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ORIGINAL PAPER

The Experience of Pelvic Floor Muscle Training in People with Urinary Incontinence: A Qualitative Study

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Abstract

Pelvic Floor Muscle Training (PFMT) is the first primary solution to improve urinary incontinence (UI) symptoms, but many challenges stems from certain PFMT-related practices. Exploring PFMT experience will help to increase treatment satisfaction, enjoyment, and empowerment. Hence, the aim of this study was to investigate the experience of pelvic floor muscle training (PFMT) in Italian people with UI. A qualitative semi-structured interview study was conducted. The interviews' transcriptions were analysed using a constructionist epistemology lens and adopting the "Reflexive Thematic Analysis". Sixteen Italian participants (Women N = 10, Men = 6) with UI who experienced PFMT were interviewed. Four themes were generated: (1) 'Learn to Control the Unconscious Consciously' as participants learned to control continence through active exercises; (2) 'Starting PFMT, Changing Mind' as they realised they can have an active role in managing their condition; (3) 'Into the unknown intimacy', as they bridged the gap in their (mis)understanding of the pelvic floor area, overcoming the discomfort linked to intimacy; (4) The Importance of Not Being Alone in this Process', as the participants emphasised the paramount role of the physiotherapists in the healing process. To conclude, in people with UI, PFMT enhanced pelvic floor knowledge and understanding, fostering awareness, positive mindset, and symptom relief. The physiotherapist's pivotal role as an educator and empathetic guide in exercise programs, along with a preference for active exercises. Overall, our results proved that PFMT has positive consequences in people's beliefs and mindset about and in the management of UI.

Keywords Rehabilitation · Incontinence · Pelvic floor · Physiotherapy · Conservative treatment · Qualitative research · Italy

Detail of any previous presentation of the research, manuscript, or abstract in any form: the present study has been presented as an 'Oral Poster', and an extended abstract to the International Continence Society Congress 2023 in Toronto (https://www.ics.org/2023/abstract/664).

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Introduction

Urinary incontinence (UI) is a common and burdensome issue [1]. Worldwide, 25–45% of women and approximately half of men report some degree of UI [1]. UI can stem from various causes, such as pregnancy, obesity, neurological disorders, and surgical procedures (e.g., prostatectomy) [2, 3]. Symptoms vary considerably depending on the UI type experienced (e.g., stress UI, urgency UI, or mixed UI), including leaks during physical activities like coughing or sneezing, frequent urination, urgent need to urinate, nocturia and feeling of incomplete emptying of the bladder [2, 3]. Beyond the anatomical and hygienic implications of UI, it poses psychosocial challenges that affects various aspects of life, including family, work, and recreation [4, 5]. Pizzol et al. [6], in their systematic review with meta-analysis, have affirmed with a strong level of certainty that UI is associated with poor levels of quality of life. Moreover, UI might hinder sexual quality of life because of concerns about potential urine loss during intercourse [7].

The first recommended treatment to improve UI symptoms is pelvic floor muscle training (PFMT), usually yielded by a physiotherapist [8, 9] t. PFMT involves progressive exercises targeting muscles crucial for pelvic functions (i.e., continency and sexuality) to improve muscle tone, coordination, and tissue metabolic exchange and vascularisation, thereby maximising individuals' functional capabilities [10, 11]. Despite PFMT's proven effectiveness, during this training people may experience challenges stemming from invasiveness of certain PFMT-related practices (i.e., nudity and internal probes) [12], limited 'bodily' knowledge of pelvic floor muscles and emotional response like embarrassment [13, 14]. Understanding PFMT experience of people with UI may help to understand their beliefs, preferences, and challenges, ultimately helping identify strategies to increase treatment satisfaction, enjoyment, and empowerment.

Nevertheless, only two studies in Taiwan and New Zealand explored PFMT experiences only in women. These studies underscored PFMT's value in regaining continence control but also the difficulty in developing awareness of pelvic floor muscles, overcoming initial embarrassment, and adhering to PFMT programme [15, 16]. Therefore, more studies are needed to deepen our understanding of PFMT experience [17, 18]. Notably, no study explored PFMT experience of Italian people with UI. Italy, characterised by a strong pelvic area taboo [19], represents a unique cultural context, potentially yielding insights readily transferable to people with similar cultural backgrounds, particularly in Mediterranean area. Hence, this qualitative study aimed to explore PFMT's experience in a sample of Italian people with UI.

Methods

Study Design

We conducted an interview qualitative study to understand PFMT's experience in a sample of Italian people with UI. We adopted semi-structured interviews due to the topic's sensitivity (i.e., pelvic floor area and related problems in UI), which could have been harder to deal with in focus groups. Ethical approval was obtained from the Ethics Committee for University Research (CERA), University of XX (approval date: XX; XX). The study adhered to 'Declaration of Helsinki' and followed the Consolidated

Criteria for Reporting Qualitative Research for reporting qualitative studies (COREQ) [20].

Participants

We recruited participants diagnosed with UI who did PFMT with a physiotherapist for at least one month, through purposive sampling [21]. To reach participants, we contacted Italian physiotherapists working in pelvic floor health to inform their patients about the possibility of participating in our study. Physiotherapists were asked to identify patients who would most likely feel free to talk about their condition and partake in the study. Interested patients were invited to contact BG. We shared the informed consent and the informative note with all physiotherapists and participants to clearly explain the aim of the study. All participants were free to join the research and withdraw from it at any time. No restrictions were applied for gender or primary cause of UI.

Data Collection Method

A group of physiotherapists (BG, OB, MT, and SB) and a psychologist (IC) developed a semi-structured interview guide structured with open questions exploring different topics related to UI and PFMT (Table 1). Participants compiled informed consent forms before interviews, providing demographic data (i.e., age, gender, education, job, marital status, and clinical conditions). These data were registered on an electronic sheet. One-to-one interviews were conducted online by BG through Microsoft Teams from March to December 2022 and lasted approximately 45 min. Videoconferences were recorded and auto-transcribed *verbatim*. Participants could disable their webcam for comfort. Afterwards, auto-transcription files were corrected (if necessary) and made anonymous, deleting every personal name or detail. After this step, video recordings were eliminated. Participants were assigned codes based on their interview order, age, and gender (e.g., P4, 56y, Man). None of the participants had met the interviewer before. No repeat interviews were conducted.

Data Analysis

Descriptive analysis was used for demographic data. Transcriptions were analysed using a constructionist epistemology lens and adopting the "Thematic Analysis" (TA), specifically following Braun's and Clarke's 'Reflexive Thematic Analysis' (RTA) to identify meaningful patterns in our data [22]. RTA belongs to the 'Big Q' qualitative paradigm not adhering to the (post)positivist paradigm characterised by minimising bias, coding accuracy and the use of different strategies (e.g., data saturation and member checking) to increase data trustworthiness [23, 24]. Our approach was predominantly inductive, as we did not impose any predetermined framework. Using an experiential qualitative framework allowed us to look for a reflexed shared meaning among the datasets. We stayed on the explicit or surface meaning of data, so coding was semantic and, when possible, we went beyond the descriptive levels, adopting latent coding [24]. Data analysis followed the six steps of RTA (Supplementary File 1) [23].

Table 1 Interview guide

Questions
1) Would you start by telling me about your condition and how you live it?
2) Tell me about the moment when you started to experience the first incontinence symptoms 2a) How did you feel? 2b) Did it limit you somehow? 2c) What did you do?
3) How did you know about the pelvic floor muscle training?
4) When you started this programme what did you expect?
5) Which treatments were you expecting to be referred to? 5a) Which did you actually do? 5b) Which did you find useful? And not useful?
6) Did you notice any difference compared to the beginning of this programme?
7) How were the first sessions of this programme? 7a) How did you feel at that moment? 7b) How did the therapist make you feel comfortable?
8) What do you think about the technics and devices used in rehabilitation? 8a) Do you feel comfortable with the use of probes?
9) Do you have a partner?
10) Would you tell me how you live your sexual life?
11) Think about your sexual life before and after urinary incontinence. Did it have an impact? 11a) Is your sexual desire changed? 11b) Did you have some issues relating with your partner sexually?
12) Do you talk with your partner about how you feel?
13) Since you started this programme, has something changed related to your sexuality?
14) What suggestions would you propose to a physiotherapist that performs pelvic floor muscle training? 14a) Is there something you would change? 14b) Would you prefer the use of non-invasive devices? 14c) Would you perform an exercise plan at home?
15) Would you say, now, that you feel more aware of your pelvic floor muscle? 15a) Do you feel more certain to control them? 15b) Would you suggest this programme to others?
16) Would you like to add anything else that came to your mind?

Results

Sixteen Italian participants with UI who experienced PFMT agreed to partake in the study (Age (Mean and deviation standard): 57 ± 16, 62.5% Women, $N=10$; 37.5% Men $N=6$). Among the participants, ten had only UI (62.5%), while remaining six had other comorbidities (37.5%) (See Table 2 for detailed characteristics).

From the analysis of the interviews, four themes were generated: (1) 'Learn to Control the Unconscious Consciously', (2) 'Starting PFMT, Changing Mind', (3) 'Into the unknown intimacy', (4) 'The Importance of Not Being Alone in this Process'. Quotations and codes that led us generating the themes are reported in Tables 3, 4, 5 and 6.

Table 2 Participants' characteristics

Participant	Gender	Age	Educational attainment	Employment	Clinical condition	Marital status
P1	W	37	High school	Beautician	UI	Married
phyP2	M	67	Secondary school	Car consultant	UI PP	Married
P3	W	52	Secondary school	Management consultant	UI	Married
P4	W	59	Secondary school	Accountant	UI	Married
P5	W	63	Secondary school	Unemployed	UI, fibromyalgia, and vulvodynia	Married
P6	M	81	Primary school	Retired	UI PP	Married
P7	W	35	Master's Degree	Manager	UI, Ollier Syndrome	Unmarried
P8	M	73	Master's Degree	Retired	UI PP, hypertension	Married
P9	W	38	Bachelor's Degree	Nurse	UI	Married
P10	W	60	Master's Degree	Retired	UI, hypertension	Married
P11	W	39	High School	Unemployed	UI, endometriosis	Married
P12	M	73	Secondary school	Retired	UI PP	Married
P13	M	67	High school	Retired	UI PP	Married
P14	W	70	High school	Retired	UI, hypertension	Divorced
P15	M	76	Master's Degree	Retired	UI PP	Married
P16	W	36	Master's Degree	Freelance	UI	Married

Legend: P, participant; W, woman; M, man; UI, urinary incontinence; PP, post-prostatectomy

Table 3 Illustrative data extracts for Theme 1: 'Learn to Control the Unconscious Consciously'

Theme 1: 'Learn to Control the Unconscious Consciously'	
Codes defined by researchers	Example of quotes extracted from the interviews
The emotional state before the PFMT	"Recently, I was experiencing it very poorly because it really limited me and created a lot of problems for me; when I had to go out, I was dependent on leaks […] I was afraid to go out"—P14, 70y, Woman
	"Leaks could generate anxiety for me at certain times, especially when I was working. If I did not have the opportunity to use the bathroom immediately, I was afraid of having leaks. I had a generalised state of anxiety. Of not having control over my body."—P1, 37y, Woman
	"I first felt ashamed. Then I had difficulty relating to others because I had to be careful […] I felt uncomfortable"—P2, 67y, Man
	"I don't live well with incontinence… I'm limited in my movements. If I'm at home the situation is manageable enough, but when I'm out and walking… […] It really got me down because I felt like I was getting old"—P8, 73y, Man
	"A bit of anger at the condition, because the result of the surgery was not what they had planned for me"—P6, 81y, Man
Control on your life	"A feeling of lack of control over my body, so for 4–5 years, I couldn't cough, sneeze, I couldn't laugh a lot or urine would easily leak out"—P10, 60y, Woman
	"Maybe I knew that if I had to go out, I tried to drink a little less." – P9, 38y, Woman
	"Annoying, because knowing that I have to constantly be exposed to a possible risk of wetting myself when I go out in certain situations bothers me, both in practical terms and in terms of remembering what to bring with me… so I have to bring a pantyliner or bring a change of clothes."—P16, 36y, Woman
The overall benefits after PFMT	"I have found that with the exercises I can control the leakage more. Then I improved in terms of perception of movements, so understanding when I am actually moving poorly and putting pressure on the pelvic floor. In addition, I have seen a change even in the intimate relational sphere, because I have noticed an improvement in sexual relationships"—P16, 36y, Woman
	"I feel more secure and peaceful. I feel what I felt 4–5 years ago before the situation gradually deteriorated. So more security, and awareness of my body. I also have a (more) peaceful (intimate) life with my husband."—P1, 37y, Woman
	"I have also found physical and mental well-being because the exercises have calmed me down even more than I was before and continuing to do them I realise that I feel better if I do them"—P2, 67y, Man
	"Both in how I felt at that moment and afterwards because I noticed that with the therapies, in addition to having control over a problem […]. So you really feel it… it's something that I absolutely did not notice before. Today you feel it, you feel the channel that has to widen. Therefore, I feel a sort of movement, something that I did not feel at the beginning, even when I urinated and instead today it's totally different. And if I put my hand there, I notice the difference, the situation that today is much improved compared to when I started"—P2, 67y, Man

Table 3 (continued)

Theme 1: 'Learn to Control the Unconscious Consciously'	
Codes defined by researchers	Example of quotes extracted from the interviews
Preferring active exercises	"I much prefer doing the exercises because they make me feel better, more relaxed, and then I like it because I perceive my body more. Exercises give me the feeling of greater control"—P1, 37y, Woman
Embarrassment during the PFMT	"The thing that embarrassed me the most was the manual maneuvers… I would put the probe in second place, but I prefer doing the exercises"—P1, 37y, Woman
	"I had read about this feedback, but I didn't know how it worked… It was a somewhat unpleasant thing. Anal biofeedback wasn't a pleasant thing, but on the other hand… having to reach a goal, I felt it was necessary"—P8, 73y, Man
Experience of internal devices	"Then the treatment that the physiotherapist did on me with that instrument they put in, well… It was a bit invasive and that's it. All things that I willingly did to improve."—P8, 73y, Man
	"Once a clinician suggested I should try the intravaginal Kegel balls, but it was a disaster. They kept on falling… So, I abandoned them"—P5, 63y, Woman
Difficulties with PFMT	"So probably if I did them consistently, the improvements and benefits would definitely be… I would have had better results. But unfortunately, I'm not that consistent"—P3, 52y, Woman

Theme 1: 'Learn to Control the Unconscious Consciously'

By exploring participants' PFMT experience, we noticed the paramount importance of continence control for those with UI, both before and during treatment. Before UI, continence control was an automatic and unconscious function, but when UI occurred, this automatic control was lost. Therefore, PFMT became a tool to learn how to regain continence control through conscious and targeted pelvic floor muscle exercises. Hence, we generated the first theme (Table 3).

Before reacquiring continence control through PFMT, interviewees experienced many negative feelings, such as anxiety, discomfort, fear, embarrassment, rage, and shame. These feelings profoundly impacted their quality of life, restricting their engagement in social and daily activities (e.g., laughing, work, sexual intercourse). Unable to control the losses and negative emotions by themselves from the inside, participants coped with UI, besides medical treatments, by trying to control external factors and modify their life habits. Notably, some reduced their fluid intake when away from home or carried aids or spare clothing.

Upon starting PFMT, participants began to regain control of their loss of urinary function, which was surprising for them. Participants quickly realised how PFMT was effective and essential to reach their expected goals and take control of their daily lives. While exercising, their movement perception, awareness and control of their pelvic floor muscles significantly improved, enhancing physical and psychological well-being and sexual serenity. Ultimately, interviewees mastered urinary control.

To learn how to gain control over unconscious functions, participants preferred active exercises like PFMT over passive treatments. Although adhering to PFMT home schedule posed challenges and occasional guilt, they acknowledged its efficacy in raising a deeper connection with their bodies. Conversely, manual manoeuvres and internal devices were

Table 4 Illustrative data extracts for Theme 2 'Starting PFMT, Changing Mind'

Theme 2: 'Starting PFMT, Changing Mind'	
Codes defined by researchers	Example of quotes extracted from the interviews
The idea of urinary incontinence condition before PFMT	"I hadn't addressed the problem because I thought to myself 'Well, it happens to all women who have given birth and now you just have to deal with it'. Until I learned about the possibility of doing this rehabilitation program by getting some more information from friends and I thought to myself 'well… why not"—P16, 36y, Woman
	"With sneezing and coughing, of course, I leaked a little urine, but I almost considered it normal."—P5, 63y, Woman
	"Incontinence is often also linked to aging; so, you don't have the same elasticity anymore. I am 52 years old, I am in a premenopausal phase at the moment and I notice changes in my body."—P3, 52y, Woman
	"This is something that, in my opinion, is also a consequence of pregnancy, that is, from the pregnancy onwards, you have to use extra precautions, wear pads, etc. and so there is a bit of discomfort"—P7, 35y, Woman
	"I wasn't used to it, but I attributed it to the fact that I was pregnant, and I had the thought that with the end of the pregnancy this thing would go away."—P3, 52y, Woman
Feeling guilty for not acting before PFMT	"UI happened to me 10 years ago when I had prostate surgery and I was assured that it would go one way, but instead, I found myself in a completely different situation. If they had told me that I would have had this incontinence for so many years…yes, maybe it was my fault for not going to a physiotherapist and starting this therapy right away…"—P6, 81y, Man
	"I knew it was something inevitable when a child arrives, but I asked myself if I had taken enough care of myself because there was a moment when I said 'I have to figure out what the problem is"—P9, 38y, Woman
Factors that drove to find a solution	"What drove me to go to the physiotherapist was, to tell the truth, the issue of walking but also the issue of sexuality because I felt a bit different"—P11, 39y, Woman
	"My sexual life with my partner was one of the reasons that led me to do the therapy. There has always been a lot of harmony, but I realised that not being able to control my body, I did not live it serenely. With physiotherapy, I stimulated more parts of my body, listening and perceiving it, which is certainly positive"—P1, 37y, Woman
	"I did these exercises, but I did them wrong, really off, so at some point I said well… since I can't do them alone like this, let's try going to the physiotherapist, maybe she can help me."—P7, 35y, Woman

Table 4 (continued)

Theme 2: 'Starting PFMT, Changing Mind'	
Codes defined by researchers	Example of quotes extracted from the interviews
A positive mindset after PFMT	"Today I can relate much, much better to the personal situation but it does not bother me to talk about it anymore. I find that physiotherapy and the fact that I have seen improvements have given me the strength to say 'I'm fine anyway, it's something that happens but it can be lived and changed'—P2, 67y, Man
	"I thought to myself… is my nervous system playing tricks on me? Then I ignore it and so I started to ignore this urge. By doing this, I helped myself. I mean, I helped to solve the problem and the situation had improved a lot"—P5, 63y, Woman
	"I like to understand how everything works and it reassures me when I have understood. She explained to me how the pelvic floor muscles work and how to treat them as part of the body and not as a pathology"—P7, 35y, Woman
PFMT becomes an automatic response	"I do the exercises unconsciously now. I'm in the kitchen, I'm in the car, and I do my exercises, but I don't think about them, I do them almost… like an automatic response. Or when I feel tired"—P5, 63y, Woman

found to be embarrassing, unpleasant, and invasive due to the physical contact with internal and intimate body parts.

Notably, not only did PFMT help interviewees reach their goals, but it also impacted their beliefs and self-management skills, ultimately influencing their mindset, bringing us to generate the second theme, 'Starting PFMT, Changing Mind'.

Theme 2: 'Starting PFMT, Changing Mind'

As participants engaged in PFMT, they transformed their perspectives and mindset on their UI condition, developing self-management skills. This transformative process inspired our second theme (Table 4).

Before PFMT, cultural factors heavily influenced participants, making them believe that UI was uncontrollable. Many attributed UI to natural ageing, childbirth, and menopause, considering it a normal life stage. In other cases, some believed surgery-induced UI would improve over time or through general leaflet-recommended pelvic exercises. Eventually, seeking help only commenced when UI impacted relevant aspects of their lives, such as work, sexual activities, or hobbies, when symptoms became unmanageable, or when they realised pelvic exercises were too hard to perform independently.

Once PFMT started, participants felt more engaged in their body and care, understanding their active role in managing their condition. This awareness equipped them with self-management skills, integrating exercises into daily routines and needs. PFMT also empowered them, positively influencing their behaviour and mindset. Some participants reported reduced embarrassment and increased comfort discussing their condition openly. However, starting PFMT occasionally triggered guilt for not initiating treatment sooner or neglecting

Table 5 Illustrative data extracts for Theme 3 'Into the unknown intimacy'

Theme 3: 'Into the unknown intimacy'	
Codes defined by researchers	Example of quotes extracted from the interviews
Knowledge of pelvic floor	"I was advised to do these pelvic gymnastics to re-educate my pelvic muscles, something I didn't even know existed"—P1, 37y, Woman
(Un)knowledge of PFMT	"I didn't know about pelvic physiotherapy. I asked my urologist by chance, otherwise, I wouldn't have dared because it seemed like a strange thing, and instead… who knew that there was a pelvic floor, that there were muscles…"—P15, 76y, Man
	"I didn't even know that pelvic gymnastics was possible. These possibilities should be disseminated more because in my opinion there are so many people who suffer from this but are ashamed like I was, and who don't know where to turn"—P14, 70y, Woman
	"I had no idea that this type of therapy existed"—P6, 81y, Man
	"10 days after the operation, I started doing exercises that were indicated to me by the department, but I didn't know that there was this type of physiotherapy… I asked my urologist about it out of curiosity, and he told me that there are physiotherapists who deal with it. I immediately went to one. Within 3–4 sessions, the world changed for me"—P15, 76y, Man
	"I had never heard of such a thing. […] More publicity should be done, as they do for baldness, for chocolates or pains… I think it's a life-saving issue for people…"—P12, 73y, Man
Struggling with intimacy	"I have to be alone at home to do them… I have trouble finding a moment when I'm alone"—P11, 39y, Woman
	"The problem is that (the exercises) are so… in such a particular area that you just don't feel like doing them…"—P13, 67y, Man
	"It was still a struggle and a commitment to find the moments to dedicate to this exercise, I had to better understand when to do them because initially, I started doing them in the evening"—P16, 36y, Woman
Need to increase awareness	"It would clearly be easier to access this type of therapy not only privately but absolutely publicly. […] Campaigns for prevention and education should be carried out, making the issue much more transparent and certainly doing campaigns like those for breast screening"—P3, 52y, Woman
	"We need organised centers at the national level, in the city where one lives, like going to the gym… Also bringing awareness to these things in schools… and doing campaigns"—P4, 59y, Woman
	"More awareness is needed, because there is still some taboo. Some girls have had pregnancies and have problems but they did not talk about… It is still not talked about much"—P11, 39y, Woman
Peers' empowerment	"I see so many people who limp, so many people who walk poorly, so many people who have fallen off their motorbikes, who have the flu… when I was at the stadium and I looked at the 15,000 fans, I wondered whom the hell had a condition like mine. There is a need for education, not just medical… it's important to know that there's someone else like you"—P13, 67y, Man
	"I'm not suggesting we start a prostate surgery club… But it's something that many people have, something that many people don't want to talk about because of the embarrassment"—P13, 67y, Man
	"This thing about having contact with those who have already had these experiences and not exclusively from doctors, not because I want to go against doctors, in the sense that… they don't give the same testimony, because having the testimony of a person you know and who tells you, 'look, I've been there, I felt good, I did a whole series of exercises that helped me feel better"—P2, 67y, Man

Table 5 (continued)

Theme 3: 'Into the unknown intimacy'	
Codes defined by researchers	Example of quotes extracted from the interviews
The role of the relatives or partner in the condition	"My husband is the classic man who doesn't show emotions or anything… He doesn't comfort me, he doesn't say anything. At most, he says 'If we can't do it, we can't do it' (referring to sex). There is a lot of suffering on my part. He knows how I feel but I can't talk to him about it, he knows and that's it"—P5, 63y, Woman
	"I see that for my wife, for those who are close to me, it's always difficult to keep in mind… I don't know the situation the other person is going through because it's not visible."—P13, 67y, Man
	"Let's say that I don't talk about it much with him (my husband)… I don't bring up this issue with him often; I don't want it to be on his mind."—P7, 35y, Woman
	"I was ashamed to talk about it right away, to tell my partner right away. I was more avoidant than usual. But then we talked about it when I started therapy."—P1, 37y, Woman
	"With my wife, there isn't much dialogue in this sense because unfortunately, my wife has been suffering from big leg pain for three years. Everyone keeps their problems and then tries to solve them. You try to maybe fool yourself that it doesn't exist."—P8, 73y, Man
	"My husband and I joke about it because when I have a sneeze attack, I have to run away."—P10, 60y, Woman
Internet as an informative tool	"Useful because then if you go, for example, on Youtube, if you search on the Internet, you find many similar ones. The problem is that in that case, you were not accompanied, but later on, I learned that exercises alone are, so to speak, not sufficient on their own unless you need machines, electrostimulation, or certain things that are objectively not enough on their own unless maybe you want to."—P13, 67y, Man
	"I learned about pelvic rehabilitation through the internet, of course"—P8, 73y, Man
	"I discovered a very good young gynecologist on Instagram, through whom I then met my physiotherapist because there really is a world, discovered, that I didn't know existed"—P11, 39y, Woman
	"On the internet, as we know, all things… In short, you need to delve deeper, there needs to be an expert, they need to explain things well to you, right? They need to make you understand things well."—P4, 59y, Woman

self-care. Overall, PFMT prompted a positive shift in how participants approached and managed their condition.

Besides positive effects, PFMT brought participants to confront issues related to their pelvic intimacy and the lack of knowledge about pelvic floor anatomy and physiology. This consideration brought us to generate the third theme, 'Into the unknown intimacy'.

Theme 3: 'Into the Unknown Intimacy'

Experiencing UI prompted participants to embark on a journey to understand pelvic floor and PFMT while overcoming challenges associated with a condition culturally linked to

Table 6 Illustrative data extracts for Theme 4 'The Importance of Not Being Alone in this Process'

Theme 4: 'The Importance of Not Being Alone in this Process'	
Codes defined by researchers	Example of quotes extracted from the interviews
Tailored approach	"She (the physiotherapist) gave me mental strategies to ensure that I do them (exercises) consistently, which are 'anchors.' She immersed herself in my life, in my case as a new mom who can't dedicate a moment"—P7, 35y, Woman
	"(The physiotherapist) said to me 'So this here is the exercise you have to start doing from now on'. After 15 days, I reduced the amount of urine I was losing by three-quarters. This exercise was born from a dialogue, from a situation that I told her about and that she immediately seized upon to study together how to improve my condition"—P13, 67y, Man
Someone to help you reach your goals	"I know I won't return to normal as before, but the path is a gradual return to that, and so hearing these things, having a goal to conquer and therefore (a physiotherapist) who can put you in a position to reach it… […] it takes that there is a sharing between the parties, that is, it must be as if it were an active part from both sides."—P2, 67y, Man
	"The exercises that the physiotherapist made me do consistently, actually […] allow me to control the leakage more." – P16, 36y, Woman
	"If I have to do the exercises at home… once I don't feel like it, once I don't have time, once I arrive home late… and how many times do I do the exercises at home in a week or a month? Instead, if I have an appointment, which I may even pay for, and there's a person who makes me do them… it's like having a personal trainer"—P4, 59y, Woman
	"I knew that the person with me (physiotherapist) was not doing it to control me… but wanted to help me restore a function that was no longer there"—P2, 67y, Man
The therapeutic touch	"The act of touching someone else transmits something… like when you meet an old friend from university… That touch is objectively stronger, it's as if it creates a bond"—P13, 67y, Man
The importance of being empathic	"Empathy is everything. Even simply explaining things through different methods, several times and with the right approach, and therefore she had the right touch, the right way to do it. It was this way of doing things that helped put me at ease"—P9, 38y, Woman
	"Empathy is certainly everything and certainly asking is what pleasantly surprised me, it was the power maybe to touch, try… Always asking for permission first, for me it was very important. And the calmness, gentleness, and serenity of the physiotherapist"—P11, 39y, Woman

Table 6 (continued)

Theme 4: 'The Importance of Not Being Alone in this Process'	
Codes defined by researchers	Example of quotes extracted from the interviews
Sharing knowledge to empower	"The physiotherapist must be courteous. Let's say that she explains things well, right? She must put you in a position to understand, and I understood. I felt understood and I understood"—P5, 63y, Woman
	"The physiotherapist asked me to tell her how I felt, she also asked about other things that maybe embarrassed me but she always reassured me a lot. She explained to me what we were going to do. Then I'm very curious and I have to understand, I don't like to do things mechanically and this reassured me. I perceived her delicacy and empathy"—P1, 37y, Woman
	"The first thing is welcome with a smile, and kindness, then my physiotherapist immediately explained my situation to me with a little drawing… I immediately felt comfortable, calm"—P15, 76y, Man
More than just a 'physical' therapist	"For me, it's important to have a physiotherapist who pays attention to the relational aspect… my physiotherapist answered all my questions and curiosities and it was important for me to normalise the situation even outside of the context to manage any fears and insecurities"—P16, 36y, Woman

intimate areas and personal aspects of their lives. This journey is represented by our third theme (Table 5).

Participants' journey started before PFMT, when they neither had knowledge of pelvic floor anatomy and physiology nor had an expectation about PFMT since they did not properly know what it was. Yet, they were interested in understanding PFMT and its connections with UI. To get this information, participants turned to Internet or sought advice from people who had experienced similar conditions. Engaging with social media platforms helped interviewees connect with health professionals and others with shared experiences, reducing embarrassment linked to intimate areas, empowering, and getting valuable insights into PFMT's efficacy.

Once they developed a general idea about PFMT, participants sought physiotherapists to start their rehabilitative training. This decision bridged participants' knowledge gap about pelvic floor anatomy and physiology, resulting in surprise, as they realised the potential of pelvic floor muscles in effectively managing UI symptoms. Some participants expressed unawareness of PFMT as a treatment option, underscoring the importance of raising communication about pelvic floor and facilitating direct referrals to PFMT and education through public access channels.

As participants gained a more comprehensive understanding of PFMT's purpose and mechanisms, their journey presented challenges related to engaging in exercises involving intimate body parts. Throughout their training, participants experienced discomfort, likely influenced by social and cultural factors. They reported difficulty finding private moments for exercises at home and unease about addressing these intimate areas, impacting adherence to PFMT. Furthermore, this discomfort extended to their interactions with family members, leading to avoidance of discussing incontinence and a lack of understanding from others. However, implementing PFMT played a crucial role in overcoming these difficulties. By breaking the silence and fostering open communication, participants addressed

their incontinence concerns and discomfort—ultimately enhancing their understanding of their condition and fostering positive confidence in their intimate body parts.

Given the abovementioned challenges in performing PFMT, for participants, it was essential to have a reference figure. This figure, more helpful than internet sources and peers' insights, provided physical and psychological guidance and support throughout this process. Hence, we generated the fourth and last theme by focusing on this need.

Theme 4: 'The Importance of Not Being Alone in this Process'

From interviewees' perspective, the physiotherapist embodied the role of a guide, providing essential PFMT support and ultimately empowering participants' care. This perception led to the generation of our final theme (Table 6).

Participants frequently encountered challenges in effectively recruiting pelvic floor muscles both before and at the beginning of PFMT. Here, the physiotherapist's role was essential in guiding them on proper pelvic floor contractions. The physiotherapist provided verbal feedback, tailored exercises, and educated participants about continence anatomy and physiology. This educative role was highly valued, fostering greater engagement and comprehension among interviewees, who felt truly actively involved in their healing process, guided by someone capable of helping them reach their goals.

In addition to physiotherapists' educative and supportive role, interviewees emphasised the importance of having an empathetic figure alongside them, capable of transmitting calm and serenity. Effective verbal and nonverbal communication skills were crucial factors in this aspect. Notably, participants mentioned the importance of proxemics, where physiotherapist's delicate touch and composed voice reassured them. Asking for permission before approaching intimate areas further eased participants' discomfort. This thoughtful approach fostered comfort and trust, ultimately enhancing the overall PFMT experience.

Ultimately, the physiotherapist played a crucial role in helping participants restore their body confidence and overall well-being. Physically, participants regained control over leakage, restoring lost function. Moreover, they felt more capable of managing their condition without experiencing negative feelings such as fear or insecurities regarding leakages, enabling them to return to everyday life. Supportive guidance and effective PFMT provided by the physiotherapist empowered participants to regain control over their lives, fostering renewed confidence and well-being.

Discussion

This study investigated PFMT's experience in an Italian sample of people with UI. PFMT experience brought participants to learn to regain control of continence ('Learn to Control the Unconscious Consciously'), to change their beliefs, self-management skills and mindset on the condition ('Starting PFMT, Changing Mind'), to confront challenges related to their pelvic intimacy and the lack of knowledge about pelvic floor gradually ('Into the unknown intimacy'), and finally, to learn the importance to be guided by a physiotherapist throughout their PFMT journey ('The Importance of Not Being Alone in this Process').

Before starting PFMT, UI profoundly affected participants' lives by eliciting negative emotions. Participants coped by trying to control external factors, modifying daily habits, and behaving passively, seeing UI as a natural consequence of a previous event or life stage, consistent with previous evidence [15, 25, 26]. Cultural factors, embarrassment, and

a lack of understanding about pelvic floor health and PFMT influenced the inclination to seek help [18, 27]. Seeking assistance occurred when symptoms worsened or significantly impacted their lives. To get guidance and understanding of PFMT, participants often relied on word-of-mouth recommendations from people who shared similar experiences, social media websites or leaflets provided by healthcare professionals. This behaviour generated a virtuous circle of mutual feedback that helped people to engage in PFMT, as observed in other populations [28, 29]. However, participants acknowledged the challenge of independently performing exercises described in informational materials, as reported elsewhere [28, 30].

Starting PFMT enhanced participants' understanding of pelvic floor muscles anatomy, physiology, and its role in maintaining continence. Consequentially, participants developed positive treatment expectations and reshaped their beliefs and mindset about their condition. Positive treatment expectations are a known and relevant factor for therapy success [14, 31]. This transformation involved awareness of their capacity to control and influence their well-being, in contrast to their previous perception of powerlessness. PFMT empowerment aligns with findings from Jahromi M.K. et al., demonstrating how PFMT improved incontinent women's quality of life and self-esteem [32]. Considering these transformative effects, participants emphasised the importance of health education through educative campaigns and ensuring fast, direct access through the national healthcare system. The participants highlighted the direct access as a facilitator to start PFMT, as reported elsewhere [33, 34].

While undergoing PFMT, participants were surprised to witness its positive impact on their condition, increasing their sexual serenity and self-confidence, while extinguishing negative feelings. Active exercises were preferred over passive treatments or instrumental therapies, consistent with evidence in other conditions where active exercises seemed more effective than passive treatments in improving their symptoms [35, 36]. However, participants found pelvic exercises demanding as they had little awareness of their pelvic floor muscles. Even with written information, many struggled to achieve pelvic floor contraction, making passive treatments appear more feasible, even if less helpful [37]. Additionally, discomfort with intimate areas compounded these challenges, resulting in low adherence to home exercises. This aligns with a Cochrane Review's conclusion that regular and consistent 'interaction' with a professional supports PFMT adherence [38]. In support of this thesis, in their quasi-experimental study, Cross et al. highlighted the pivotal role of supervision in PFMT, demonstrating that supervised sessions notably enhance UI symptoms compared to individuals performing Kegel exercises independently [39]. These findings furtherly support the role of the physiotherapist in preventing the execution of incorrectly exercises when unsupervised [39].

To further stress this finding, participants perceived the physiotherapist's role to be fundamental to overcoming different UI-related challenges. Seen as a knowledgeable and supportive guide, the physiotherapist played a multifaceted role, shaping individuals' understanding of the pelvic floor, optimising their physical skills, and generating positive feelings and expectations towards PFMT. Participants appreciated the practical tips and reminders for integrating PFMT into daily life and the use of aids like drawings, anatomical models, or pictures to aid comprehension. Equally significant was the empathetic communication style of the physiotherapist, facilitating open discussions, including intimate concerns, breaking the silence on UI, and overcoming their discomfort. These strategies contributed to developing an empowering relationship, enhancing treatment satisfaction [13, 30]. These physiotherapist's attributes align with roles described by Hay-Smith et al., including educator, trainer, persuader, and enabler [13], and correspond to exercise

adherence facilitators reported in other studies, encompassing knowledge, physical skill, feelings about PFMT, cognitive analysis, planning and attention, prioritisation, and service provision [13, 14, 40]. Finally, post-PFMT, participants reported higher body awareness and improved body perception, enhancing their quality of life and self-efficacy. Gaining physical control and self-efficacy are crucial for UI management, motivating continued PFMT and participants' confidence [13, 30].

This study has limitations. Focusing on a specific Italian sample with UI who performed PFMT, makes this study non-representative of broader populations. Future research could expand on these findings in diverse contexts. Additionally, participants voluntarily joined the study, possibly feeling comfortable discussing their experiences and less affected by cultural taboos. Thus, they may represent only a subset of people with UI, particularly those more proactive in seeking PFMT care. The participants and the researchers were all white limiting the richness of our results. Thus, future studies might try to include the perspectives of other ethnicities. Conversely, the study's strength lies in its pioneering exploration of PFMT's transformative experience in a Mediterranean country, namely Italy.

Conclusion

Participants in this study with UI found PFMT valuable for their condition. Initially, PFMT enhanced knowledge and understanding about pelvic floor health and continence functioning, fostering body awareness, a positive and comfortable mindset, and proactive management of their condition. Active were preferred over passive therapies due to their effectiveness in regaining control over continence. In this process, the physiotherapist played a crucial role as an educator, planner, and empathetic communicator. Considering these results, PFMT proved to be a valuable resource for UI, even from individuals' perspective.

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Declarations

Conflict of interest None to declare.

Ethics Approval It was conducted in respect of the Declaration of Helsinki and reported following the Consolidated Criteria for Reporting Qualitative Research for reporting qualitative studies. Ethical approval was obtained from the Ethics Committee for University Research (CERA), University of Genova (approval date: 17/02/2022; CERA2022.14). The participants signed informed consent to participate before participation.

Consent to Participate The participants signed informed consent for publication before participation.

Consent to Publish The authors affirm that human research participants provided informed consent for publication, but we have no pictures or videos to declare.

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