript. <i>Canadian Journal Of Public Health = Revue Canadienne De Santé Publique</i> , 106(1 Suppl 1), eS59. doi: 10.17269/cjph.106.4635	N					
168	Plack, M. M. (2006). The development of communication skills, interpersonal skills, and a professional identity within a community of practice. <i>Journal of Physical Therapy Education</i> , 20(1), 37-46 10p.	Y	N	N			
169	Portoghese, I., Galletta, M., Sardu, C., Mereu, A., Contu, P., & Campagna, M. (2014). Community of practice in healthcare: an investigation on nursing students' perceived respect. <i>Nurse Educ Pract</i> , 14(4), 417-421. doi: http://dx.doi.org/10.1016/j.nepr.2014.01.002	Y	N	N			
170	Quinn, E. M., Cantillon, P., Redmond, H. P., & Bennett, D. (2013). Surgical journal club as a community of practice learning model: A case study: Education/Training 0687. <i>British Journal of Surgery</i> , 100 Supp(7), 161.	Y	N	N			
171	Quinn, E. M., Cantillon, P., Redmond, H. P., & Bennett, D. (2014). Surgical journal club as a community of practice: a case study. <i>Journal Of Surgical Education</i> , 71(4), 606-612. doi: 10.1016/j.jsurg.2013.12.009	Y	N	N			
172	Ranmuthugala, G., Cunningham, F., Plumb, J., Long, J., Georgiou, A., Westbrook, J., & Braithwaite, J. (2011). A realist evaluation of the role of communities of practice in changing healthcare practice. <i>Implement Sci</i> , 6, 49.	N					
173	Reed, M. G., Godmaire, H., Abernethy, P., & Guertin, M.-A. (2014). Building a community of practice for sustainability: strengthening learning and collective action of Canadian biosphere reserves through a	N					

	national partnership. Journal Of Environmental Management, 145, 230-239. doi: 10.1016/j.jenvman.2014.06.030						
174	Reid, S. D., Downes, E., & Khenti, A. (2015). Participants' Perception of a Unique Community of Practice for Substance Abuse Education in the Caribbean. Substance Abuse, 0-0.	N					e
175	Richardson, D., Kwan, D., Lowe, M., Maniate, J., Nirula, L., Matmari, L., & Ng, S. (2014). Fostering Continuing Professional Development in the Workplace: TESCoP (Teaching and Education Scholarship Community of Practice): CCME-OB2-4. MEDICAL EDUCATION, 48 Supplement(1), 27.	N					e
176	Roberts, G. I. (2015). Communities of practice: Exploring enablers and barriers with school health clinicians. Canadian Journal Of Occupational Therapy. Revue Canadienne D'ergothérapie, 82(5), 294-306. doi: 10.1177/0008417415576776	N					e
177	Robnett, R. (1997). Paradigms of community practice... the work of Linda Learnard, OTR/L. OT Practice, 2(5), 30-35 36p.	N					
178	Rodriguez, A., Kola-Palmer, S., Fry, A., Postlethwaite, R., & Dlamini, T. (2014). Authentic research and dissemination in health psychology; building a community of practice and student self efficacy.	N					e
179	Rolls, K., Ryan, K., Kowal, D., & Burrell, A. (2009). Creation of an online intensive care community of practice: the ICCMU website...The Asia Pacific Critical Care 2008 Congress. Australian Critical Care, 22(1), 58-58 51p.	N					
180	Roos, I. A. (2003). Reacting to the diagnosis of prostate cancer: patient learning in a community of practice. Patient Education & Counseling, 49(3), 219-224.	N					
181	Roy, H. P. M., Hummel, N. P., Attaway, D. M. S., Machtmes, K. P., Coneva, E. P., Morgan, K. P., & Cline, W. P. (2011). Collaborative Development of Nutrition Information for the All About Blueberries eXtension Community of Practice: P68. Journal of Nutrition Education & Behavior July/August, 43(4).	N					
182	Salam, T. M. D., Bohannan, S. R. C. I. S., Morin, M. R., Brummer, R. R. , & Swarens, A. R. N. (2014). Atrial Fibrillation Ablation with Less Than 90 Seconds of Fluoro: Safety and Efficacy of a Minimal-Fluoroscopic Catheter Ablation of Atrial Fibrillation in a Community Practice: 31. Journal of Cardiovascular Electrophysiology, 25(5), 570.	N					
183	Salkowitz, S. M. (2004). All Kids Count Connections Community of Practice Study of Deduplication Technology and Strategies for Integrated Child Health Information Systems. Paper presented at the The 2004 Immunization Registry Conference.	N					

184	Sayer, L. (2014). Communities of practice, a phenomenon to explain student development in community nursing. <i>Primary Health Care Research & Development</i> , 15(4), 430-440. doi: 10.1017/S1463423613000455	N					
185	Schott, G., & Hodgetts, D. (2006). Health and digital gaming: the benefits of a community of practice. <i>Journal Of Health Psychology</i> , 11(2), 309-316.	N					
186	Seibert, S. (2015). The meaning of a healthcare community of practice. <i>Nursing Forum</i> , 50(2), 69-74. doi: 10.1111/nuf.12065	N					
187	Shaikh, U., Nettiksimmons, J., Joseph, J. G., Tancredi, D., & Romano, P. S. (2014). Collaborative practice improvement for childhood obesity in rural clinics: the Healthy Eating Active Living Telehealth Community of Practice (HEALTH COP). <i>American Journal Of Medical Quality: The Official Journal Of The American College Of Medical Quality</i> , 29(6), 467-475. doi: 10.1177/1062860613506252	Y	Y	N	?	Y	
188	Shaw, L., Jennings, M. B., Poost-Foroosh, L., Hodgins, H., & Kuchar, A. (2013). Innovations in workplace accessibility and accommodation for persons with hearing loss: using social networking and community of practice theory to promote knowledge exchange and change. <i>Work</i> , 46(2), 221-229. doi: http://dx.doi.org/10.3233/WOR-131750	N					
189	Sherbino, J., Snell, L., Dath, D., Dojeiji, S., Abbott, C., & Frank, J. R. (2010). A national clinician-educator program: a model of an effective community of practice. <i>Medical Education Online</i> , 15. doi: http://dx.doi.org/10.3402/meo.v15i0.5356	N					
190	Short, A., Jackson, W., & Nugus, P. (2010). Expanding clinical research capacity through a community of practice (CoPER). <i>Nurse Educ Pract</i> , 10(1), 52-56. doi: http://dx.doi.org/10.1016/j.nepr.2009.03.016						
191	Singh, N., Huprikar, S., Burdette, S. D., Morris, M. I., Blair, J. E., Wheat, L. J., & the American Society of Transplantation, I. D. C. o. P. D.-D. F. I. W. G. (2012). Donor-Derived Fungal Infections in Organ Transplant Recipients: Guidelines of the American Society of Transplantation, Infectious Diseases Community of Practice. <i>American Journal of Transplantation</i> , 12(9), 2414-2428.	N					
192	Skirton, H., Patch, C., & Voelckel, M.-A. (2010). Using a community of practice to develop standards of practice and education for genetic counsellors in Europe. <i>Journal Of Community Genetics</i> , 1(4), 169-173. doi: 10.1007/s12687-010-0024-y	N					
193	Smith, L. M., Ellison, M. L., Starks, J., & Costa, A. (2013). Creating a "Community of Practice" on Transition Age Youth & Young Adults With Serious Mental Health Conditions in Northeast Massachusetts.	N					

194	Smith-Blair, N., & Abel, W. M. (2016). Our Community of Practice-Advancing Nursing Research: Message from the President. <i>Research In Nursing & Health</i> , 39(3), 139-141. doi: 10.1002/nur.21720	N				
195	Somboon, P. A. F., Pulsuk, T., Abidi, S. R., & Sriraj, W. (2012). Paper No: 721.00Developing a pediatric pain community of practice among seven hospitals in northeastern thailand. <i>BJA: British Journal of Anaesthesia</i> , 108(suppl_2) Supplement(2), ii310-ii367.	N				
196	Spiegel, J. M., Breilh, J., Beltran, E., Parra, J., Solis, F., Yassi, A., . . . Parkes, M. (2011). Establishing a community of practice of researchers, practitioners, policy-makers and communities to sustainably manage environmental health risks in Ecuador. <i>BMC International Health & Human Rights</i> , 11 Suppl 2, S5. doi: http://dx.doi.org/10.1186/1472-698X-11-S2-S5	N				
197	Stratton, B., Akers, J., Gribble, D., Holloway, K., Horner, B., Jiwa, M., . . . Toye, C. (2010). Building bridgesDeveloping an inter-sectoral community of practice for people with dementia. <i>Australasian Journal on Ageing</i> , 29 Supplement(2), 42.	N				
198	Swift, L. (2014). Online communities of practice and their role in educational development: a systematic appraisal. <i>Community Practitioner</i> , 87(4), 28-31 24p.	N				
199	Tang, J., & Yang, H. (2005). User role and perception of requirements in a web-based community of practice. <i>Online Information Review</i> , 29(5), 499-511 413p.	Y	N	N		
200	Tang, L., & Anderson, J. (2008). Building a community of practice -- the 'Mental Health in Higher Education' website. <i>Health Information on the Internet</i> (65), 3-5 3p.	N				E
201	Tax, C. L., Doucette, H., Neish, N. R., & Maillet, J. P. (2012). A model for cultivating dental hygiene faculty development within a community of practice. <i>Journal Of Dental Education</i> , 76(3), 311-321.	Y	N	N		E
202	Taylor, J., Burley, M., & Nestel, D. (2015). Integrating Interprofessional Education and Simulation in Community Health: Evaluation of a Practice-based Student Clinic. <i>International Journal of Practice-based Learning in Health and Social Care</i> , 3(1), 94-107.	N				E
203	Thidemann, I. (2005). The vulnerable learning arena -- implications of community of practice for learning and competence development in nursing. <i>Nordic Journal of Nursing Research & Clinical Studies / Vård i Norden</i> , 25(1), 10-15 16p.	N				E

204	Thomas, Y. P. M., & Judd, J. D. M. P. H. M. (2015). Establishing a community of practice for Occupational Therapy curriculum development: The value of a two-way process. <i>Australian Occupational Therapy Journal</i> , 62(4), 238-245.	N						E
205	Thomas, A. U., Fried, G. P., Johnson, P., & Stilwell, B. J. (2010). Sharing best practices through online communities of practice: a case study. <i>Human Resources for Health</i> , 8(1), 1-8. doi: 10.1186/1478-4491-8-25	Y	N	N				E
206	Thornhill, J., & Stipich, N. (2007). Executive Training for Research Application (EXTRA) community of practice. <i>Healthcare Quarterly</i> , 10(4), 16-18.	N						
207	Thrysoe, L., Hounsgaard, L., Dohn, N. B., & Wagner, L. (2010). Participating in a community of practice as a prerequisite for becoming a nurse - Trajectories as final year nursing students. <i>Nurse Educ Pract</i> , 10(6), 361-366. doi: 10.1016/j.nepr.2010.05.004	N						
208	Thrysoe, L., Hounsgaard, L., Dohn, N. B., & Wagner, L. (2012a). Newly qualified nurses--experiences of interaction with members of a community of practice. <i>Nurse Educ Today</i> , 32(5), 551-555. doi: 10.1016/j.nedt.2011.07.008	Y	Y	N	N			
209	Tipper, D. (2005). Creating a 'community of practice': the Central Coast Networks of Practice project. <i>Developing Practice</i> (12), 59-65 57p.	N						
210	Toye, C., Jiwa, M., Holloway, K., Horner, B. J., Andrews, S., McInerney, F., & Robinson, A. L. (2015). Can a community of practice enhance a palliative approach for people drawing close to death with dementia? <i>International Journal Of Palliative Nursing</i> , 21(11), 548-556. doi: http://dx.doi.org/10.12968/ijpn.2015.21.11.548	Y	Y	N	N	N		
211	Trowler, P. R., & Turner, G. H. (2002). Exploring the hermeneutic foundations of university life: Deaf academics in a hybrid 'community of practice'. <i>Higher Education</i> , 43(2), 227-256.	N						
212	Turnbull, A. P. E., Summers, J. A. P., Gotto, G. P., Stowe, M. J. D., Beauchamp, D., Klein, S. J. D., Zuna, N. P. (2009). Fostering Wisdom-Based Action Through Web 2.0 Communities of Practice: An Example of the Early Childhood Family Support Community of Practice. <i>Infants & Young Children</i> January/March, 22(1), 54-62.	Y	N	Y	Y	Y	y	
213	Urquhart, R. P., Cornelissen, E. R. D. P., Lal, S. P., Colquhoun, H. P., Klein, G. M., Richmond, S. P., & Witteman, H. O. P. (2013). A Community of Practice for Knowledge Translation Trainees: An Innovative Approach for	N						

	Learning and Collaboration. Journal of Continuing Education in the Health Professions Autumn, 33(4), 274-281.						
214	Uys, L. R., & Middleton, L. (2011). Internationalising university schools of nursing in South Africa through a Community of Practice. International Nursing Review, 58(1), 115-122. doi: http://dx.doi.org/10.1111/j.1466-7657.2010.00854.x	N					
215	Valaitis, R. K., Akhtar-Danesh, N., Brooks, F., Binks, S., & Semogas, D. (2011). Online communities of practice as a communication resource for community health nurses working with homeless persons. Journal of Advanced Nursing, 67(6), 1273-1284. doi: 10.1111/j.1365-2648.2010.05582.x	Y	Y	N	Y	Y	Y
216	Varia, S. G., Ebin, J., & Stout, E. R. (2014). Suicide Prevention in Rural Communities: Perspectives From a Community of Practice. Journal of Rural Mental Health, 38(2), 109-115.	N					
217	Wallerstein, N., & Duran, B. (2010). Community-based participatory research contributions to intervention research: the intersection of science and practice to improve health equity. American journal of public health, 100(S1), S40-S46.	N					
218	Warm, E. J., Logio, L. S., Pereira, A., Buranosky, R., & McNeill, D. (2013). The Educational Innovations Project: a community of practice. The American Journal Of Medicine, 126(12), 1145-1149.e1141-1142. doi: 10.1016/j.amjmed.2013.08.021	N					
219	Weldegebreal, F., Medhin, G., Weldegebriel, Z., & Legesse, M. (2014). Assessment of community's knowledge, attitude and practice about onchocerciasis and community directed treatment with Ivermectin in Quara District, north western Ethiopia. Parasites & Vectors, 7, 98-98. doi: 10.1186/1756-3305-7-98	Y	N	N			
220	Wexler, L., McEachern, D., DiFulvio, G., Smith, C., Graham, L. F., & Dombrowski, K. (2016). Creating a Community of Practice to Prevent Suicide Through Multiple Channels: Describing the Theoretical Foundations and Structured Learning of PC CARES. International Quarterly Of Community Health Education, 36(2), 115-122. doi: http://dx.doi.org/10.1177/0272684X16630886	N					
221	Wild, E. L., Richmond, P. A., de Merode, L., & Smith, J. D. (2004). All Kids Count Connections: a community of practice on integrating child health information systems. Journal of Public Health Management and Practice, 10, S61-S65.	N					
222	Windle, R., Wharrad, H., McCormick, D., Dandrea, J., Bath-Hextall, F., Leighton, B., . . . Holley, D. (2007). Does a community of practice approach to the development of learning objects support reuse of e-learning	N					C

	materials in health science education. Paper presented at the Proceedings of the International Technology, Education and Development Conference.						
223	Whiteford, M., & Byrne, P. (2014). Talking about alcohol: communities of practice and patient pathways. <i>Journal of Research in Nursing</i> , 1744987114548744.	Y	Y	N	N		
224	Widemark, E. (2008). Community and learning: a virtual community of practice for nurse practitioners. (Ph.D.), Capella University. Retrieved from http://search.ebscohost.com/login.aspx?direct=true&db=cin20&AN=109850432&site=ehost-live Available from EBSCOhost cin20 database.	Y	N	N			
225	Wild, E. L., Richmond, P. A., de Merode, L., & Smith, J. D. (2004). All Kids Count Connections: a community of practice on integrating child health information systems. <i>Journal of Public Health Management & Practice</i> , Suppl, S61-65.	N					
226	Wilding, C., Curtin, M., & Whiteford, G. (2012). Enhancing occupational therapists' confidence and professional development through a community of practice scholars. <i>Australian Occupational Therapy Journal</i> , 59(4), 312-318. doi: http://dx.doi.org/10.1111/j.1440-1630.2012.01031.x	Y	Y	N	N		
227	Wilson, A., Delbridge, R., & Palermo, C. (2016). Why We Need a Community of Practice for Dietitians Working in Indigenous Health. <i>Nutrition & Dietetics</i> , 73(1), 115-116 112p. doi: 10.1111/1747-0080.12214	N					
228	Wong, A., & McKey, C. (2014). Academic Leadership as a Community of Practice: CCME-OB2-3. <i>MEDICAL EDUCATION</i> , 48 Supplement(1), 26-27.	N					
229	Zournazis, H. E., & Marlow, A. H. (2015). The use of video conferencing to develop a community of practice for preceptors located in rural and non traditional placement settings: an evaluation study. <i>Nurse Educ Pract</i> , 15(2), 119-125.	N					
219	Weldegebreal, F., Medhin, G., Weldegebriel, Z., & Legesse, M. (2014). Assessment of community's knowledge, attitude and practice about onchocerciasis and community directed treatment with Ivermectin in Quara District, north western Ethiopia. <i>Parasites & Vectors</i> , 7, 98-98. doi: 10.1186/1756-3305-7-98	Y	N	N			
220	Wexler, L., McEachern, D., DiFulvio, G., Smith, C., Graham, L. F., & Dombrowski, K. (2016). Creating a Community of Practice to Prevent Suicide Through Multiple Channels: Describing the Theoretical Foundations and Structured Learning of PC CARES. <i>International Quarterly Of Community Health Education</i> , 36(2), 115-122. doi: http://dx.doi.org/10.1177/0272684X16630886	N					

		N					
221	Windle, R., Wharrad, H., McCormick, D., Dandrea, J., Bath-Hextall, F., Leighton, B., . . . Holley, D. (2007). Does a community of practice approach to the development of learning objects support reuse of e-learning materials in health science education. Paper presented at the Proceedings of the International Technology, Education and Development Conference.	N					C
222	Whiteford, M., & Byrne, P. (2014). Talking about alcohol: communities of practice and patient pathways. Journal of Research in Nursing, 1744987114548744.	Y	Y	N	N		
223	Widemark, E. (2008). Community and learning: a virtual community of practice for nurse practitioners. (Ph.D.), Capella University. Retrieved from http://search.ebscohost.com/login.aspx?direct=true&db=cin20&AN=109850432&site=ehost-live Available from EBSCOhost cin20 database.	Y	N	N			
224	Wild, E. L., Richmond, P. A., de Merode, L., & Smith, J. D. (2004). All Kids Count Connections: a community of practice on integrating child health information systems. Journal of Public Health Management & Practice, Suppl, S61-65.	N					
225	Wilding, C., Curtin, M., & Whiteford, G. (2012). Enhancing occupational therapists' confidence and professional development through a community of practice scholars. Australian Occupational Therapy Journal, 59(4), 312-318. doi: http://dx.doi.org/10.1111/j.1440-1630.2012.01031.x	Y	Y	N	N		
226	Wilson, A., Delbridge, R., & Palermo, C. (2016). Why We Need a Community of Practice for Dietitians Working in Indigenous Health. Nutrition & Dietetics, 73(1), 115-116 112p. doi: 10.1111/1747-0080.12214	N					
227	Wong, A., & McKey, C. (2014). Academic Leadership as a Community of Practice: CCME-OB2-3. MEDICAL EDUCATION, 48 Supplement(1), 26-27.	N					
228	Zournazis, H. E., & Marlow, A. H. (2015). The use of video conferencing to develop a community of practice for preceptors located in rural and non traditional placement settings: an evaluation study. Nurse Educ Pract, 15(2), 119-125.	N					

PR – primary research. HS – healthcare setting. M – related to motherhood. O - online element. CC – CoP concept. PR – peer reviewed.

Appendix 2 – 19 critically appraised papers. Final 11 papers in bold

		Paper	PD	HS	M	O	CC	PR
1	10	<i>Barnett, S., Jones, S. C., Bennett, S., Iverson, D., and Bonney, A. (2013a). Perceptions of family physician trainees and trainers regarding the usefulness of a virtual community of practice. J Med Internet Res, 15(5), e92-e92. doi: 10.2196/jmir.2555</i> Excluded – intent to use but no actual CoP use	Y	Y	N	Y	Y	Y
2	11	<i>Barnett, S., Jones, S. C., Bennett, S., Iverson, D., and Bonney, A. (2013b). Usefulness of a virtual community of practice and web 2.0 tools for general practice training: experiences and expectations of general practitioner registrars and supervisors. Australian Journal Of Primary Health, 19(4), 292-296. doi: 10.1071/PY13024</i> Excluded – intent to use but no actual CoP use	Y	Y	N	Y	Y	Y
3	12	Barnett, S., Jones, S. C., Caton, T., Iverson, D., Bennett, S., and Robinson, L. (2014). Implementing a virtual community of practice for family physician training: a mixed-methods case study. J Med Internet Res, 16(3), e83. doi: http://dx.doi.org/10.2196/jmir.3083	Y	Y	N	Y	Y	Y
4	19	<i>Boucher, J. A., and MacIntyre, D. L. (2015). Survey of a Pelvic Health Physiotherapy Community of Practice: A Pilot Study to Gain Member Input to Help Sustain and Advance the Group. Physiotherapy Canada, 67(1), 10-16 17p. doi: 10.3138/ptc.2013-74</i> Excluded – no online element	Y	Y	N	Y	Y	Y
5	20	<i>Burgess, J., and Sawchenko, L. (2011). Community of practice: a nurse practitioner collaborative model. Nursing leadership (Toronto, Ont.), 24(2), 99-112.</i> Excluded – Secondary analysis of research	Y	Y	N	Y	Y	Y
6	30	Curran, J. A., Murphy, A. L., Abidi, S. S. R., Sinclair, D., and McGrath, P. J. (2009). Bridging the gap: knowledge seeking and sharing in a virtual community of emergency practice. Evaluation and The Health Professions, 32(3), 312-325. doi: 10.1177/0163278709338570	Y	Y	N	Y	Y	Y

7	36	Diaz-Chao, A., Torrent-Sellens, J., Lacasta-Tintorer, D., and Saigi-Rubio, F. (2014). Improving integrated care: modelling the performance of an online community of practice. International Journal of Integrated Care [Electronic Resource], 14, e007.	Y	Y	N	Y	Y	Y	
8	47	<i>Evans, C., Yeung, E., Markoulakis, R., and Guilcher, S. (2014). An online community of practice to support evidence-based physiotherapy practice in manual therapy. Journal of Continuing Education in the Health Professions, 34(4), 215-223. doi: http://dx.doi.org/10.1002/chp.21253</i> Excluded – secondary analysis of research	Y	Y	N	Y	Y	N	
9	51	Ford, J., Korjonen, H., Keswani, A., and Hughes, E. (2015). Virtual communities of practice: can they support the prevention agenda in public health? Online J Public Health Inform, 7(2).	Y	Y	N	Y	Y	Y	
10	52	<i>Fortin, J., Skryabka, K., Avinoam, G., Sharp, S., Willems, J., and Linkewich, E. (2014). Abstract W P274: Developmental Evaluation Enhances Utility of the Toronto Stroke Networks Virtual Community of Practice. Stroke, 45(Suppl_1) Supplement(1), AWP274.</i> Excluded – Focus on education not healthcare. Primary aim teaching and learning	Y	Y	N	Y	Y	N	
11	78	<i>Gullick, J. G., and West, S. H. (2016). Building research capacity and productivity among advanced practice nurses: an evaluation of the Community of Practice model. Journal of Advanced Nursing, 72(3), 605-619. doi: http://dx.doi.org/10.1111/jan.12850</i> Excluded – Focus on education and research and not healthcare delivery	Y	Y	N	Y	Y		
12	90	Hoffmann, T., Desha, L., and Verrall, K. (2011). Evaluating an online occupational therapy community of practice and its role in supporting occupational therapy practice. Australian Occupational Therapy Journal, 58(5), 337-345. doi: http://dx.doi.org/10.1111/j.1440-1630.2011.00954.x	Y	Y	N	Y	Y	Y	
13	95	Ikioda, F., Kendall, S., Brooks, F., and et al. (2014). Developing an online community of practice to empower health visitors: Findings from a pilot study. Journal of Health Visiting, 2(8), 436-4440.	Y	Y	N	Y	Y	Y	
14	107	<i>Kelly, T. B., Lowndes, A., and Tolson, D. (2005). Advancing stages of group development: the case of a virtual nursing community of practice groups. Groupwork, 15(2), 17 - 38.</i> Excluded – Focus on the theory of group formation, not CoP theory or concept development	Y	Y	N	Y	Y		

15	114	Kothari, A., Boyko, J. A., Conklin, J., Stolee, P., and Sibbald, S. L. (2015). Communities of practice for supporting health systems change: a missed opportunity. Health Research Policy and Systems, 13(1), 33.	Y	Y	N	Y	Y	Y
16	148	Mendizabal, G.A., Solinís, R.N., and González, I.Z., (2013). HOBE+, a case study: a virtual community of practice to support innovation in primary care in Basque Public Health Service. BMC Family Practice, 14, 168-168. doi: 10.1186/1471-2296-14-168	Y	Y	N	Y	Y	Y
17	161	Murty, S. A., Gilmore, K., Richards, K. A., and Altilio, T. (2012). Using a LISTSERV™ to develop a community of practice in end-of-life, hospice, and palliative care social work. Journal Of Social Work In End-Of-Life Palliative Care, 8(1), 77-101. doi: http://dx.doi.org/10.1080/15524256.2011.652857	Y	Y	N	Y	Y	Y
18	212	Turnbull, A. P. E., Summers, J. A. P., Gotto, G. P., Stowe, M. J. D., Beauchamp, D., Klein, S. J. D., Zuna, N. P. (2009). Fostering Wisdom-Based Action Through Web 2.0 Communities of Practice: An Example of the Early Childhood Family Support Community of Practice. Infants and Young Children January/March, 22(1), 54-62.	Y	N	Y	Y	Y	y
19	215	Valaitis, R. K., Akhtar-Danesh, N., Brooks, F., Binks, S., and Semogas, D. (2011). Online communities of practice as a communication resource for community health nurses working with homeless persons. Journal of Advanced Nursing, 67(6), 1273-1284. doi: 10.1111/j.1365-2648.2010.05582.x	Y	Y	N	Y	Y	Y

PR – primary research. HS – healthcare setting. M – related to motherhood. O - online element. CC – CoP concept. PR – peer reviewed.

Italicised papers (10, 11, 19, 20, 47, 52, 78 & 107) were excluded from the synthesis:

Appendix 3 – Data extraction table results

Paper ID	methodology			Group			Artificial		Size			Evidence of personal relationship		Independent evaluation		Moderation			Theory based		Outcome measures		Self - selecting		Outcomes created for			
	Case study	Mix meth	other	Prof single	Prof multi	Non prof	Y	N	<20	20-100	101+	Y	N	Y	N	Expert	Gp Member	None	Y	N	Y	N	Y	N	Social support	Specific need	Not specified	
1 Barnett (2014)	X			X			X			X			X		X				X		X		X			X		
2 Curran (2009)	X				X		X			X			X		X					X		X		X			X	
3 Diaz-Chao (2014)			X		X		X			X			X	X				X	X		X			X		X		
4 Ford (2015)	X				X		X			X			X				X	X			X	X						X
5 Hoffman (2011)		X		X			X		X	X			X		X		X		X			X	X					X
6 Ikoda (2014)		X		X			X			X			X				X	X			X	X						X
7 Kothari (2015)	X				X		X			X			X					X	X			X	X					X
8 Medizabali (2013)	X				X		X			X			X			X			X			X	X			X		
9 Murty (2012)	X			X				X		X		X		X			X			X			X					X
10 Turnbull (2009)	X				X	X	X			X			X			X			X			X	X			X		
11 Valaitis (2011)	X			X			X			X			X					X	X			X	X			X		

Appendix 4 – Papers included in the study

Study authors	Title	Scope, Purpose	Design, methods	CoP size Sampling strategy/ participants	Analytic strategy
1/ Barnett, S., Jones, S. C., Caton, T., Iverson, D., Bennett, S., and Robinson, L. (2014)	Implementing a virtual community of practice for family physician training: a mixed-methods case study	Case study Implementation of 7 step framework for implementing a CoP and usefulness of the CoP	Mixed methods, surveys, interviews, google analytic Web data	CoP 34 Convenience sample 28 GP trainees	Thematic analysis using a framework Paired t Tests of online survey data
2/ Curran, J. A., Murphy, A. L., Abidi, S. S. R., Sinclair, D., and McGrath, P. J. (2009)	Bridging the gap: knowledge seeking and sharing in a virtual community of emergency practice	Knowledge seeking and sharing in a virtual community of emergency practice	Case study -web based information and learning exchange andonline discussion board	CoP 207 Convenience sample 187 emergency room clinicians	Descriptive stats and content analysis of web data
3/ Diaz-Chao, A., Torrent-Sellens, J., Lacasta-Tintorer, D., and Saigi-Rubio, F. (2014)	Improving Integrated Care: Modelling the performance of an online community of practice	Core hypothesis testing CoPs use of Web 2 improves communication, improved primary care and reduced admissions to secondary care	Case study CoP use of a web platform Ad hoc questionnaire	CoP 357 Convenience sample 159 primary care practitioners	Quantitative partial least squares methodology. Causal networks between comms and hospital admissions
4/ Ford, J., Korjonen, H., Keswani, A., and Hughes, E. (2015)	Virtual communities of practice: can they support the prevention agenda in public health?	What makes a CoP successful What methods exist for evaluation	Case study online HP community with obesity interest Web data Survey	CoP 162 Convenience sample 162 health professionals	Web metrics Content analysis Thematic analysis
5/ Hoffmann, T., Desha, L., and Verrall, K. (2011)	Evaluating an online occupational therapy community of practice and its role in supporting occupational therapy practice	To enhance the connectedness and sense of clinical supportavailable to occupational therapists	Mixed methods Focus groups and questionnaire of users and non-users	CoP 673 Convenience sample	Thematic analysis

6/ Ikioda, F., Kendall, S., Brooks, F., and et al. (2014)	Developing an online community of practice to empower health visitors: Findings from a pilot study	To facilitate collaboration and knowledge sharing among health visitors	Mixed methods Focus group User feedback Online data Social network analysis Netnography	CoP 200 HV's Convenience sample 200 health visitors	Realist evaluation
7/ Kothari, A., Boyko, J. A., Conklin, J., Stolee, P., and Sibbald, S. L. (2015)	Communities of practice for supporting health systems change: a missed opportunity	To increase understanding of knowledge translation processes mobilised through CoPs	Case study Semi structured interviews Field notes Analysis of background documents.	CoP 8000 Convenience sample 11 health professionals from a sub CoP of 60	Deductive and inductive coding Thematic analysis
8/ Mendizabal, G,A., Solinís, R,N., and González, I,Z., (2013)	HOBE+, a case study: a virtual community of practice to support innovation in primary care in Basque Public Health Service	Use and perception of usefulness of VCoP Innovation into primary care	Case study Data provided by technology platform Survey	CoP1627 Convenience sample 90 HP's	Variable analysis
9/ Murty, S. A., Gilmore, K., Richards, K. A., and Atilio, T. (2012)	Using a LISTSERV™ to develop a community of practice in end-of-life, hospice, and palliative care social work	The use of a list server to facilitate the growth of a CoP of social workers in palliative and end of life care.	Case study Online data	CoP 580 Convenience sample 580 social workers	Content analysis
10/ Turnbull, A. P. E., Summers, J. A. P., Gotto, G. P., Stowe, M. J. D., Beauchamp, D., Klein, S. J. D., Zuna, N. P. (2009)	Fostering Wisdom-Based Action Through Web 2.0 Communities of Practice: An Example of the Early Childhood Family Support Community of Practice	Early childhood family support CoP Developing knowledge maps and knowledge banks to support families	Descriptive case study Web based data	CoP 373 Convenience sample 373 HP's and family members	Descriptive online data analysis
11/ Valaitis, R. K., Akhtar-Danesh, N., Brooks, F., Binks, S., and Semogas, D. (2011)	Online communities of practice as a communication resource for community health nurses working with homeless persons	To explore online communities of practice as a communication resource for community health nurses working with homeless persons	Mixed methods Focus groups Online survey - 11 item questionnaire	CoP /size unknown Convenience sample 16 nurses	Q methodology and Q sort activity Factor analysis Subjectivity and viewpoint ranking

Appendix 5 – Netiquette



Netiquette is a set of rules for online behaviour. These rules are needed because online it is easy to make mistakes and to offend people without meaning to. It is important that we treat each other with politeness and respect, and by following a few simple rules we are less likely to make mistakes that others find upsetting.

As a member of this group you will be expected to:

Be supportive towards each other and share information to help the group thrive.

Respect the rights of all others. Treat everybody with respect, regardless of differences in culture, ability, race, gender, age, sexual orientation or social class.

Respect others opinions and respect difference in opinion.

Please remember these points:

1/ Think before you press send.

Read through what you have written before you press send. Check that you have actually said what you intended to say

2/ Remember others cannot see your facial expressions

When you make a comment, others cannot see whether you are smiling or frowning. Help members 'see' you by explaining your ideas fully. You could also use emoticons (such as 😊 or ☹️) to help add meaning to your comments. Avoid sarcasm, people who don't know you may misinterpret its meaning.

3/ Remember others will read your comments

If you are not sure how your comments are being taken, ask for feedback. Sometimes electronic messages can be perceived as harsher than intended because there are no visual clues such as facial expression or body language. If you disagree with what someone has said, please bear this in mind as you express that disagreement. Ranting at other members is never acceptable. If you are offended by comments, please don't post angry retorts. If you are concerned about anything

posted within the group or feel offended please message the midwife moderator privately to express your concern.

4/ Use appropriate language

Please avoid coarse, rough, rude or derogatory language. Never use harassing, threatening, embarrassing, or abusive language or actions. Avoid online 'shouting' or sentences typed in all capitals.

Use asterisks surrounding words to indicate italics used for emphasis (*at last*).

5/ Respect others' confidentiality and privacy.

Please don't share personal information with non-group members. Please don't quote or forward personal messages without asking the original owner.

Remember this group is meant to be a safe place to share.

Appendix 6 – Participant Information leaflet



Participant Information sheet

Date: _____

Research Study: Developing and examining the impact of social media based communities of practice on new mothers and midwives to enable information sharing and learning

What is the purpose of the research project?

The purpose of this project is to create a Facebook group for expectant mothers to share information and offer support to each other during pregnancy and up to 6 weeks after your baby is born. Fifteen mothers booked at X hospital, at approximately the same stage in their pregnancies will form the group. A registered midwife will be the 16th member of the group. The midwife will follow, and at times join the conversations and discussions that take place between the group members. The midwife be able to answer questions you may have and also confirm that information shared within the group is factually correct. It is hoped that belonging to the group will you an additional source of support during pregnancy and will help to improve the quality and accuracy of information shared.

What would I have to do if I agree to participate?

If you agree to participate you will agree to take part in all aspects of the research including:

- Engaging with the Facebook group and making some contributions to the discussions.
- Take part in 3 group discussions (focus groups) at approximately 10 week intervals in the middle and final stages of pregnancy and once after your baby is born.
- Take part in an individual interview about 6 weeks after the birth of your baby.

1. Facebook Group Participation

You will become a member of a secret Facebook group. The group is secret because it cannot be searched or accessed by non-members even if they are already members of Facebook. You will be expected to visit the site at least weekly and start or contribute to some conversations/discussions. The midwife will access the group at least 4 times daily to answer any questions, check and if necessary correct information and bring additional information to the group. After a minimum of ten

weeks if all group members agree that the group should be opened to invite other people to join, the status of the group will be changed to 'closed'. Members of the group will be able to access your personal Facebook page unless you change the privacy settings and you may wish to change some of these. The information shared and collected on the group page will be visible to group members and researchers and will be used in the research. All the information gathered will be anonymised for the research so individual people will not be recognisable.

2. Focus Group Details

You will be asked to attend 3 separate group discussions (focus groups) that will take place in a meeting room at the hospital with other members of the Facebook group, the midwife moderator and the 2 researchers. Each discussion will take no more than 2 hours. During the focus groups the researchers will gather information about your use and engagement with the Facebook group, your overall experiences, and your interactions with the midwife moderators and other members.

It is hoped that the group discussions will be enjoyable and will give you an opportunity to socialise with the other group members. Tea/Coffee and light refreshments will be provided. Travel and parking costs will be reimbursed up to the value of £10.

Before the focus group discussion takes place you will be asked to sign a form stating that you give your consent to take part and know that the discussions will be tape recorded and the information gathered will be used for research purposes. The audio tape recordings will be transferred to a safe computer and transcribed by the researchers. All the information gathered will be anonymised so individual people will not be recognisable.

3. Interview Information Details

You will be asked to take part in a final individual interview with one of the researchers at the end of the study. Both researchers are midwives but neither will be involved in your personal midwifery care at any point. This interview can take place somewhere that is convenient for you, this could be at your home, the hospital or a local children's centre. Each interview will take no more than 1½ hours. During the interview the researcher will want to know more about your enjoyment and use of the group, your views on the information exchanged and your personal experience of using the group for information and support. Before the interview takes place you will be asked to sign a consent form stating that you give your consent for the interview to be recorded and for the information to be used for research purposes. The information gathered will be anonymised so you will not be recognisable. The interview recording will be transferred to a safe computer / laptop and transcribed by the researcher.

How much time do I have to spend on the project?

You will be expected to visit the site at least weekly and to engage with the Facebook group regularly.

You will be required to spend a maximum of 2 hours at 3 separate focus group meetings each held 10 weeks apart (6 hours total).

You will be involved in the interview, which will take no longer than 1½ hours when your baby is about 6 weeks old. (1½ hours total)

What benefit or risk is there to me if I participate in the research?

Hopefully taking part in the study will be both enjoyable and beneficial to you. It will enable you to communicate with other mothers who are at the same stage of pregnancy as you and are booked at the same hospital. They may be able to share local knowledge and experiences that are helpful and informative to you during your pregnancy.

You will be able to ask a Registered Midwife, from the hospital providing your care, questions relating to pregnancy and birth when you want to ask them and you will be given a response on the same day. The findings from this study may provide evidence which means this service/support is considered for all women in pregnancy.

There are no risks directly associated with this study. Your participation is voluntary and non-participation will not affect your care in any way.

What if I agree to participate then want to withdraw?

If you decide at a later date that you do not want to be involved in the study, then contact Rose McCarthy (Bolton) r.mccarthy@salford.ac.uk or Lesley Choucri l.p.choucri@salford.ac.uk at any time to be removed from the Facebook group and , and you will not be contacted further. It may not be possible to remove all online postings or to remove them from the study if they have generated conversations or discussions amongst other group members.

How will you use the information I provide and keep it confidential so no-one can recognise it was from me?

The information you provide will be used for this study only. We will not keep any information about you other than the details you provide at the beginning of the study. This will be your given name, email address and due date. This will be stored safely and confidentially on a password protected devices, accessed only by the researchers and supervisor.

The postings you make on Facebook will be visible to group members and the researchers only. Group members will be able to see each other's Facebook pages but the amount of information they can see will depend on the individuals' privacy settings.

Disclosure made on line or within discussion groups and interviews will be treated confidentially. However, the midwives have a duty to share any information that involves the welfare of children, including the unborn, or issues of public safety. The discussions, interviews and online postings will be analysed to better understand and describe their experiences of women using a social media group for support and information during pregnancy.

After the study is completed your information will be stored anonymously and your name and email erased.

How will the study findings be published?

The study reports and other publications will be written in a way that protects the identity and confidentiality of the people who participate. You will be sent an electronic summary of the research study or a URL link of where to access the final

study full report when it is completed. Study findings will also be communicated through appropriate social media groups and journal articles. Anonymous data from the study may be used for teaching purposes.

What if I want to complain about how the research is being conducted?

If you have any complaints regarding any aspect of how this research is being conducted then please contact: Rose McCarthy: r.mccarthy@salford.ac.uk or phone 07717500850

Research Project Contact Information:

Rose McCarthy
Lesley Choucri

Supervisor: Dr Alison Brettle: a.brettle@salford.ac.uk

If you are unhappy with the way the research is conducted, please contact Anish Kurien: a.kurien@salford.ac.uk or tel: 0161 295 5276

Thank you for your time.

Date

Appendix 6a – Participant Reply Slip



**Participant contact details
RESEARCH STUDY -**

Participant contact details

Title of Project: Developing and examining the impact of social media based communities of practice of new mothers and midwives to enable information sharing and learning

Name of Researcher(s): Rose McCarthy, Lesley Choucri, Cristina Vasilica
Supervisors: Dr Alison Brettle and Prof. Paula Ormandy

- I am interested in taking part in this study and would like a researcher to contact me.
- I have provided my contact details below

Name

**Expected Date of delivery
(EDD)**.....
.

Please contact me by (give preferred choice)

Phone

Or

Email

You will be contacted by a researcher after 48hours of receipt of this form but within 3 weeks

Thank you

Appendix 7 – Participant Consent Form



Participant Consent Form

Participant - CONSENT FORM

Title of Project: Developing and examining the impact of social media based communities of practice of new mothers and midwives to enable information sharing and learning

Name of Researcher(s): Rose McCarthy, Lesley Choucri

Please initial box

- I confirm that I have read and understand the information sheet (*Dated: 20.04.15 v3*) for the above study and have had the opportunity to ask questions.
- I understand that my participation is voluntary and that I am free to withdraw at any time, without giving any reason, without my legal rights or care being affected.
- I understand that my name and involvement in the study will remain confidential
- I understand my Facebook page will be visible to other members of the group as per my privacy settings
- I understand that any personal information about me such as my email contact address will not be shared outside of the study team and will only be used for this research
- I understand that my online activity within the secret Facebook group and my comments and contributions from the group discussions and interview will be used as part of the study evaluation data
- I understand that the information I provide could be used as part of the final study report or journal publications but any comments

used will not be identifiable to me.

- I understand that confidentiality may be broken by the midwives if I share information that affects the welfare of children or are issues of public safety

- I agree to take part in the above study

Name of Participant.....

SignatureDate

Name of researcher

Signature.....

Date.....

Appendix 7a – Focus group/Interview consent form



Focus Group/Interview - CONSENT FORM

Title of Project: Developing and examining the impact of social media based communities of practice of new mothers and midwives to enable information sharing and learning

Name of Researcher(s): Rose McCarthy and Lesley Choucri

Please initial box

- I confirm that I have read and understand the information sheet (*Dated: 20.04.15 v3*): for the above study and have had the opportunity to ask questions. I understand that my participation is voluntary and that I am free to leave at any time, without giving any reason, without my maternity care or my legal rights being affected.
- I understand that my name and involvement in the group discussion will remain confidential, and I in turn must not discuss the names of other group participants with people outside the group.
- I understand that any personal information about me such as my Facebook account details and email contact address will not be shared outside of the study team and will only be used for this research.
- I understand that the information I provide could be used as part of the final study report or journal publications but any comments used will not be identifiable to me.
- I agree to the group discussion being digitally recorded
- I agree to take part in a face-to-face interview and agree to this being digitally recorded.

- I agree to the researchers taking notes during the interview
- I agree to take part in the focus group/ interview
- I understand that confidentiality may be broken by the midwives if I share information that affects the welfare of children or are issues of public safety

Name of participant

SignatureDate.....

Name of researcher

Signature.....Date.....

Appendix 8 – Focus group schedule



Focus group schedule

Answer any questions

Participants to sign consent form

Tape recorder on.

Opening Questions

- Introductions – who we are and stage in pregnancy/or role in research.

Introductory Questions

- What do you think about Facemums?

Discussion Question Topics – Key questions

- Have you visited the Facebook group?
- Have you enjoyed using the site?
- What have been your experiences using the site?
- Do you interact more with each other or the midwife?
- What have you learned from the group?
- Where else do you access information from and how does the MMFG information compare?
- Positive things about using the site
- Negative things about using the site
- Have you shared this information with anyone else?
- What would you change in the group?
- Has information you learned in the group affected or changed your behaviour in any way?

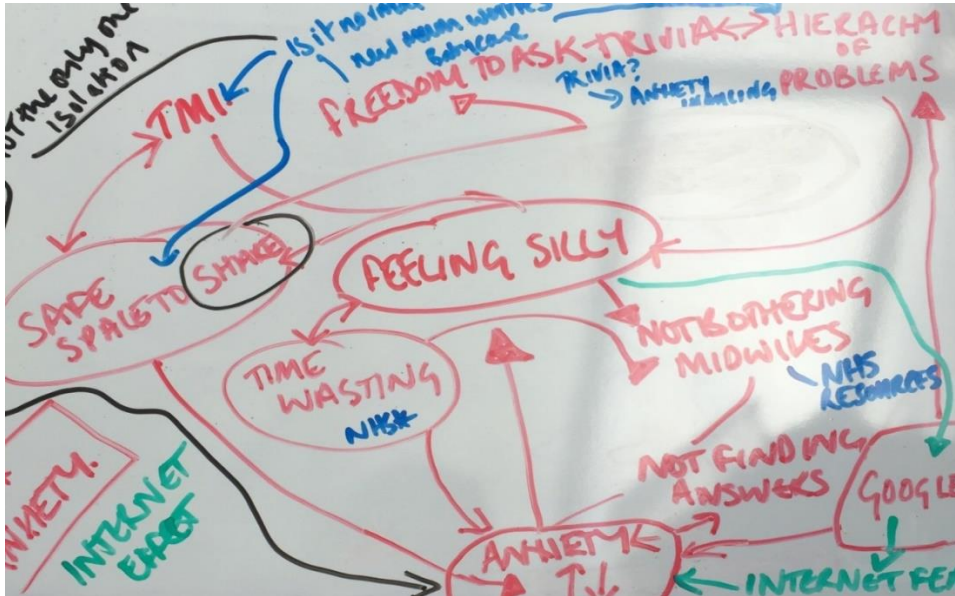
Ending questions

- Has the group met your expectations?
- What is your overall feeling about the group?

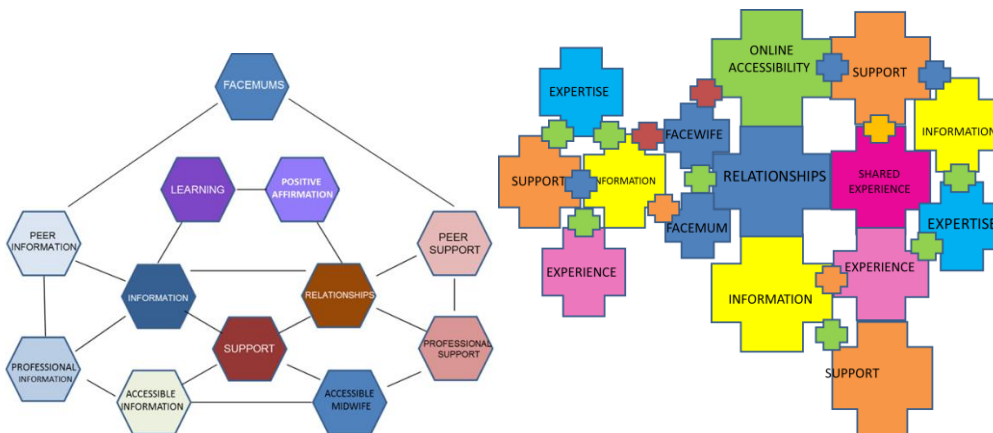
Arrangements for next focus group meeting

Thank participants for taking part

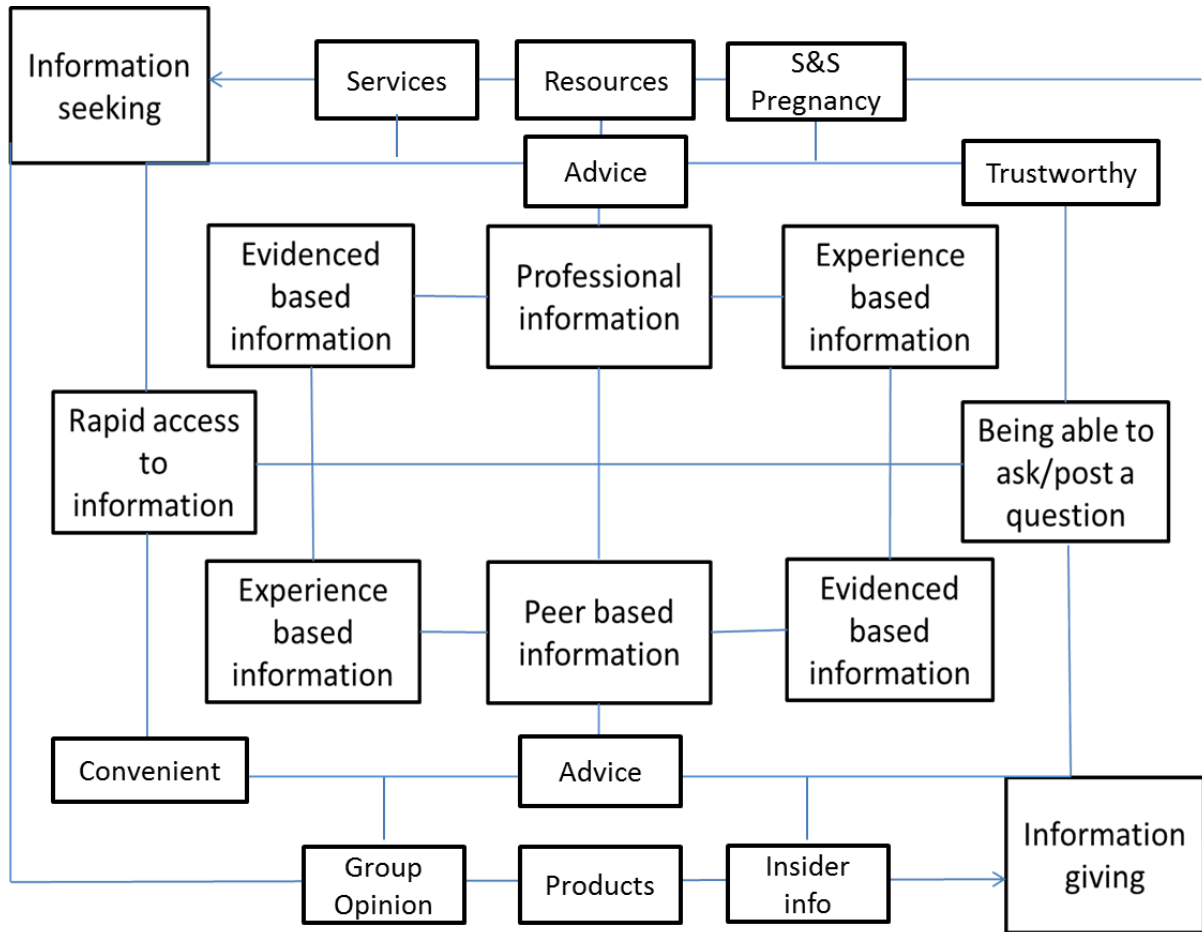
Appendix 9 – Mind maps



The first mind map illustrates how ‘feeling silly bothering the hospital midwives’ was linked as much with fear and anxiety alleviation as it was an awareness of an overstretched NHS with overburdened midwives, and resorting to Google for information, adding to the sense of anxiety etc.



Appendix 9a – Coding connections example



Appendix 10 – Initial framework with a priori themes

INDEX	Data themes	
E	Emerging themes	
	CoP themes	
C1	SENSE OF BELONGING	
C2	BUIILDING RELATIONSHIPS	
C3	MEMBERSHIP	
C4	CONTINUATION OF THE GROUP	
C5	NON ACTIVE MEMBERS/LURKERS	
C6	GROUP SIZE	
C7	RAPID FLOW OF INFORMATION	
C8	EVIDENCE OF LEARNING (H3)	
C9	RAPID IDENTIFICATIONOF PROBLEMS	
C10	AWARENESS OF MEMBERS	
C11	COMMON LANGUAGE	
C12	COMMON STANDPOINTS	
C13	INFORMATION REPOSITORY	
	HEE Themes	
H1	ONGOING INFORMATION SHARING	
H2	HEALTH PROMOTION MESSAGES	
H3	EVIDENCE OF LEARNING (C8)	

Appendix 10a – Emerging theme framework

INDEX	Data themes	participant ID & source
	Emerging themes	
E1	1/ INFORMATION SEEKING	
E2	2/ INFORMATION SHARING	
E3	3/ SOCIAL PRESENCE	
E4	4/ SENSE OF BELONGING	
E5	5/ SOCIAL SHARING	
E6	6/ SUPPORT	
E7	7/ ONLINE ACCESSIBILITY	
E8	8/ OFF LOADING/VALIDATION	
E9	9/ FEELING ALONE	
E10	10/ EXPERT RAPID RESPONSE	
E11	11/ FEAR and ANXIETY ALLEVIATION	
E12	12/ PROBLEM SOLVING	
E13	13/ SAFE PLACE TO SHARE	
E14	14/ RESEARCH	
	Miscellaneous	
M1	GP CHALLENGES	
M2	EMIDWIFE OR FACE TO FACE	

Appendix 10b – Framework- themes, subthemes, groupings and codes

	Data themes	
	Emerging themes	Sub-groups
E1	1/ INFORMATION SEEKING	1a/ Resources 1b/ Expert advice FW 1c/ Expert advice FM 1d/ Services 1e/ Group opinion 1f/ Conflicting advice 1g/ Voice of experience – how to manage in-laws, parents, siblings, visitors
E2	2/ SHARING INFORMATION	2a/ Responding to requests for advice/information 2b/ Products/offers/events 2c/ Symptoms/signs/pregnancy related 2d/ Insider information (hospital info tips)
E3	3/ SOCIAL PRESENCE	3a/ Liking just to show posts are being read
E4	4/ SENSE OF BELONGING	4a/ Having something special
E5	5/ SOCIAL SHARING	5a/ Social events 5b/ Experiences 5c/ Being sociable 5d/ Photos
E6	6/ SUPPORT	6a/ Decision making support 6b/ Emotional support

		6c/ wanting to help
E7	7/ ONLINE ACCESSIBILITY	7a/ Accessibility 7b/ Privacy /confidentiality 7c/ Geographical locality
E8	8/ OFF LOADING/VALIDATION	8a/ Rants 8b/ Baby blues
E9	9/ FEELING ALONE	9a/ Feeling not the only one going through something 9b/ Feeling isolated by pregnancy 9c/ When professional input stops postnatally
E10	10/ EXPERT RAPID RESPONSE	10a/ Expert access 24/7 10b/ Emotional support 24/7 10c/ The night shift
E11	11/ FEAR and ANXIETY ALLEVIATION	11a/ Information overload /google effect 11b/ Pregnancy 11c/ Babycare 11d/ Being a new mum 11e/ Is it normal? When does something become a problem? 11f/ Trivia 11g/ No birth stories –not wanting to scare until all delivered 11h/ Hierarchy of problems/concerns 11i/ Moderation
E12	12/ PROBLEM SOLVING	12a/ Finding a solution

E13	13/ SAFE PLACE TO SHARE	13a/ Too much information (TMI posts) 13b/ Not bothering the midwives at the hospital 13c/ Permission to ask 'trivial questions' 13d/ Hierarchy of concerns/problems 13e/ moderation effect 13f/ embarrassing bodies
E14	14/ RESEARCH	14a/ Wanting to give back to NHS 14b/ Wanting to take part in academic research
	CoP themes	Sub-groups
C1	SENSE OF BELONGING	
C2	BUILDING RELATIONSHIPS	C2a/ knowing the members C2b/ Evolution of the group/stepping back of the Facewives C2c/ Focus group effect
C3	C3/ SISTERHOOD/SOLIDARITY	
C4	CONTINUATION OF THE GROUP	
C5	NON ACTIVE MEMBERS/LURKERS	
C6	GROUP SIZE	
C7	RAPID FLOW OF INFORMATION	
C8	EVIDENCE OF LEARNING	
C9	RAPID IDENTIFICATION OF PROBLEMS	C9a/ breast feeding C9b/ baby care/baby symptoms

C10	AWARENESS OF MEMBERS	C10a/ strengths/weaknesses/experience/ expertise
C11	COMMON LANGUAGE	C11a/ TMI
C12	COMMON STANDPOINTS	C12a/ mums.net avoidance
C13	INFORMATION REPOSITORY	C13a/Information store C13b/ signposting from FM's C13c/ signposting from FW's
	HEE Themes	Sub-groups
H1	ONGOING INFORMATION SHARING	
H2	HEALTH PROMOTION MESSAGES	
H3	EVIDENCE OF LEARNING	
	Miscellaneous	
M1		M1a/ GPs M1b/ Gestation M1c/ Facewife or midwife

Appendix 10c – working framework example – FMB1/ FMC1

Data themes	Sub-group	Index	FMB1	FMC1
Emerging themes				
E1/ INFORMATION SEEKING	Resources	E1a	<p><i>I think it just helps so much to be able to ask people things. When you...especially when you're really worried about something and then you find out it's absolutely fine. And it's helped me a lot with regards to a GP telling me to stop breastfeeding. And then I just don't feel like this is right for somebody to tell me this. And if I wouldn't have had that group, I had posted the question and I could tell that they didn't think that was right as well.(FMB1)</i></p> <p><i>And I could tell FWB2 was rushing off trying to find information. And you could see that they were trying to find information on it as well(FMB1),</i></p>	<i>it is my go to for mummy stuff.(FMC1)</i>
	Expert advice FW	E1b	<p><i>. So it is nice to have that little bit of reassurance, as well I think from FWB2 or FWB1 to say yes this is ok.(FMB1)</i></p> <p><i>I needed somebody to say, that's okay(FMB1)</i></p>	<p><i>I really liked that it was twofold really I quite like the fact that it was really quite research led and that you were given something that was properly scientifically grounded but also the fact that you had other mums asking lots of questions(FMC1)</i></p> <p><i>it's really important for somebody to say is that advice right or have you understood it, it's really important(FMC1)</i></p> <p><i>yes and sometimes it's clear that they haven't really known and they have not known anything about what has been said to them but that's absolutely fine that they go away and they find out(FMC1)</i></p>
	Expert advice FM	E1c	<i>the group's good because there's people here, I've asked mum's who've got children already and they're now expecting their second. So they're really good on a group with advice(FMB1)</i>	<i>And then with FMC1b having the cleft lip it kind of threw things and that was really good because I was able to speak to FMC6, she got in touch when she knew...of course FMC6 had a cleft lip</i>

			<p><i>And this group it's just really good when you're really concerned about something and it's usually something or nothing but you make it into a really big deal because it's your baby. It's really good just to know that you can speak to somebody. Because otherwise it will be, I will wait until I get away on Wednesday(FMB1)</i></p> <p><i>Because me FMB3 and FMB13 have all had very similar questions at some point. I think FMB3 not as much because she's already had a baby before. So she'd been through it herself I think. And obviously there's somethings that you do forget but especially me and FMB13 both as first time mums, I was on there a lot and asking a lot of questions. So...(FMB1)</i></p>	<p><i>and her son has, it was quite a nice link through(FMC1).</i></p> <p><i>I really liked that it was twofold really I quite like the fact that it was really quite research led and that you were given something that was properly scientifically grounded but also the fact that you had other mums asking lots of questions(FMC1)</i></p>
	Services	E1d	<p><i>They put me in touch with Paula who was amazing.(BF specialist)(FMB1)</i></p>	
	Conflicting advice	E1f	<p><i>(Without the group input) I would have, very, very likely would have stopped breastfeeding her. Because I just wouldn't have known any different. Because you listen to a doctor, don't you?(FMB1)</i></p> <p><i>I think there's so much resources out there for first time mums but the different advice that you get it's just...it can make it even more difficult than not knowing at all, sometimes I think. So it's good to just speak to a mum.(FMB1)</i></p>	
CoP themes				
C1/ SENSE OF BELONGING		C1	<p><i>So I'd post like this odd picture but pictures like her first smile I never posted that for the world to see. But it was really nice to share with you, like look at this what she's done(FMB1)</i></p>	<p><i>when poor FMC 5 was in and out of hospital and you just think oh my God, I thought it was so nice that everybody was trying to be so nice and asking how she was getting on, yes that is led by</i></p>

			<p><i>And it's really nice to see when people have gone into labour. And you kind of get excited about it.(FMB1)</i></p> <p><i>You certainly feel like you know them and I'll speak to them a lot more than I'll speak to some of my friends sometimes(FMB1).</i></p> <p><i>Because sometimes they feel like as a new mum, your whole world is babies, isn't it? And you don't know anything else. And I always remember before I had a child, I was like, god that's all she ever talks about babies. But then you realise because that's just your life now(FMB1).</i></p>	<p><i>FWC1 and FWC2 but also by the other mums...(FMC1)</i></p> <p><i>- I think it took us a bit to get into the swing but in the early days FWC1 and FWC2 led a lot of things but now not so (FMC1)</i></p> <p><i>I really do feel that I could share absolutely anything with them and in the same way I hope that they would feel that about me, but I could probably will pass them in the street and not know them it is a really weird... But it works (FMC1).</i></p> <p><i>when we had the online discussion meeting that actually made me realise how much everybody else really valued this group and it probably made me feel a bit more special and a bit more like I wanted to contribute.(FMC1)</i></p>
C2/ BUILDING RELATIONSHIPS	knowing the members	C2a	<p><i>And it's really nice to see when people have gone into labour. And you kind of get excited about it. And then you're thinking about it then for ages. Like are they okay. I remember when FMB3 was in hospital and you keep having a look thinking is she alright. I'll see if she has posted anything or, if there's an update on how she is(FMB1)</i></p> <p><i>I think people have made quite a good bond. And the other day FMB3 asked me on my personal Facebook(FMB1).</i></p> <p><i>So I think there is people that you speak to quite a lot on there, which is really nice(FMB1).</i></p> <p><i>You certainly feel like you know them and I'll speak to them a lot more than I'll speak to some of my friends sometimes(FMB1).</i></p>	<p><i>there's the fact that it makes you a bit more cohesive as a group, the shared experience which you kind of know you in a safe environment and that's quite nice really the fact that there's a few of you going through the same thing and that's much better than an open ongoing forum(FMC1)</i></p> <p><i>its about that sense of community, because I think it would be a shame if you lost that and it's also about the fact that I can ask FWC1 and FWC2 questions, I feel like I know them, you know because you feel that you know them that makes a big difference to me because I feel I can know them so I feel like I can trust them, I am more than capable of going on the NHS website if I have a question so I guess I'm kind of looking for something different...(FMC1)</i></p>

				<p><i>I really value that FMC1& FMC2 are very open and honest and talk to me more like a friend and not a midwife, and I wouldn't want to change that and I suppose with that there is the risk, but I don't know but I wouldn't want to change it.(FMC1)</i></p> <p><i>I really do feel that I could share absolutely anything with them and in the same way I hope that they would feel that about me, but I could probably will pass them in the street and not know them it is a really weird... But it works.(FMC1)</i></p>
	Evolution of the group/stepping back of the FWs	C2b	<p><i>So because it will get to a point where FWB1 and FWB2 don't have...they're not professional (relevant professional ie outside RoM). And they've probably got life experience and it would be great to still have them there in the background (FMB1).</i></p>	<p><i>- I think it took us a bit to get into the swing but in the early days FWC1 and FWC2 led a lot of things but now not so(FMC1)</i></p>
	Focus group effect	C2c		<p><i>I think it really helped the everybody came together at the same time and also I think in that kind of discussion you've got the chance to kind of say I didn't mean that or whatever so if somebody doesn't understand something or takes it the wrong way you got an opportunity to rectify it, you have a chance to put it right ... (FMC1)</i></p>
C5/ NON ACTIVE MEMBERS/ LURKERS		C5	<p><i>And there is some people that you kind of just see in the background that don't ever comment or anything like that. But you can see that they are active on it because they've seen the post or they'll like something.(FMB1)</i></p>	<p><i>there is a nucleus and then there are some more outliers and then there are people like me who are a bit voyeuristic and not so much actively contributing, but I think you need that kind of balance you kind of need that social support to keep it going and you need some people that are more at arms length really(FMC1)</i></p>

				<p><i>I'm a bit voyeuristic but I like to read a lot of stuff before I make a decision about things, so for example in our Facebook group FWC1 and FWC2 quite often post an article about something so I can read it think about it or I might note that it's there and come back to it later(FMC1)</i></p> <p><i>I am very conscious I could have been more active in terms of posting on the site, but with everything going on I kind of drop back a bit, but yes I still feel like I know them(FMC1)</i></p>
C6/ GROUP SIZE		C6	<p><i>Because it will get to a point of where the mum's have kind of...will have to leave. If it's just going to be a pregnancy thing. Because it can't be...you can't just keep adding people and nobody is leaving. That's never going to work (FMB1).</i></p>	<p><i>there is a nucleus and then there are some more outliers and then there are people like me who are a bit voyeuristic and not so much actively contributing, but I think you need that kind of balance you kind of need that social support to keep it going and you need some people that are more at arms length really(FMC1)</i></p>
C7/ RAPID FLOW OF INFORMATION		C7	<p><i>And I could tell FWB2 was rushing off trying to find information. And you could see that they were trying to find information on it as well, because they didn't feel it was right(FMB1).</i></p>	
C13/ INFORMATION REPOSITORY	Information store	C13a	<p><i>And I would have a look at them (the postings) because they usually do articles and things and say have a look at this article, that's what it means.</i></p> <p><i>And there's a lot of things with FMB13 where she's said, I know, probably about three times I've said there is a</i></p>	<p><i>I'm a bit voyeuristic but I like to read a lot of stuff before I make a decision about things, so for example in our Facebook group FWC1 and FWC2 quite often post an article about something so I can read it think about it or I might note that it's there and come back to it later(FMC1)</i></p> <p><i>but I knew there was something there later so when I wanted I could just go back and read it... It's like a store isn't it?(FMC1)</i></p>

			<p>comment on here somewhere, that I...a status that I put on.(FMB1)</p> <p>But there was two lots of questions that were already on there. So we kind of already knew the answer to them(FMB1)</p> <p>the people who are pregnant now won't really look or be as interested at our stuff, so, once they know so if it's me putting something on about poos and somebody is only 20 weeks pregnant they think I'm not bothered about that. so they won't go through all the comments, they will just kind of ignore it. But then because we've then remembered it, when that happens in 20 weeks' time when they've got the same question.(FMB1)</p>	<p>it would be useful if we could have some way of being able to find stuff because sometimes I knew something was there but I just couldn't find it and I have to trail through loads of stuff...</p> <p>so you know the article that was on there about pumping and dumping well I wanted to send that's one of my friends but it took me forever to actually find it(FMC1)</p>
HEE Themes				
H1/ ONGOING INFORMATION SHARING		H1	<p>They put me in touch with Paula who was amazing.(FMB1)</p> <p>So I just think it's been really good. It's definitely helped me. And even my partner will tell people about it now, if we're talking about anything to do with FMB1b or what happens. He says she was part of this Facebook study. And you'll kind of tell them about you and say how good it's been. Or if I was having a little bit of panic even during pregnancy, he'll say why don't you ask on that group and see (FMB1).</p>	<p>And it was good I got FMC1h to read some stuff to because some other stuff was post it was good for the dad and I thought actually you know you need to read this it's a bit interesting or different or whatever(FMC1)</p> <p>so you know the article that was on there about pumping and dumping well I wanted to send that's one of my friends but it took me forever to actually find it(FMC1)</p> <p>yes I have (shared info), obviously nothing that is private but the information yes absolutely, and interestingly a lot of my friends, they are so jealous that we have this group, I know Manchester is ahead some things but yet most people are completely jealous of that... But a lot of the people and working with they got kids and the fact that it's online and it's accessible on your phone and it fits in with our jobs they kind of like why don't I have that, can you ask this please and I'm like ...no!(FMC1)</p>

				<p><i>yes I have tried because FMC6 was telling me about formula feeding FMC6b and how she increased it and the information she's been getting from the health visitor is a bit different to the information we have been getting from the CLAP nurse, I mean maybe it was because we are using premixed formula but it's a bit like the health visitors are not telling her to increase it where is we were informed if Frankie clears a bottle twice up the feed, just put up again and yes she might just have a day which is having a growth spurt or whatever but if she clears a bottle twice we up the feed and we were increasing it by 10 mills which is easier when you using the premixed but harder when you're using the powder stuff(FMC1)</i></p>
H2 HEALTH PROMOTION MESSAGES		H2		
H3/ EVIDENCE OF LEARNING	H3/C8	H3/C8	<p><i>But there was two lots of questions that were already on there. So we kind of already knew the answer to them(FMB1)</i></p>	<p><i>there was discussion about leaking waters – it never occurred to me that that could even happen leaking waters (hindwater leak)(FMC1)</i></p> <p><i>I learn quite a lot of stuff that I would never have even thought could happen... It was a little bit alarming at points but generally very very helpful(FMC1)</i></p> <p><i>FMC6 had posted about the Anthony Nolan thing, because I'd seen oh probably wouldn't have paid much attention because I kind of thought it didn't relate to me, I thought the wanted bone marrow when in fact we ended up giving them everything, and I wouldn't have done that had it not been for seeing FMC6. But things about the delayed cord clamping as well made FMC1h and I have more of a discussion and think about what was what and there was discussion about the pilot the dad staying overnight because before that I thought the doubts just could stay overnight so it was good because it made me think about things, there were quite a few things actually like that (FMC1).</i></p>

				<p><i>And you can learn from each of the don't you I love the fact that FMC6 is quite open about stuff social said got this discharge or whatever going on and really have learnt from that and you know not many of my friends would be prepared to share that with me, I think it's that kind of stuff that makes it really special for me(FMC1)</i></p>
MISCELLANEOUS				
				<p><i>I genuinely do think aside from the Facebook group that there is some more information to be had about formula feeding, because so many mums I know do it but that just make it up themselves(FMC1)</i></p>
	GP's	M1a	<p><i>They didn't know enough about breastfed babies and how long they can go for(FMB1).</i></p> <p><i>I think the GP did panic.(re BF & constipation)(FMB1)</i></p> <p><i>(Without the group input)I would have, very, very likely would have stopped breastfeeding her. Because I just wouldn't have known any different. Because you listen to a doctor, don't you?(FMB1)</i></p>	
	gestation	M1b	<p><i>I think the things that you think about and the way that you feel at the beginning of your pregnancy, are completely different to the way you feel at the end of it.(FMB1)</i></p> <p><i>I thought you're really scared at the beginning of your pregnancy and you're really scared at the end of your pregnancy, and in the middle you're just kind of alright and kind of plodding your way through.(FMB1)</i></p> <p><i>Obviously it's really difficult because the NHS can't be going and seeing pregnant ladies every month or every week or whatever. Especially at the beginning of the pregnancy, it's just never going to work. But that's what a group like this is good for. Because there's certain things that can happen to you at the beginning of your pregnancy. And then towards the end I feel like you're used to your body doing crazy things. So if something happens,</i></p>	

			<i>although it is really scary, you kind of think all the things that have happened to me in the past nine months. So I think at the beginning, because I was really nervous at the beginning, especially in the first 12 weeks. Obviously you are so scared and you don't know what's going to happen and you're just waiting to get to that scan. And I think people in that stage, they're not talking to anybody else about the pregnancy.(FMB1)</i>	
	EMIDWIFE OR FACE TO FACE	M2	<i>I'd feel like you'd want someone to see you. I feel like you'd want someone to look at your stitches for a start. (post delivery but just for the first week)(FMB1)</i>	

Appendix 10d – FMB framework working example overview

						MC10	FMC11	FMC12
1/ INFORMATION SEEKING	1b/ Expert advice FW	<p>I'm a HR manager and I look after a lot of people, will certainly at that point my job was national so Helen was aware that I would be in London one day Edinburgh the next Manchester the next, wherever, so the fact that it was online to me was just brilliant FMC1</p> <p>The main thing that pushed me towards it is the fact that it midwife involved however you put or phrase it because to me like when I've been on those sites like net mums... Oh my God it's horrendous...FMC1</p> <p>I really liked that it was twofold really I quite like the fact that it was really quite research led and that you were given something that was properly scientifically grounded but also the fact that you had other mums asking lots of questions FMC1</p> <p>I can ask FWC2 & FWC1 questions, I feel like I know them, you know because you feel that you know them that makes a big difference to me because I feel I can know them so I feel like I can trust them I am more than capable of going on the NHS website if I have a question so I guess I'm kind of looking for something different...FMC1</p> <p>sometimes it's clear that they haven't really known and they have not known anything about what has been said to them but that's absolutely fine that they go away and they find out FMC1</p>	<p>What I like is it's not preaching about things is not saying you should do this and you should do that, what it is advice and guidance and that's what I think is brilliant about it it's not coming from the midwives perspective as such, that's what I like, they are saying how about this and how about that but it's very suggestive the giving suggestions it's not saying you will do this and we do this and how about that, because you know it is what midwives say, so the yes that's what's great about it, that's what is good about the forum FMC3</p> <p>I think what's great about it is that it's not so medicalised but people can still ask questions on it you know... It doesn't feel like an encyclopaedia you know learn from us, that's what I love FMC3</p> <p>I think to have that hub to have a central contact point for anybody who is expecting and to be able to ask any question pregnancy related or not and to feel that they can PM somebody it's beneficial hands down hands down. Even to me there have been some things that I didn't want to ask MW A because she is my stepmum and I've asked FWC2 so it gives you that it's you that both options and that's what's important FMC3</p> <p>And you know what is great as well that FWC1 will go on there and sometimes they don't know, then they will go away and do my research and she does research and she gets the answer back up there within 24 hours. That's one of the best things. FMC3</p>	<p>I personally loved the group because I liked having the security of being able to contact a midwife, so for medical purposes, so it made me secure FMC4</p> <p>for me the facewises site was very much for the medical security...FMC4</p> <p>And from me I did really enjoy a really liked being part of the group I really liked having that security, knowing that there was someone that they were there...FMC4</p>	<p>And also I mean the professional people there. Cos the baby centre and that it's just mum's firing answers at you FMC5</p> <p>So when you had that and you know that FWC1 & FWC2 were going to come back to you and then it was nice that you would know someone when you went into hospital as well FMC5</p> <p>yeah I do have a lot of trust in FWC1 & FWC2 and what they say yeah. FMC5</p> <p>I like them to be separate (facewises) because they were an independent opinion. I think if you're having a sail through pregnancy maybe, you don't want that second opinion, you're trusting what you're being told, not that Helen ever told me anything wrong, but it was nice to just come away and sound them about something you'd been told FMC5</p> <p>FWC1 & FWC2 were always very honest with me, or if I said what's this scan about, even sent me all the stuff on the growth scan, the hospital doesn't have time to explain why they're doing a growth scan. Or even give you a leaflet. You're just told you're coming back for a growth scan, then you go in and the consultant goes yeah that's okay...FMC5</p>	<p>I think of in terms of why I found it most useful, it was because of the midwife because there were midwives there FMC10</p> <p>definitely you did always get a response you know like straightaway, I do remember that when I was, after I, I think there's a time when because it was always quite small on that graph I did write about that and got some reassurance and signposted to some articles about kind of not reading into it too much, so that was good that was kind of like another second opinion the got to reassure me FMC10</p> <p>I think whenever I put anything on, they seem to reply straightaway I can't think of any incidents where I've seen anyone has had to like chase anything up by saying I still had a response...</p>	<p>I think they're great and it's really good that... I said it when we had one of our chats, you got to know them as well and it's not just, oh this is a Midwife. They're FWC1 & FWC2. FMC11</p> <p>I think having an expert there, that's where it is really unique... because otherwise anyone could just feed the information in and then you'd be going: Well is this right and then you'd be back on Mums.net. FMC11 FMC11</p>	<p>when I would talk about it she would seem quite envious. She went, 'That's brilliant.' I was like, 'Yeah, I've got midwives like with me all the time. If I've got a question, it's all right. FMC12</p> <p>you can ask them anything, I've sent them private messages, you know, not to scare the mums FMC12</p> <p>I preferred FWC1 & FWC2 answer because the other mums would just be like 'Net-mums almost, you know... because they're the experts and they'd know, but in terms of like, you know, baby's not sleeping...FMC12</p> <p>I think it's having the midwives there. Absolutely. Just because in your first time pregnancy, when you're pregnant for the first time, you've no idea what's going on really. And you'd love to be with your midwife constantly. Yeah, you're okay, you're fine, you're fine. But any little twinges, any worries, they were always able to say, no, it's absolutely normal. You will feel a bit of a period pain, as long as there's no blood or anything like that, you're fine. So I think it's having that medical expert there with you. FMB12</p> <p>It was nice to see part of that... and for them to get involved... because it gives them a more... you see their personality more and you can trust them... more but just for the purpose of why I used it, for the support of them with their knowledge and, you know, obviously sharing experiences with the mums...FMC12</p>
2/ SHARING INFORMATION	2a/ Responding to requests for advice/information	<p>sometimes it's clear that they haven't really known and they have not known anything about what has been said to them but that's absolutely fine that they go away and they find out FMC1</p> <p>it's a strange dynamic isn't it but I really do feel that I could share absolutely anything with them and in the same way I hope that they would feel that about me, but I could probably will pass them in the street and not know them it is a really weird... But it works.</p>	<p>What I like is it's not preaching about things is not saying you should do this and you should do that, what it is advice and guidance and that's what I think is brilliant about it it's not coming from the midwives perspective as such, that's what I like, they are saying how about this and how about that but it's very suggestive the giving suggestions it's not saying you will do this and we do this and how about that, because you know it is what midwives say, so the yes that's what's great about it, that's what is good about the forum FMC3</p>		<p>I think the fact that you could, it was there, it was instant and I knew there was, whatever ten people on line, someone would more than likely come back to me FMC5</p>	<p>I do mention on the group actually, actually last month I think I did because someone was asking about it FMC10</p> <p>I would try to always add something when I could FMC10</p> <p>definitely you did always get a response you know like straightaway, I do remember that when I was, after I, I think there's a time when because it was always quite small on that graph I did write about that and got some reassurance and signposted to some articles about kind of not reading into it too much, so that was good that was kind of like another second opinion the got to reassure me FMC10</p> <p>Emmmm pregnancy related I would have gone on the group first, now though I would probably go on Google but I would always go on the NHS choices page, so I wouldn't be going on any any of these random sites</p>	<p>Depends on whether I've had experience of it, or whether it's just made me laugh, to be honest FMC11</p>	
10/ EXPERT RAPID RESPONSE	10a/ Expert access 24/7	<p>I'm a HR manager and I look after a lot of people, will certainly at that point my job was national so Helen was aware that I would be in London one day Edinburgh the next Manchester the next, wherever, so the fact that it was online to me was just brilliant FMC1</p> <p>The main thing that pushed me towards it is the fact that it midwife involved however you put or phrase it because to me like when I've been on those sites like net mums... Oh my God it's horrendous...FMC1</p> <p>it is my go to for mummy stuff FMC1</p> <p>I can ask FWC2 & FWC1 questions, I feel like I know them, you know because you feel that you know them that makes a big difference to me because I feel I can know them so I feel like I can trust them I am more than capable of going on the NHS website if I have a question so I guess I'm kind of looking for</p>	<p>And you know what is great as well that FWC1 will go on there and sometimes they don't know, then they will go away and do my research and she does research and she gets the answer back up there within 24 hours. That's one of the best things. FMC3</p> <p>I think to have that hub to have a central contact point for anybody who is expecting and to be able to ask any question pregnancy related or not and to feel that they can PM somebody it's beneficial hands down hands down. Even to me there have been some things that I didn't want to ask MW A because she is my stepmum and I've asked FWC2 so it gives you that it's you that both options and that's what's important FMC3</p>	<p>I personally loved the group because I liked having the security of being able to contact a midwife, so for medical purposes, so it made me secure FMC4</p> <p>for me the facewises site was very much for the medical security...FMC4</p> <p>And from me I did really enjoy a really liked being part of the group I really liked having that security, knowing that there was someone that they were there...FMC4</p>	<p>And also I mean the professional people there. Cos the baby centre and that it's just mum's firing answers at you FMC5</p> <p>So when you had that and you know that FWC1 & FWC2 were going to come back to you and then it was nice that you would know someone when you went into hospital as well FMC5</p> <p>it was quicker to get an answer from FWC1 & FWC2. FMC5</p> <p>I think the fact that you could, it was there, it was instant and I knew there was, whatever ten people on line, someone would more than likely come back to me FMC5</p>	<p>I think of in terms of why I found it most useful, it was because of the midwife because there were midwives there FMC10</p> <p>definitely you did always get a response you know like straightaway, I do remember that when I was, after I, I think there's a time when because it was always quite small on that graph I did write about that and got some reassurance and signposted to some articles about kind of not reading into it too much, so that was good that was kind of like another second opinion the got to reassure me FMC10</p> <p>I think whenever I put anything on, they seem to reply straightaway I can't think of any incidents where I've seen anyone has had to like chase anything up by saying I still had a response...FMC10</p> <p>Emmmm pregnancy related I would have gone on the group first, now though I would probably go on Google but I would always go</p>	<p>I think having an expert there, that's where it is really unique FMC11</p> <p>Yeah because otherwise anyone could just feed the information in and then you'd be going: Well is this right and then you'd be back on Mums.net. FMC11</p> <p>You don't need someone there all the time. As long as you know that it's going to be read and if you need an answer you'll get it. Provided it's not a week later FMC 11</p>	<p>when I would talk about it she would seem quite envious. She went, 'That's brilliant.' I was like, 'Yeah, I've got midwives like with me all the time. If I've got a question, it's all right. FMC12</p> <p>you can ask them anything, I've sent them private messages, you know, not to scare the mums FMC12</p> <p>I think it's having the midwives there. Absolutely. Just because in your first time pregnancy, when you're pregnant for the first time, you've no idea what's going on really. And you'd love to be with your midwife constantly. Yeah, you're okay, you're fine, you're fine. But any little twinges, any worries, they were always able to say, no, it's absolutely normal. You will feel a bit of a period pain, as long as there's no blood or anything like that, you're fine. So I think it's having that</p>

Appendix 11 – Information quotes

THE CONVENIENCE ACCESSING PROFESSIONAL INFORMATION	THE SECURITY OF ACCESSING PROFESSIONAL INFORMATION	THE INTERNET FOR INFORMATION	MUMS.NET (& similar) FOR INFORMATION
<p>FMB7 - <i>'It's just really convenient, at any time of day you can just put a question on, and you don't feel as silly as picking up the phone and asking someone a question, it just fits in hours wise, so many mums are working throughout their pregnancies and it's not just a 9-5 service, places are only open in the day, so you can ask things late at night or whatever, so you can ask things about your pregnancy or you can ask things about your baby, you can access it so much easier... You can make so much more use of the technology that is there and all of us have made use of it, you know there is none of that oh the GP is shut ...and it's so easy to get lost on the internet. And Google ...your heart absolutely sinks because you think oh no, you know it's a minefield.'</i></p> <p>FMB8 - <i>'it's just a lot easier and approachable, I would say where is it's not easy to approach your GP.'</i></p> <p>FMB12 - <i>'I love that I have that security, that they are just a few minutes away on my mobile phone! Okay it may not be a reply immediately but that's never an issue as they always have helpful and reassuring information. Makes me feel very safe.'</i> (FGo)</p> <p>FMB17 - <i>'like I think a really good thing about it is just easy access, so you can just quickly write and somebody will always reply somebody usually straightaway or within an hour.'</i></p>	<p>FMB1 - <i>'you can trust the stuff that you post (the Facewives) and you think yes ok that's true whereas if you looking online... You don't really know if it's true or not.'</i>(FG)</p> <p>FMB5 - <i>'I love feeling like I have help 24/7 and like the ladies above have said; sometimes when you have a question or concern you can come straight to the group and have help or good advice with a good turn over response time.'</i> (FGo)</p> <p>FMB6 - <i>'The Facewives can answer that because they can give a proper answer and they know the answer.'</i></p> <p>FMB8 - <i>'I like the security like FMB12 mentioned.'</i> (FG)</p> <p>FMB12 - <i>'...in your first time pregnancy, when you're pregnant for the first time, you've no idea what's going on really. And you'd love to be with your midwife constantly. Yeah, you're okay, you're fine, you're fine. But any little twinges, any worries, they were always able to say, no, it's absolutely normal. So I think it's having that medical expert there with you.'</i></p> <p>FMB16 - <i>'...everybody has access to the Internet now, you do look things up yourself, but you get so many different questions and answers it was nice to know that you are kind of following the right way, because obviously you do go to the NHS first because that's what everybody does, but then when the professional is telling you, that's what you need, you need reassurance really.'</i></p>	<p>FMB3 - <i>'I've got health anxiety so I try not to do google...it scares you.'</i></p> <p>FMB5- <i>'I did google why is my baby not smiling and then there are so many things and it is just awful and then he says stop reading google, cos you've got mums from all over the world saying it could be this it could be that and the I go to bed and I can't sleep and I'm not reading google anymore I'm just sticking to the Facemums site.'</i></p> <p>FMB7 - <i>'because I know I've seen a couple of posts from the mums and they've said that they have been on Google and your heart absolutely sinks because you think oh no, you know it's a minefield and you just sort of feel for them because you know it's going to terrify them because it will give them everything from this that and the other.'</i></p> <p>FMB8 - <i>'then of course your other option is Google which is just, that will say get the hospital now kind of thing... you're too scared to go onto Google.'</i></p> <p>FMB9 - <i>'But I am a Google kind, Like with the OC I had already Googled stuff and I knew we need to deliver about 37 weeks and then it said about stillborn and you know you shouldn't be looking into it but I do.'</i></p> <p>FMB13 - <i>'you can get a bit confused on the internet, I think. There's so much information, it's like what's right and what's thingy.'</i></p> <p>FMB17- <i>'You didn't have to Google everything that you are feeling... google it and scare myself ...'</i></p>	<p>FMB1- <i>'you could be waiting two weeks before an appointment, panicking about something that doesn't even matter... something really that is just a normal thing, just little, but if you looked on something like the Babycentre you think oh my God I'm gonna die.'</i></p> <p>FMB6 - <i>'I don't go anywhere else now and I pretty much...I had IVF beforehand and I used to go to special sites for IVF and that's when the panic comes up all these people worrying and telling you all my God this could happen and that could happen...and this did happen and so.... But this is different and is great because there are people sharing but knowing that there is the medical advice behind it really gives it that kind of phew...it's good.'</i>(FG)</p> <p>FMB7 - <i>in the first pregnancy I went on mums.net and stuff and the people are so opinionated and rightly or wrongly I know they can express themselves but it just... you just get some very strong willed ones...t when it's big you can lose track of when you've asked something because people go off at different threads and you just lose it and then you get too many alerts coming through and you think oh I'm busy I can't go right through all that stuff. Yes it felt a bit overwhelming.'</i></p> <p>FMB8 - <i>'I would probably steer clear of one without the professional input, only because I know there are so many groups out there that get carried away with scaremongering an old wives tales...it gets all personal, so for that I</i></p>

<p>FMC1 - <i>'the fact that it was online to me was just brilliant ...if I wanted to could just ask a question, that was just brilliant, because it is really hard if you got a proper, serious full-time job... having access to the midwives, yes that's it because there are a million and one mummy groups.'</i></p> <p>FMC5 - <i>'For me it's been totally invaluable to have 2 midwives that I could talk to all the time... different things FWC1 has gone away and spoke to the doctor for me, and it's saved me coming in but knowing at the same time that you've got that expert advice... it was quicker to get an answer from FWC1 & FWC2'</i></p> <p>FMC6 - <i>'Being able to talk to a midwife straightaway because you don't know if you're underplaying all your worrying about it too much so just to have that rational head that says it's okay or yes you should get looked at... you just take what the midwife has said as right.'</i></p> <p>FMC11 - <i>'It's been good to know that if there has been anything that I was worried about I could just post a question and get an answer. The midwives are definitely the biggest pull for me. You can sit in your own home, you don't have to put any makeup on and you can just...'</i></p> <p>FMC14 - <i>'Obviously if you go to the GP or the midwife you have to wait, you have to make an appointment but the facewives are just there.'</i></p>	<p>FMB17 - <i>'...you knew you could trust that information and you knew it was right and you didn't have to Google everything.'</i></p> <p>FMC1 - <i>'The main thing that pushed me towards it is the fact that it had a midwife involved, it's more than an information resource it's more that kind of element of trust I think that's so important, and that sense that people sort of know you a bit, they know me'</i></p> <p>FMC4 - <i>'I didn't join it to meet people at all. I did just join purely for the midwife. There is so much info on the internet it's nice to have the security of this group to clarify what is the truth! Google can pull up sooooo much stuff and the midwives and mums on here give great advice ...I know when my baby comes if I have a question I would post and get good advice.'</i></p> <p>FMC5 - <i>'think it works because of the midwives, it needs the midwives, not to police it but to get the consistent message.'</i></p> <p>FMC11 - <i>'I think that there is always the possibility of getting the wrong information if an 'expert' isn't part of discussions such as those that have happened here... I think having an expert there, that's where it is really unique... because otherwise anyone could just feed the information in and then you'd be going 'Well is this right' and then you'd be back on Mums.net.'</i></p>	<p>FMC18 - <i>'I'd Google it, and it would give me 101 things that are really scary.'</i></p> <p>FMC3 - <i>'I'm a monkey for Google! So I still read lots of articles posts both positive and negative, but as have we have established it's mostly an unreliable source at least here is from a professional point of view...I looked and oh my god I had a breakdown, literally the stuff that I read was horrendous, absolutely horrendous, and to be honest reading that properly spoilt the end of my pregnancy really, because I was absolutely petrified, petrified doesn't even really cover it.'</i></p> <p>FMC5 - <i>'I knew I was getting information that I trusted rather than getting you know, if you put on baby centre it's just other mums are answer and you could be getting some misinformation...sometimes it throws up stuff that you just, it ends up you're dying cos you've got a snotty nose so no I don't. I stick to...I trust the group.'</i></p> <p>FMC11 - <i>'it's not good, and it's not good for people who are pregnant and who have brand new babies, if you know, they've got no experience.'</i> (The internet as a source for information)</p> <p>FMC12 - <i>'When I first found out I was pregnant, I Googled everything. You know those first few weeks before the group was set up, I Googled everything. Every twinge. I was thinking I was having an ectopic pregnancy because I had trapped wind. I had a little pain in my side. Yes, so I rushed myself to Ward 62 and everything was fine. Yeah, it was Google. And my sister said, 'Don't Google anything whatever' but you do.'</i></p>	<p><i>was a bit hmmm, if it gets like that I'll give it a miss.'</i></p> <p>FMB8- <i>'I'm not the biggest fan of it (mums.net), because it's just so out there kind of thing. So I will put something on and the next minute they've diagnosed me with 101 things!'</i></p> <p>FMB16- <i>'Erm I'm on mum baby and me and one of my friends is on mums.net and she likes some of the things it comes up on my Facebook feed and quite a lot of the things I've read on there are people complaining about in laws and... It's like it's a bit like you putting you dirty washing out and... You don't need that.'</i></p> <p>FMB18 - <i>'You don't know who you're talking to on Mumsnet, you don't know. It could be a bloke, it could be...you don't know who you're talking to.'</i></p> <p>FMC1 - <i>'...because to me like when I've been on those sites like net mums... they're horrendous... after I'd been on there I just thought I'm not going on again ...it's not a safe place to go for advice it just makes you alarmed... mums.net are quite large aren't they and you're just a random person so I think that allows the people to just have their random opinions and for trawling and stuff like that'</i></p> <p>FMC11- <i>I found that looking at discussion forums on Babycentre and mums.net etc. last time often made me feel more worried about things. I have totally avoided those sites this time.'</i></p> <p>FMC12 - <i>'And, you know, it's not scare tactics like Net.mums...and some people put really scary things on there like, 'Oh yeah it sounds like you could be losing the baby... and things like...it's horrendous.'</i></p>
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Appendix 12 – FBAD Subject matter

FMB		FMC	
Topic content	Posts	Topic content	Posts
Breastfeeding	60	Breastfeeding	17
Events (local)	28	Vaginal bleeding	10
Infant feeding/mixed/artificial	22	Caesarean section	8
Sleep (baby) & SIDS	22	Dads role & visiting	8
Count the kicks/FM's	19	Fetal Growth IUGR/LFD	8
TMI	17	Sleep (baby) & SIDS	8
Depression/PNMH	15	Varicosities/piles	8
Fetal Growth IUGR/LFD	15	Anomaly Scan	7
Sleep (MUM)	15	Sleep (MUM)	7
Meconium/baby poo	13	Antenatal classes	6
Baby vomiting/reflux	12	Events (local mother & baby)	6
Blood tests/results	12	Teething	6
Hypnobirth	11	Abdominal cramps	5
Antenatal classes	10	Baby vaccinations	5
Baby weight	10	Infant feeding/mixed/artificial	5
Caesarean section	9	Infant sleep/Safe sleeping	5
Induction of labour	9	placenta clinic	5
Lochia	9	S & S labour	5
Maternity rights	9	Vaccine/immunisation	5
Baby skin/ Care/ rashes/marks	8	coughs and colds	4
Backache	8	DCC	4
Indigestion/acid reflux/heartburn	8	Exercise	4
Pelvic pain/heaviness/SPD/PGP	8	Perineal care/sutures/massage	4
Diet	7	Rib pain	4
GTT/GEST Diabetes	7	TMI	4
Membrane sweep	7	Travel/holidays	4
OBEM	7	Baby weight	3
Oedema	7	Braxton Hicks	3
Placenta/Site	7	Childcare/nursery	3
Skin to Skin	7	Crying baby	3
Weaning	7	Depression/PNMH	3
Baby vaccinations	6	Indigestion/acid reflux/heartburn	3
First aid/choking	6	Labour (Latent 1,2 & 3)	3
Crying baby	6	Morning sickness	3
DCC	6	OBEM	3
Infant sleep/Safe sleeping	6	pain relief	3
Perineal care/sutures/massage	6	Platelet count	3
postnatal care schedule/HV	6	Pram/buggies/car seat	3
Scan 3D/4D	6	Tiredness	3
Tiredness	6	Vaginal discharge	3

VBAC	6	Vernix /baby skincare	3
Anomaly Scan	5	Yoga	3
Baby names	5	Backache	2
Birth position/Birth ball	5	Back cramps	2
Braxton Hicks	5	Belly buttons	2
Breech presentation/OP	5	Birth plans	2
Exercise	5	Birth position/Birth ball	2
Hospital bag	5	carrying weight	2
Itching/cholestasis	5	Consultant midwife/supervision	2
Labour (Latent 1,2 & 3)	5	Co-sleeping	2
Vaginal discharge	5	Count the kicks/FM's	2
Alcohol	4	Engagement (fetal)	2
Aquantal	4	Epidural	2
Baby checks	4	Induction of labour	2
Carpal tunnel syndrome	4	Membrane sweep	2
Childcare/nursery	4	Nappy rash	2
Contraception	4	Oedema	2
Cot mobile/play mat	4	palpitations	2
Immunisation	4	Pelvic floor exercises	2
Leg cramps	4	Placenta/Site	2
Morning sickness	4	raspberry leaf tea	2
Relationship difficulties/changes	4	Scan 3D/4D	2
Wind	4	Skin changes/hyperpigmentation/linea negra	2
Vaccine (mum)	4	Skin to Skin	2
Chicken pox/varicella	3	Sling	2
Co-sleeping	3	Smoking	2
Dental care (MUM & BABY)	3	Vitamin D	2
Dummies	3	visiting hours	2
Epidural	3	Aqua natal	1
FLU vaccine	3	Baby hiccoughs	1
Massage (baby & Mum)	3	Breast pain	1
Platelet count	3	Breech presentation/OP	1
Pram/buggies/car seat	3	candida	1
Sling	3	Carpel tunnel syndrome	1
Temp control baby/ambient	3	Chicken pox/varicella	1
Tongue tie	3	Diet	1
Varicosities	3	Doppler (home use)	1
Work (return to)	3	Essential oils	1
Abdominal cramps	2	Fear of labour	1
Apps for pregnancy/Birth +	2	Groin pain	1
Birth plans	2	Headaches	1
Bonding/attachement	2	Henna	1
Breast pain	2	Home birth	1
Candida	2	Hospital bag	1
Cervical dilation	2	Jaundice/phototherapy	1
Doppler (home use)	2	Liquor/SROM	1
Engagement (fetal)	2	Massage (baby & Mum)	1

Home birth	2	Meningitis vaccine	1
Membrane rupture	2	Sex	1
Newborn mucous	2	VBAC	1
Over the counter remedies	2	Weaning	
Pool birth	2	Wind	1
Sauna, steam room , jacuzzi use	2	Work (return to)	1
S & S labour	2		1
Stillbirth/baby loss	2		
Vernix /baby skincare	2		
Vitamin D	2		
Acupuncture	1		
Anteverted uterus	1		
Anti- D	1		
Baby hiccoughs	1		
Baby bag	1		
Baby monitor	1		
Baby screening	1		
Back cramps	1		
Belly buttons	1		
Caput/moulding	1		
Cold sores	1		
Constipation	1		
Consultant midwife/supervision	1		
Dads role	1		
Essential oils	1		
Eye care	1		
Fear of labour	1		
Fetal scalp electrode	1		
Genital herpes	1		
GBS infection	1		
Groin pain	1		
Headaches	1		
Henna	1		
Hernia (mum)	1		
Hernia (baby)	1		
Jaundice/phototherapy	1		
Liquor/SROM	1		
Meningitis vaccine	1		
MSSU	1		
Nappy rash	1		
Nosebleeds	1		
Nocturnal micturition	1		
Otitis media	1		
Pelvic floor exercises	1		
Postnatal infection	1		
postnatal pain	1		
Proteinuria	1		
Rib pain	1		
Rubella	1		
Skin changes/	1		

hyperpigmentation/linea nigra			
Smear test	1		
Smoking	1		
Show	1		
Snoring	1		
Stress incontinence	1		
Steroids (preterm)	1		
Swaddling	1		
Sex	1		
Teething	1		
Travel	1		
Umbilical care/separation	1		
UTI	1		
Yoga	1		

Appendix 13 – Birth Story

FMB2 –I've written my birth story - it's a bit long and not written the best but please don't feel like you have to read it.. I felt writing it down has helped me reflect on some things so I am ready to discuss things properly with the consultant 😊:)

It was the beginning of the new year, no affect as such on the day except I was keen not to have FMB2b on mine and my sisters birthday (36 weeks) or my mums birthday (37 weeks) in fact she came the day before my aunties birthday (38 + 2). I knew that I was going to be induced at around 37-39 weeks due to Gestational diabetes/high blood pressure which was monitored regularly as well as baby's growth. I had moved from Bolton to St Mary's due to the complex history I had. I was booked for an induction on Thursday 21st January. I felt organised and quite ok about the whole thing as I knew I was going into hospital and I'd have people there to look after me and baby. I knew induction would be long so I had things to keep me occupied. I had my husband with me throughout and my mum was to be my second birthing partner - both my mum and sister happened to be on night shifts the Friday, Saturday, Sunday of me being in hospital and they work pretty much next door & upstairs so although I was only supposed to have 2 people - my sister was in and out to give some support which I really enjoyed. My husband was brilliant throughout - he remained calm whereas my mum was so honoured for us to allow her there however voiced some of my concerns when I was too drugged up to be able to, I was grateful to have them all there and in fact my sister was the only one who could help ease the pain by rubbing my back - I remember at one point saying to my mum and husband get the midwife, she's the only one who can get rid of the pain you are both rubbish 🙄🙄.

Going back to the first day I had 2 pessaries (6 hours apart) I had regular pains all in my back (no one ever mentioned to be that labour could be in your back) so this came as a bit of a shock, anyhow by about 3.44am Friday morning I went to the loo got back into bed and felt a load of water gush onto the bed so ran quickly back to the loo buzzing the midwife - my waters had broken on their own (apparently on induction they wait to break your waters until you get a bed on delivery so this wasn't ideal as there were 15 other women waiting for a delivery bed) - no more pessaries and a waiting game. Friday my contractions were very regular and very painful - walking around and sitting on the ball plus regular pain relief helped until late evening where I had a couple of warm baths and was still struggling with the pain - still no bed so sent my hubby home for a sleep and mum took over. During this time a midwife had tried to overdose me with codeine until I questioned what the tablet was and told her she had given it me an hour ago and I had asked for stronger pain relief - reluctantly she got a student to give me gas & air (luckily a new midwife was taking over for the night). My contractions were every few minutes in my back and it was so painful and with no sleep for 2 days my mum and I asked why I hadn't even seen a doctor (considering I was consultant led plus my bp was raised) I also had been asking for a canula since I arrived due to my poor veins. I had brought a lot of things to keep me occupied and in fact I couldn't concentrate on anything. The night midwife examined me and got a dr finally at 3am and within 2 mins of seeing the dr and being examined I was moved to delivery suite as I was in established labour, rang the hubby and got him back.

I don't believe I handled my contractions well by this point previously I'd used bath, ball and walking but by now it was horrendous pain which id had every few minutes

for 32 hours and I had a lot of scar tissue in my back from lumber punctures/bone marrow biopsies which didn't help, the gas and air really helped however I'd discussed to have an epidural antenatally with a consultant anaesthetist due to my hip condition however after finally seeing a dr they said due to my waters breaking 31 hours ago I needed bloods to check for infection (this is where a canula already in would have speeded things up) instead they took blood results came back - I had an infection so they had to fight to find a vein - antibiotics went up - no epidural! This was my plan so I was panicking about damaging my hips so demanded a c section however in the meantime I was given 3 shots of diamorphine as 1 shot didn't touch the pain. I had so many doctors/midwives in and out and by this point according to my mum and husband I was talking complete rubbish (I remember nothing of this - they've told me all the stories of what I've said and it makes me laugh for example: Richard said to me something about two twins and I said to him that's wrong check your paragraph (what I meant was two twins is actually 2 sets not 1 lol - its a pet hate being a twin) but scares me that I remember none of it - I actually remember nothing from moving to delivery at 3am & until the last few pushes around lunchtime the next day, it's a complete blur I don't even remember signing the c section consent) which ended up not happening as there was no space and I am relieved about that. I ended up on a sliding scale and a remifentanyl PCA to control my pain with 2 more cannulas in this is where I believe if I'd been listened re an early epidural/canula in - I would not have felt so traumatised and in a complete panic about my hips and the possibility of damaging them further and also may not have been so drugged on pain relief). It may sound silly but by having cannulas in both hands I was unable to hold my husbands hand 😞:(this saddened me quite a bit.

My labour was classed as 9 hours 45 minutes plus 10 minutes placenta delivery although I don't think I pushed for that long - I only remember pushing towards the end and remember my mum saying 'you can see her hair - she has a head full Do you want to feel it' and I remember saying 'no I do not want to feel her hair - get this brat out of me' 🙄 I was getting tired and due to 3 X diamorphine so was FMB2b and in the end the midwife ended up grabbing FMB2b's head and bringing it around the last 1/2cm of my cervix which didn't want to dilate - I remember my husband being told he had to cut the cord quickly as FMB2b needed some help to breathe - she was whisked straight over to the resuscitator where the emergency buzzer was pulled and it took Drs 5 minutes before she breathed on her own - I think I was that shocked when she was eventually placed on me I just said is she ok and 'Hello FMB2b' - I felt so relieved she was born and she was ok but I felt a bit of anger at not being listened to, I was then to be stitched up by my amazing midwife after getting a second degree tear. I had the most amazing midwife and student midwife who were the ones who got me through the labour and helped me through such a traumatic time and were firm with me when needed. I also remember having no concept of the day or the time as after she was born mum put my grandparents on the phone and I said she was born at 12.52am not pm and thought it was Sunday haha. Like the others I feel like I've lost hours of my life and the most precious ones in some ways and won't ever get that back. I don't remember how long it was between her being born and me holding her. On reflection, I think if a consultant had seen me early on and an anaesthetist had seen me about talked through about epidural & getting it early to prevent me being unable for it and also putting a canula in - I would not have been so distraught and scared about my hips during labour and I believe it would have prevented the tensions that arose. The hospital also closed on the day I gave

birth to FMB2b due to over flow so perhaps I could have had my induction later or when it wasn't so busy as I was well.

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FMB8 - I remember us all chatting on here being so excited to hear from you after you told us you were going in! What a fab story Jen - love how it describes your feelings, good and bad, as well as the physical side. Looking forward to reading lots of our stories, makes sense as we've shared a journey - and it's amazing how they're all so different! Thank you for sharing xx

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FMB2 - Thanks FMB8 😊:) it was hard to write from not remembering bits but that seems a common pattern - I'm looking forward to reading all the stories too - feel like I know you all and all your babies 🍌🍌🍌🍌🍌🍌 xx

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FMB12- Thanks for sharing that FMB2 I really enjoyed reading into your experience and seeing some similarities but at the same time it's such a unique experience! Sorry you had a hard time, the most important thing is you and FMB2b are both safe, happy and healthy! Xc

**Appendix 14 – Midwifery continuity: The use of social media
(PDF attachment)**