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RESEARCH ARTICLE

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Rotator cuff disorders: An updated survey of current (2023) UK physiotherapy practice

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Abstract

Background: Clinical guidelines recommend treatment by a physiotherapist for people with shoulder pain due to rotator cuff disorder. Despite this recommendation, research evidence supporting the effectiveness of treatment by a physiotherapist is uncertain. While developing a randomised controlled trial to test the effectiveness of treatment by a physiotherapist for people with shoulder pain due to rotator cuff disorders, we first aimed to understand current practice as a basis for defining usual care.

Methods: An online survey was developed based on a clinical vignette used in a previous survey exploring physiotherapy practice for people with shoulder pain due to rotator cuff disorder. UK-based physiotherapists were invited to complete the survey via X and email across professional networks.

Results: One Hundred Seventy complete responses were received. 167 (98%) respondents would offer advice/education to patients with shoulder rotator cuff disorders; 146 (86%) would use isotonic exercise (including concentric/eccentric strengthening); 20 (12%) would offer a corticosteroid injection; 7 (4%) would use joint mobilisation. 168/169 (99%) would offer in-person assessment; 115 (68%) expect to deliver treatment over three to four sessions. Fifty percent agreed there is uncertainty about the effectiveness of physiotherapy treatment for patients with shoulder rotator cuff disorders. Seventy six percent agreed that patients with this condition can recover without physiotherapy intervention.

Conclusions: Exercise and advice remain the most common treatments offered by physiotherapists for people with shoulder pain due to rotator cuff disorder. Corticosteroid injections are infrequently considered. Uncertainty about the effectiveness of treatment by a physiotherapist for shoulder pain due to rotator cuff disorder is evident.

KEYWORDS
exercise, physiotherapy, rotator cuff, shoulder pain, survey

1 | INTRODUCTION

Shoulder pain is the third most common musculoskeletal (MSK) pain presentation in primary care (Urwin et al., 1998), and shoulder rotator cuff disorders are thought to account for over 70% of reported cases (Mitchell et al., 2005). Guidance from The British Elbow and Shoulder Society (BESS) recommends physiotherapy treatment as a first-line management option for shoulder rotator cuff disorders (Kulkarni et al., 2015).

Previous surveys of physiotherapist practice in 2012 (Littlewood et al., 2012) and 2016 (Bury & Littlewood, 2018) have described practice at those time points with the most recent UK survey, in 2016, reporting that physiotherapists commonly delivered treatment for shoulder rotator cuff disorders across three to six sessions, and that treatment predominantly consisted of advice/education and exercise-based interventions. However, since the publication of the 2016 survey, further research has been published suggesting uncertainty in the effectiveness of treatment by a physiotherapist for people with shoulder pain due to rotator cuff disorder (Dubé et al., 2023; Hopewell et al., 2021; Liaghat et al., 2021; Naunton et al., 2020). A large UK-based randomised controlled trial (RCT) recruited 708 patients from the NHS (Hopewell et al., 2021) and compared:

- one session with a physiotherapist but no steroid injection
- one session with a physiotherapist with a steroid injection
- up to six sessions with a physiotherapist but no steroid injection
- up to six sessions with a physiotherapist with a steroid injection

Participants in all groups improved over time. However, six sessions of physiotherapy were not superior to one session. Steroid injections provided some short-term pain relief but no clinical benefit over 12 months.

Given recommendations from clinical guidelines for treatment by a physiotherapist for people with shoulder pain due to rotator cuff disorder despite uncertain treatment effectiveness, a high-quality RCT is needed to evaluate the clinical effectiveness of current best-practice treatment by a physiotherapist. Planning such a trial requires a thorough understanding of current UK physiotherapy practice and an insight into the state of clinical equipoise within the physiotherapy community, to ensure recruitment to such a trial would be feasible. Therefore, within this context, the aims of the current study were twofold:

1. To survey current UK physiotherapy practice in relation to the management of shoulder rotator cuff disorders
2. To survey clinical equipoise among clinicians in relation to the effectiveness of physiotherapy treatment for patients with shoulder rotator cuff disorders.

2 | METHODS

This survey was reviewed and approved by Edge Hill University Health-Related Research Ethics Committee (HREC reference: ETH2324-0016) on the 23rd of October 2023.

2.1 | Study design

2.1.1 | Descriptive cross-sectional study

An online survey was developed by adapting previous surveys (Bury & Littlewood, 2018; Littlewood et al., 2012). In line with previous surveys, a clinical vignette describing a typical patient with signs and symptoms of a rotator cuff disorder was included. Clinical vignettes are recognised as useful tools for obtaining information about clinical decision-making and are thought to elicit responses reflective of real-world clinical practice (Peabody et al., 2000; Veloski et al., 2005).

Details of the clinical vignette are included in Box 1. The survey was piloted by two clinical physiotherapists not involved in survey development. This resulted in minor amendments to the wording of question 16 (see Supporting Information S1 file 1 for the full list of survey questions and available responses).

BOX 1 Details of the clinical scenario provided in the survey

A 54-year-old patient presents to you with a 9-month history of right shoulder pain of gradual and insidious onset. The pain is located over the anterolateral aspect of their shoulder, with no radiation of symptoms. They describe the pain as intermittent, made worse by reaching up, lifting, reaching behind their back and lying on this side. Symptoms ease with rest. They have had no previous treatment or investigations for this problem so far, and are otherwise in good general health. They work as a warehouse operative, which involves some heavy lifting onto shelves, which they continue to do.

On examination, the observation is unremarkable. The cervical spine range of movement is full and pain-free. Active shoulder movements are full but with a painful arc on active abduction between 60° and 120°. Passive shoulder movements are largely maintained. Isometric muscle testing produced pain on abduction and lateral rotation, with a power of 4/5 noted for both.

2.2 | Sampling and recruitment

Physiotherapists based in the UK, registered with the Health and Care Professions Council (HCPC), who have experience of treating patients with shoulder rotator cuff disorders, were eligible for inclusion. The survey was shared via the social media platform formally known as Twitter (now called X) and email distribution via the authors' existing national physiotherapy clinical academic networks. The landing page of the online survey included a participant information sheet detailing the purpose and anonymous nature of the survey. To access the survey content, participants were required to declare that they had read and understood this information, thus providing informed consent.

2.3 | Sample size

The size of the population of UK-based, HCPC-registered physiotherapists who have experience of treating patients with shoulder rotator cuff disorders cannot be confidently defined. Hence, it was not possible to recruit a random sample from this unknown population to reassure regarding generalisability. Instead, we aimed to recruit approximately 150 participants to ensure that the number of responses to this survey was comparable with the two previous surveys undertaken in 2012 and 2016 (Bury & Littlewood, 2018; Littlewood et al., 2012).

2.4 | Data collection

The survey was developed using JISC Online Surveys, an online survey platform endorsed by the host academic institution (Edge Hill University). The survey was opened on the 24th of October 2023 for 16 days. This time frame was purposefully selected in recognition of when most responses to surveys are received.

2.5 | Statistical analysis

Descriptive statistics were downloaded from JISC Online Surveys to Microsoft Excel 2016 (Microsoft Corp.). Responses to multi-item questions are summarised as frequencies and percentages. Any additional comments added by participants who responded 'other' to multi-item questions are summarised and reported narratively.

3 | RESULTS

3.1 | Participant characteristics

A total of 170 participants accessed and completed the survey. All participants completed all survey questions, aside from one participant who did not provide a response to Question 10 (What mode of initial assessment would you typically undertake for this patient?).

Of the 170 participants, only 12 (7%) indicated that they do not hold a current NHS role; of those 12 who work solely outside the NHS, 11 indicated working in private practice (one combined with a research role and two combined with other private sector work) and one selected 'other' (unspecified). 104/158 participants who reported having an NHS role (66%) reported working at Band 7 level or above. Figure 1 displays the number of years of post-qualification experience held by participants.

3.2 | Current physiotherapy practice

3.2.1 | Which management strategies would you typically recommend for this patient?

The findings presented in Table 1 highlight that the most common treatments remain advice/education (167/170; 98%), isotonic exercises including concentric and eccentric exercises (146/170; 86%), a

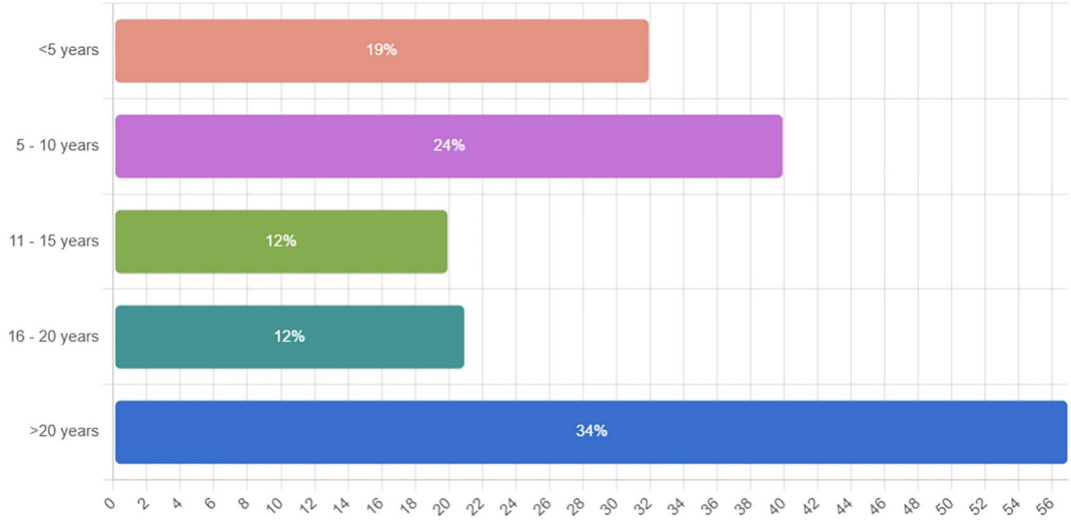

FIGURE 1 The number of years of post-qualification experience held by participants.

TABLE 1 Treatment options selected by participants.

Treatment option	Count	Percentage (%)
No treatment needed	4	2
Advice/Education	167	98
Advice/Education	167	98
Heat therapy	44	26
Cold therapy	24	14
Stretches	6	4
Isometric exercises	88	52
Isotonic (including eccentric & concentric) exercises	146	86
Isometric exercises	88	52
Isotonic (including eccentric & concentric) exercises	146	86
Isokinetic exercises	38	22
Scapular stabilisation exercises	50	29
Global exercise approach involving the kinetic chain	120	71
Global exercise approach involving the kinetic chain	120	71
Other exercise approaches	26	15
Mobilisation	7	4
Manipulation	2	1
Massage (including transverse friction massage/soft-tissue release)	11	6
Treatment directed at the cervical/thoracic spine	17	10
Taping/strapping	8	5
Acupuncture	2	1
Electrotherapy	1	1
Corticosteroid injection	20	12
Corticosteroid injection	20	12
Referral for further investigation/opinion	4	2
Other	8	5

Note: The shading highlights the most common response options as described in the text.

global exercise approach including the kinetic chain (120/170; 71%), and isometric exercise (88/170; 52%). Only 20 participants (12%) stated they would offer a corticosteroid injection, and only 4 participants (2%) stated they would refer for further investigation or opinion. Additional options listed by the five participants who responded 'other' included shoulder symptom modification, advice regarding over-the-counter medication, and general lifestyle advice.

3.2.2 | What advice would you typically offer this patient?

All participants stated that they would offer advice to the patient described in the clinical scenario. This included oral advice on self-management (147/170; 86%), written advice on self-management (83/170; 49%), advice on relative rest/pacing (117/170; 69%), advice on activity modification (150/170; 88%), advice on pain relief (136/170; 80%), advice on work (132/170; 78%), and advice on a home exercise programme (162/170; 95%). Only 27 (16%) participants stated they would offer advice on posture. The 11 participants who responded 'other' suggested alternative advice options including how to progress and regress exercises, lifestyle advice (including advice about sleep hygiene, weight reduction, physical activity, and smoking cessation), pain education, an explanation of the prognosis/natural history of rotator cuff disorders, and an explanation of the care pathways for rotator cuff disorders (including indications for further investigation or intervention).

3.2.3 | What mode of initial assessment would you typically undertake for this patient?

One participant did not respond to this question. 168/169 participants (99%) stated they would offer in-person assessment for the patient described in the clinical scenario. Five of the 168 participants (3%) would also offer virtual (online) assessment, whereas eight (5%) would also offer telephone assessment. Only one participant (<1%) stated that they would offer telephone assessment only.

3.2.4 | After the initial assessment, how would you typically deliver the recommended treatment?

47/170 (28%) participants would deliver their recommended treatment using a combination of individual in-person appointments and a home-based programme only. 27/170 (16%) would deliver treatment via individual in-person appointments only. 6/170 (<4%) would use a home-based programme/self-management only. One participant (<1%) reported they would use a combination of virtual appointments and a home-based programme only. Four participants (2%) selected 'other' as their only response to this question; two participants reported they would refer to colleagues for physiotherapy treatment as their role involves seeing patients only once; two suggested their chosen method of treatment delivery would depend on the patient's preference, confidence, and resilience.

The remaining 85/170 participants (50%) reported a combination of delivery methods, with 74/85 (87%) including a 'combination of in-person appointments and a home-based programme' within their selection.

3.2.5 | How many times would you typically expect to see this patient?

In response to this question, 11/170 participants (6%) stated they would expect to see the patient once. 27/170 participants (16%) would expect to see the patient twice. 115/170 (68%) would expect to see the patient 3–4 times. 17/170 participants (10%) would expect to see the patient 5–6 times. No one reported expecting to see the patient seven times or more.

3.2.6 | Would you expect this person to recover?

All participants expected the patient described in the clinical scenario to recover; 32/170 (19%) expected recovery to occur within 3 months; 106/170 (62%) expected recovery to occur within 6 months; 31/170 (18%) expected recovery to occur within 12 months. Only one participant expected the patient's recovery to take longer than 12 months.

3.3 | Clinical equipoise

3.3.1 | To what extent does the 'best practice advice' from the GRASP trial reflect your approach to the management of people with shoulder rotator cuff disorders?

132/170 participants (78%) reported adopting the 'best practice advice' from the GRASP trial with some of their patients; 15/170 participants (9%) reported adopting this approach with all of their patients; 23/170 participants (14%) reported that they had not adopted the 'best practice advice' from the GRASP with any of their patients.

Of those who had not adopted the 'best practice advice' with any of their patients, 21/23 provided further comments as to their reasons for this decision: 13/21 reported clinical time constraints as the main limiting factor; 2/21 viewed the GRASP intervention as inappropriate for the complex patient group they treat in specialist/tertiary settings; 2/21 prefer an individualised approach to patient management; 2/21 were not aware of the GRASP trial findings; and 2/21 stated that the 'best practice advice' approach had not yet been formally adopted within their employing NHS Trusts.

3.3.2 | To what extent do you agree with the following statements: There is clinical uncertainty about the effectiveness of physiotherapy intervention for patients with rotator cuff disorders

85/170 participants (50%) either strongly agreed or agreed that there is clinical uncertainty about the effectiveness of physiotherapy intervention for patients with rotator cuff disorders; 15/170 (9%) neither agreed nor disagreed; and 70/170 (41%) participants either strongly disagreed or disagreed.

3.3.3 | There is clinical uncertainty about the effectiveness of exercise therapy for patients with rotator cuff disorders

68/170 participants (40%) either strongly agreed or agreed that there is clinical uncertainty about the effectiveness of exercise therapy for patients with rotator cuff disorders; 10/170 participants (6%) neither agreed nor disagreed; and 91/170 participants (54%) either strongly disagreed or disagreed.

3.3.4 | Patients with shoulder rotator cuff disorders can recover without physiotherapy intervention

129/170 participants (76%) either strongly agreed or agreed that patients with shoulder rotator cuff disorders can recover without physiotherapy intervention; 26/170 participants (15%) neither agreed nor disagreed; and 15/170 participants (9%) either strongly disagreed or disagreed.

4 | DISCUSSION

This descriptive cross-sectional study surveyed current UK physiotherapy practice relating to the management of shoulder rotator cuff disorders and clinical equipoise in relation to the effectiveness of physiotherapy and exercise for the management of this condition.

The findings of this study highlight that the majority of participants (68%) still expect to deliver treatment for patients with shoulder rotator cuff disorders over three to four sessions. 98% of participants would include advice/education within their treatment provision, and 86% would include isotonic exercise (including concentric and eccentric exercises). Only 12% of participants would offer a corticosteroid injection, and less than 6% would use manual techniques such as mobilisation, manipulation, and massage. Ninety nine percent of participants would offer an in-person assessment, whilst a total of 121 participants (71%) would use a combination of in-person appointments and a home-based programme to deliver their recommended treatment. Fifty percent of participants agreed that there is uncertainty about the effectiveness of physiotherapy treatment for patients with shoulder rotator cuff disorders, and 76% agreed that patients with shoulder rotator cuff disorders can recover without physiotherapy intervention.

When compared with the two previous surveys of UK physiotherapy practice (Bury & Littlewood, 2018; Littlewood et al., 2012), the findings of this study demonstrate a continued reduction in the proportion of physiotherapists offering massage (38% in 2012, 18% in 2016, 6% in 2023), mobilisation (35% in 2012, 23% in 2016, 4% in 2023), acupuncture (18% in 2012, 6% in 2016, 1% in 2023), and electrotherapy (16% in 2012, 3% in 2016, 1% in 2023), to patients with shoulder rotator cuff disorders (Bury & Littlewood, 2018; Littlewood et al., 2012). This is in line with evidence demonstrating the limited or unclear effectiveness of these interventions (Choi et al., 2021; Desjardins-Charbonneau et al., 2015; Pieters et al., 2020). There has also been a continued reduction in the proportion of physiotherapists who would offer corticosteroid injections to patients with shoulder rotator cuff disorders (35% in 2012, 16% in 2016, 12% in 2023[Bury & Littlewood, 2018; Littlewood et al., 2012]) despite recommendations from clinical guidelines that they are a viable non-surgical management option (Kulkarni et al., 2015). This may reflect findings from recent research demonstrating only short-term reductions in pain following subacromial corticosteroid injection with no perceptible benefit after 12 months in patients with shoulder rotator cuff disorders (Hopewell et al., 2021).

We have reported that exercise and advice remain the most common treatments offered by a physiotherapist; however, the use of several different exercise approaches and a range of self-management advice options were reported by participants in this survey. This range likely reflects the lack of evidence demonstrating the superiority of any specific type of exercise (Pieters et al., 2020). Furthermore, as evidence emerges demonstrating the association between broader lifestyle factors (such as smoking, physical inactivity, and obesity) and the development of shoulder rotator cuff disorders (Littlewood et al., 2023), a further evolution in the content and delivery of self-management advice may be expected in the coming years.

Despite the widespread adoption of virtual treatment delivery during the COVID-19 pandemic (Hawley-Hague et al., 2023), this study found that 99% of respondents offered in-person assessments for patients with shoulder rotator cuff disorders. Prior research has reported that remote physiotherapy for people with shoulder disorders is feasible and acceptable (Malliaras et al., 2020), with comparable effectiveness to in-person care (Hawley-Hague et al., 2023), although it is acknowledged that flexibility is required to meet the needs and preferences of individual patients and physiotherapists.

Finally, we reported that approximately half of the respondents agreed (or strongly agreed) that there is clinical uncertainty regarding the effectiveness of physiotherapy for patients with shoulder rotator cuff disorders. This state of 'community equipoise' has important implications for the planning of future research. An RCT evaluating the effectiveness of treatment by a physiotherapist compared to minimal or no treatment by a physiotherapist would only be feasible if there is sufficient uncertainty within the clinical community about the added value of physiotherapy treatment (Gifford, 2017; Miller & Weijer, 2003). Citing community equipoise as an ethical basis for randomisation means that researchers accept that individual physiotherapists may strongly believe that one approach is superior to the other, but patients can legitimately be randomised as there remains disagreement across the clinical community (Miller & Weijer, 2003). Randomised trials addressing this uncertainty, therefore, have a significant social value; they will help resolve disagreements between professionals, support clinical decision-making, and ensure patients receive the most efficient healthcare services.

5 | LIMITATIONS

The sample size for this study was comparable to previous UK surveys of physiotherapy practice relating to the management of shoulder rotator cuff disorders. However, the population of physiotherapists involved in the management of patients with shoulder rotator cuff disorders cannot be confidently defined. Therefore, it was not possible to invite a random sample of eligible physiotherapists to take part. Readers should, therefore, be cognisant of the potential for selection bias when considering the findings of this study. Relatedly, our survey was shared with physiotherapists via the authors' wide professional networks and social media. Therefore, many eligible physiotherapists, particularly those not active on social media, will not have had the opportunity to respond. Furthermore, 34% of our sample had over 20 years of post-qualification experience, and the majority of NHS-based respondents reported working at Band 7 level or above. Once again, this may challenge the representativeness of the sample, and thus the generalisability of the findings.

6 | CONCLUSION

Self-management advice and exercise remain the core of physiotherapy treatment for patients with shoulder rotator cuff disorders, whilst the proportion of physiotherapists offering adjunctive treatments such as manual therapy, acupuncture, and electrotherapy

continues to decrease. Fifty percent of participants agreed that there is uncertainty about the effectiveness of physiotherapy treatment for patients with shoulder rotator cuff disorders and 76% agreed that patients with shoulder rotator cuff disorders can recover without physiotherapy intervention. This suggests that an RCT comparing referral for treatment by a physiotherapist with minimal or no treatment by a physiotherapist is justified.

AUTHOR CONTRIBUTIONS

Maria Moffatt and Chris Littlewood developed the survey tool. Maria Moffatt constructed the online survey. All authors facilitated the distribution of the survey via their clinical academic networks. Maria Moffatt and Chris Littlewood undertook the data analysis. Maria Moffatt drafted the manuscript; all authors reviewed and approved the final version.

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CONFLICT OF INTEREST STATEMENT

We declare no conflicts of interest.

DATA AVAILABILITY STATEMENT

Requests for access to the anonymous data set can be sent via email to the corresponding author.

ETHICS STATEMENT

This survey was reviewed and approved by the Edge Hill University Health-Related Research Ethics Committee (HREC reference: ETH2324-0016) on October 23, 2023.

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SUPPORTING INFORMATION

Additional supporting information can be found online in the Supporting Information section at the end of this article.

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