

Research

Women report sustained benefits from attending group-based education about pelvic floor muscles: a longitudinal qualitative study

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KEY WORDS

Pelvic floor
Women's health physiotherapy
Health education
Physical therapy
Qualitative



ABSTRACT

Question: Among women who have participated in group-based education about the pelvic floor, what are their perceptions of the program and the group format? **Design:** Exploratory longitudinal qualitative study. **Participants:** Community-dwelling women aged ≥ 18 years who participated in three or four sessions of pelvic floor education in a group format at a university clinic. **Data extraction and analysis:** Semi-structured group or individual interviews were conducted at three time points: 1 week, 3 months and ≥ 5 months after the education activity. Data were inductively content analysed and independently coded, with iterative theme development. **Results:** Women considered the content and delivery appropriate and useful. New knowledge was assimilated and shared with others, and many tried to adopt pelvic floor muscle training in daily life. The women felt that the education sessions might benefit other women, with and without pelvic floor dysfunction symptoms, and that such education would ideally be more widely available. A perception of the value of the education persisted over time, even though maintenance of some health-promoting behaviours, such as pelvic floor muscle training, decreased. **Conclusion:** The pelvic floor group education sessions appeared to fulfil the purpose of increasing knowledge about pelvic floor (dys)function and applying this in daily life. Overall, the participants, who had completed three or four of the four sessions, found the program to be useful. A unique feature of this study was longitudinal data collection and it seemed that the perception of value persisted over time. [Fernandes ACNL, Palacios-Ceña D, Hay-Smith J, Pena CC, Sidou MF, de Alencar AL, Ferreira CHJ (2021) Women report sustained benefits from attending group-based education about pelvic floor muscles: a longitudinal qualitative study. *Journal of Physiotherapy* 67:210–216]

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Introduction

Pelvic floor muscles (PFM) support the pelvic organs, help maintain urinary and anal continence, and contribute to sexual function.^{1,2} PFM function has a clearly established relationship with development of pelvic floor dysfunctions (PFDs), such as pelvic organ prolapse, urinary incontinence, constipation, anal incontinence and sexual dysfunction.^{2–5}

The first-line treatment for urinary incontinence, which is the most prevalent PFD, is pelvic floor muscle training (PFMT).^{1,6} PFMT efficacy requires sufficient exercise adherence,^{6–8} which appears more likely if patients are knowledgeable about their pelvic floor and see an effect on their PFD symptoms.⁷ However, women have been found to have limited knowledge about the pelvic floor and PFDs.^{9,10}

Education is an intervention¹¹ that may support patient capability, motivation and behavioural skill for PFMT at the start of the

rehabilitation program.^{7,12–14} A number of authors have specifically developed, described and tested the effects of education about PFM and PFD on women's knowledge,^{15–17} function and symptoms.^{12,15–19} Most educational activities described in the literature aim to inform women about at least one aspect of PFD.^{15–17,19} Some programs are underpinned by educational and/or health behaviour theory;^{12,18} however, there is no consensus on content or how best to deliver an education program.

Education delivery may be as important as content. For instance, education can be delivered one-to-one¹² or in groups.^{15,16} A primary argument for group-based delivery is efficiency (eg, saving therapist time) but other advantages are also proposed, such as reducing feelings of stigma or isolation and the behavioural support participants offer each other.²⁰

Simple, community-based educational interventions have demonstrated effectiveness on the prevention and management of

symptoms of PFD.¹⁹ There is, however, a notable lack of direct patient involvement in developing such educational interventions.¹⁸ Therefore, it seems appropriate to conduct studies that seek the perspectives of women who take part in such education programs.

This study aimed to explore: the perspectives of women participating in a group education program about the pelvic floor and PFD; what they found valuable and less valuable in the program content; its impact on their lives and habits; and the barriers and enablers of understanding and applying the information in real life (ie, performing home PFMT).

Therefore, the research question for this longitudinal qualitative study was:

Among women who have participated in group-based education about the pelvic floor, what are their perceptions of the program and group format?

Methods

Design

In this exploratory longitudinal qualitative study,^{21,22} women who had participated in a pelvic floor education program were interviewed at three time points: 1 week after program completion, 3 months after completion and then ≥ 5 months after completion. The study was reported according to standards for qualitative research.^{23,24}

The research team comprised five researchers (four women and one man), two physiotherapists, two undergraduate physiotherapy students and one research nurse. Two had experience in qualitative study design and two had clinical and research experience with PFD. None had been involved in delivery of the education sessions that study participants had attended, and only one researcher had known the participants previously. Prior to the study, the positioning of the researchers (presented in Table 1 on the eAddenda) was established through two briefing sessions addressing the theoretical framework, their prior experience and their motivation for the research.^{21,22}

The study took place in the School Health Centre of the Ribeirão Preto Medical School, University of São Paulo, Brazil. The educational program context is detailed in Appendix 1 on the eAddenda. In brief, community dwelling women were offered four 1-hour education sessions on the pelvic floor and PFD, delivered by undergraduate physiotherapy students after training from a senior women's health physiotherapist. The sessions included instruction on PFMT.

Participants, recruitment and sampling strategies

To be eligible for the study, women had to be aged ≥ 18 years and have attended three or four sessions of the educational program. Only women who took part in the first interview (at program completion) were eligible to take part in the follow-up interviews (3 months, ≥ 5 months). Recruitment occurred in the last session of the educational program. A researcher then followed up each woman by phone to invite participation, explain the study, answer questions, and seek written informed consent.

Data collection

Data were collected over an 18-month period between February 2017 and August 2018, at three time points (1 week, 3 months and ≥ 5 months after the educational group). Semi-structured interviews based on a question guide developed by the researchers were used to obtain information regarding specific topics of interest.²⁵ The question guide is presented in Table 2 on the eAddenda.

The first and third interviews were conducted face-to-face in a reserved room at the School Health Centre, and the second by telephone or in person according to the women's preference. Women could choose an individual interview or to be interviewed with another woman from her education group. All interviews were

conducted by a single interviewer, observed by a physiotherapy student and audio-recorded. After the interviews, participants were invited to communicate with the researchers (eg, letters, electronic messages) if they wanted to supplement or modify the content discussed in the interviews. Data collection continued until no new codes or themes were evident in data analysis.^{21,22,25}

All education sessions that the women had attended were observed by an assistant researcher. The observed education content was noted in a field diary to compare with the protocol of what should be included in the education session.

Data analysis

Demographic data and variations in the educational program content were descriptively analysed. Interviews were conducted in Portuguese, transcribed verbatim and then inductively content analysed²⁶ by one researcher and independently checked by a second researcher in three steps: data familiarisation through transcription and reading completed transcripts; inductive coding to systematically document the interview content; and grouping the codes from the previous step into higher-order categories representing potential themes. Next, the research team: reviewed and verified the themes; agreed on the description and naming of the themes; and selected illustrative quotes. Four researchers were involved in the analysis of the qualitative data and the process of data analysis was recorded in a codebook, which was later verified by an external researcher. Quotes were translated into English by one researcher and verified by another researcher. No qualitative software was used.

Table 3 details the methods used in design and conduct of the study to establish the trustworthiness of the data, including credibility, transferability, dependability and confirmability.^{21,22,25}

Results

Flow of participants through the study

Fifty-three women were potentially eligible, of whom 29 agreed to participate and 19 attended the first interview (Figure 1). The 19 women had a mean age of 55 years and a mean parity of 2.6. Two-thirds were Caucasian, three-quarters were married, just over half had completed high school or further education, and nearly all identified with Catholic or Protestant faith groups (Tables 4 and 5). Nearly all the women had urinary incontinence and about half had received some treatment. Sexual dysfunction was more common than either pelvic organ prolapse or anal incontinence, and less than half with these symptoms had received treatment for them.

A total of 32 interviews were conducted and 1,165 minutes of interviews were recorded: 646 minutes at the first set of interviews, 207 minutes at the second set and 312 minutes at the third set. After the interviews, no participants contacted the researchers to supplement or modify the content discussed in their interviews. Eight education groups (four sessions of 1 hour each, total 32 sessions) were observed. Information coverage was generally very good (Table 6), with between 15 and 18 of the 19 education items delivered at each of the eight groups. The PFMT protocol was delivered in every group.

Of the 19 women who took part in the first set of interviews, 14 took part in the second set and nine in the third set (Figure 1). For the first set of interviews, there were 11 individual and four dyadic interviews. The second set of interviews were all conducted individually by phone. For the third set of interviews, three of the interviews included two to four participants each. Data saturation in the first, second and third set of interviews was obtained after 18, 14 and three interviews, respectively.

Themes

The interview data were presented in two themes: 'perceptions of the pelvic floor education' and 'using the new knowledge in daily life'. Each theme had contributing subthemes and illustrated using

Table 3
Trustworthiness of the data.

Criteria	Techniques performed and application procedures
Credibility	<ul style="list-style-type: none"> Investigator triangulation: each interview was analysed by two researchers and verified by another researcher. Thereafter, team meetings were performed during which the analyses were compared and categories were identified. Participant triangulation: the study included participants belonging to a different diagnosis. Thus, multiple perspectives were obtained with a common link (educational group about pelvic floor). Triangulation of methods of data collection: semi-structured interviews were conducted at different timepoints and researcher field notes were kept. Participant validation: participants were asked to confirm the data obtained during the stages of data collection and analysis. None of the participants made additional comments.
Transferability	<ul style="list-style-type: none"> In-depth descriptions of the study performed, providing details of the characteristics of researchers, participants, contexts, sampling strategies, and the data collection and analysis procedures.
Dependability	<ul style="list-style-type: none"> Audit by an external researcher: an external researcher assessed the study research protocol, focusing on aspects concerning the methods applied and study design. Also, an external researcher specifically checked the description of the coding tree, the major themes, patients' quotations, quotations' identification and the descriptions of themes.
Confirmability	<ul style="list-style-type: none"> Investigator triangulation, participant triangulation and data collection triangulation were used. Researcher reflexivity was encouraged via the performance of reflexive reports and by describing the rationale behind the study.

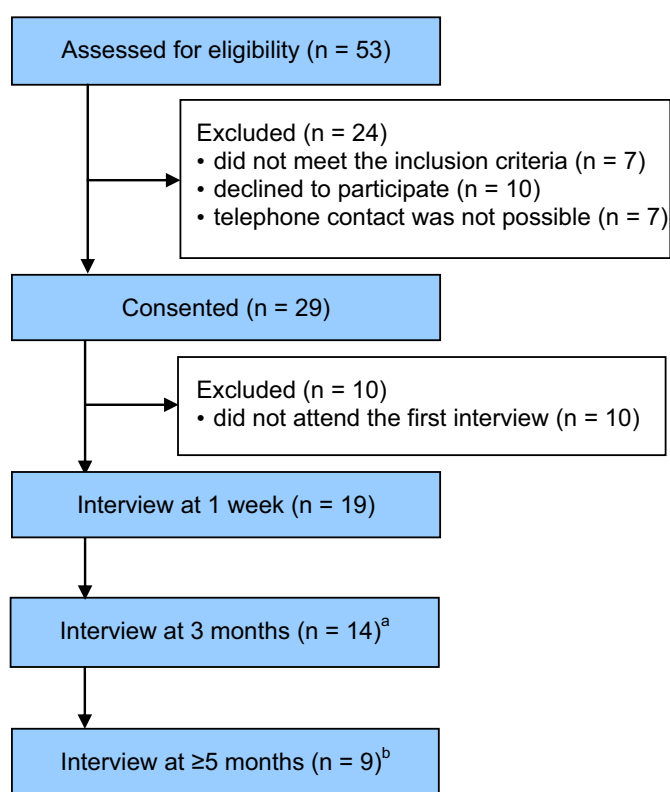


Figure 1. Recruitment procedure, data collection process, and loss to followup.

^a Three participants declined to attend the interview due to health issues and two could not be contacted at the time of the interview, but all agreed to remain in the study.

^b Six participants declined to attend the interview and four could not be contacted.

representative quotes. The quotes were translated from Portuguese to English for reporting and presented in both languages in Table 7 on the eAddenda.

Perceptions of pelvic floor education

Most women liked the way the pelvic floor education content was delivered and felt that they gained valuable knowledge. The most common criticism was that there was not enough time to practise PFMT. Generally, the women thought that the education would be useful for a much wider range of women (ie, not just those with current symptoms of PFD) and they suggested the group be more widely advertised. Women who were interviewed more than once continued to feel that the knowledge gained was worthwhile. More

detail is now presented in two subthemes: 'delivery and content' and 'uptake'.

Delivery and content

At the first interview, women were generally positive about the delivery of pelvic floor education content. They felt that the content was presented naturally and the presenters used good analogies to explain anything that was potentially difficult to understand. The visual content (eg, posters) was praised, particularly as supporting knowledge acquisition.

I found it highly creative on their part to make the drawings and explain everything to us. Explain, show, talk... wow! (Interview 1, P7, 65 years)

The educational content was valued because it addressed gaps in the women's knowledge, and they were pleased to know more about PFD, treatment options, PFMT and why it might help. The most useful information was that which the women could immediately apply in understanding or addressing their symptoms. Women with PFD complaints felt that the group helped them to value themselves and to speak more freely about their symptoms.

It clarified a lot of the reasons why you lose urine and why you have to perform the exercises. I used to be, 'Why am I doing this?' (Interview 1, P12, 18 years)

Some participants were having treatment for PFD and even they felt that the educational group helped them to better understand what was happening during their treatment sessions. Women also noted the value of education for those without PFD symptoms because such information might help some women to prevent the onset of symptoms, and for those who did develop symptoms they might be more likely to seek treatment. For group participants who had symptoms and had not previously sought help, the education led to seeking more information and help from health professionals.

But that doesn't mean that in a few years it can't happen to me either. If I am already strengthening all this musculature, maybe I will be able to prevent it, won't I?! (Interview 3, P8, 39 years)

The main criticism was that there needed to be more time to practise PFMT. In addition, some participants found it difficult to have such a wide range of ages, existing levels of knowledge, or symptom experiences in the same group. For these women, a more homogeneous participant profile was preferred, as they felt that the group interactions and discussion would have been even more valuable if the other participants were more like them. A few felt that the content could be delivered in fewer than four sessions.

Well, I thought the theory was great, but along with the theory there should be more practice because just explaining the exercises we

Table 4
Demographic characteristics of the participants.

Characteristics	Participants (n = 19)
Age (y), mean (SD)	55 (15)
Self-reported ethnicity, n (%)	
white	12 (63)
black	0 (0)
other	7 (37)
Marital status, n (%)	
single	3 (16)
married	14 (74)
widowed	2 (11)
Formal education, n (%)	
elementary school	4 (21)
middle school	4 (21)
high school	7 (37)
college	4 (21)
Religion, n (%)	
Catholic	8 (42)
Evangelical	7 (37)
Spiritist	2 (11)
Jehovah's Witness	2 (11)
Parity, mean (SD)	
pregnancies	2.6 (1.7)
births	2.0 (1.2)
caesarean birth	1.05 (0.97)
vaginal birth	0.94 (1.31)
abortions	0.63 (0.95)

Some percentages do not sum to 100 due to the effects of rounding.

really can't assimilate very well. I think there has to be a little more practice [of PFMT] for us to practise more. (Interview 1, P15, 54 years)

It is important to point out that, during the other two sets of interviews, women confirmed their perception of the adequacy of the delivery and content of pelvic floor education.

Uptake

Most participants found out about the education program while on the waiting list for an appointment at a women's health centre, and some were specifically invited to attend by a physiotherapist. Already having PFD symptoms or wanting to know more about PFD were reasons to attend.

To find out about myself. Because everything that begins has a solution, but after everything is damaged is more difficult, isn't it? I find myself like this. (Interview 1, P4, 63 years)

The women felt that the education could be more widely advertised as a broad range of women were likely to benefit. Women who attended became information multipliers. Most passed on information gained through the group to others they thought might benefit. For women without PFD symptoms, participating alongside those with symptoms was an important stimulus to performing PFMT.

[My aunt] said 'Oh I'm losing pee' then I told her about the exercises you do. I told her about the exercise you have to do. I told her about my case, I explained, why I was coming to do the treatment here every week and not... (Interview 1, P12, 18 years)

Older age, the day/time of the education sessions, travel to the venue and lack of interest were mentioned as likely barriers to uptake. The credibility of the organisation offering the education, family support and willingness to learn were considered to be facilitators.

(...) But sometimes the person is interested [in the educational group] but she does not have the problem so she leaves for tomorrow... (Interview 3, P8, 39 years)

Table 5
Clinical characteristics of the participants.

Characteristic	Participants (n = 19)
UI complaint, n (%)	
yes	17 (89)
UI treatment, n (%) ^a	
none	9 (53)
surgery	1 (6)
medication	1 (6)
physiotherapy	4 (24)
surgery and physiotherapy	1 (6)
medication and physiotherapy	1 (6)
POP complaint, n (%)	
yes	3 (16)
POP treatment, n (%) ^a	
none	1 (33)
surgery	1 (33)
medication	1 (33)
SD complaint, n (%)	
yes	8 (42)
SD type, n (%) ^a	
dyspareunia	7 (88)
anorgasmia	1 (13)
SD treatment, n (%) ^a	
none	5 (63)
surgery	2 (25)
medication	1 (13)
AI complaint, n (%)	
yes	3 (16)
AI treatment, n (%) ^a	
none	2 (67)
medication	1 (33)
Constipation complaint, n (%)	
yes	7 (37)
Constipation treatment, n (%) ^a	
none	1 (14)
medication	1 (14)
alternative treatments	1 (14)
food adequacy	3 (43)
enema	1 (14)

Some percentages do not sum to 100 due to the effects of rounding.

AI = anal incontinence, POP = pelvic organ prolapse, SD = sexual dysfunction, UI = urinary incontinence.

^a Percentage of those with the complaint.

Using the new knowledge in daily life

All women reported using their new knowledge, particularly trying to perform PFMT at home. Women were able to identify the challenges to making changes in everyday life based on new knowledge, but it was much more difficult to problem solve ways to address those barriers. Three subthemes captured application in daily life: 'useful knowledge', 'performing PFMT at home' and 'what makes change possible and worthwhile'.

Useful knowledge

The women applied a range of knowledge in everyday life; what was most useful was not the same for everyone. At the first interview, all reported trying to do PFMT at home, and a range of other skills – such as abdominal massage to reduce constipation, attention to diet, modification of voiding habits, better positioning on the toilet for bowel evacuation – were also being practised. At the second interview, the women reported that similar skills were being practised, with the addition of further examples such as taking up general physical exercise and seeking help for PFD symptoms. By the third interview, the women were not introducing new lifestyle changes. Over time women were more likely to be sharing useful knowledge with others and feeling better about themselves based on the changes they had made.

I perform it four, five times. If I'm sitting and I remember, I perform it, if I'm standing, I remember and perform it. Before getting up, I

Table 6
Information discussed in each of the eight educational groups.

Information topics	Educational group							
	1	2	3	4	5	6	7	8
Anatomy of female perineum	Y				Y			Y
Anatomy of female pelvic organs	Y	Y	Y	Y	Y	Y		Y
Difference between smooth and striated muscle		Y	Y	Y	Y	Y	Y	Y
Pelvic floor muscle structure	Y	Y		Y	Y	Y	Y	Y
Pelvic floor muscle function	Y	Y	Y	Y	Y	Y	Y	Y
Physiology of micturition	Y	Y	Y	Y	Y	Y	Y	Y
Stop test	Y	Y	Y	Y	Y	Y	Y	Y
Healthy urinary habits		Y	Y		Y	Y	Y	
Female sexual response		Y		Y	Y	Y	Y	Y
Urinary incontinence	Y	Y	Y	Y	Y	Y	Y	Y
Risk factors for urinary incontinence	Y		Y	Y	Y	Y	Y	Y
Conservative strategies for urinary incontinence	Y	Y				Y	Y	
Anal incontinence and risk factors	Y	Y	Y	Y	Y	Y	Y	Y
Intestinal constipation and management strategies	Y	Y	Y	Y	Y	Y	Y	Y
Pelvic organ prolapse	Y	Y	Y	Y	Y	Y	Y	Y
Female sexual dysfunction	Y	Y	Y	Y	Y	Y	Y	Y
Physiotherapy evaluation of pelvic floor muscle	Y	Y	Y	Y	Y	Y	Y	Y
Physiotherapy treatment for pelvic floor dysfunction	Y	Y	Y	Y	Y	Y	Y	Y
Pelvic floor muscle training protocol	Y	Y	Y	Y	Y	Y	Y	Y

Y = yes.

perform that on the bed. That's it, six times slow and six times fast. All ones that I remember that was oriented and that I understood well, I perform. (Interview 1, P7, 65 years)

So, I'm liking myself more. I stepped away like this... It was sad that obesity has something to do [with it] and this gave me a warning. I'm walking, stopped eating fatty foods like frying. I will not say that I stopped 100%, but it was about 40%. (Interview 2 P5, 46 years)

Before the group, I had never spoken about [urinary incontinence] with anyone. After the group and the information, I started to share about this with my friends.' (Interview 3, P3, 40 years)

Performing PFMT at home

Over time the effort to perform PFMT at home changed. All women had tried home PFMT within a week of ending the program, and at 3 months most had tried at least once in the past week. By the third interview, fewer women were doing PFMT at home. For those who were doing PFMT at home, what they did varied a lot.

Sometimes, when I'm washing in the kitchen or doing laundry, I sometimes get [gestures of opening and closing the hand] contracting. I like to keep contracting, I remember, there I get [gestures of opening and closing the hand]. When I remember I contract. (Interview 1, P2, 54 years)

The number of contractions ranged from six to ten for fast contractions, while the number of sustained contractions (6 to 20-second hold) was usually 10. Exercise frequency ranged from one to three sets of exercises per day, with a target of three times per week. Body positioning and incorporating pelvic floor muscle contractions in daily activities varied considerably, and women most commonly commented that they just tried to fit it in whenever and however they remembered. There was concern that some participants appeared to confuse a urine stop test, muscle stretching or diaphragmatic breathing as measures to strengthen the pelvic floor muscles.

Oh, once a day when I'm going to pee, not the first pee, regardless of time and whatever pee I am, I hold it. I cut it, I hold it a little and then I let it go. I cut it about three times during a urination, that I go and stop. (Interview 1, P15, 54 years)

What makes change possible and worthwhile

The most consistent influence on sustained change in daily life was when women noticed a difference – improvement or worsening –

in PFD symptoms. Most often this was that doing regular PFMT improved symptoms, and stopping PFMT meant that the improvement stopped or symptoms worsened. However, there were many challenges identified that meant it was difficult to maintain any behavioural changes in daily life. These included: keeping PFMT in mind (ie, developing a mental habit); forgetting PFMT in the rush of daily life; and the competing priorities for energy, time and attention.

Then I had to stop [PFMT] due to personal issues too, and then I'm like this: totally doing nothing, and then I'm going back to the problem [of urinary incontinence] from square one. (Interview 3, P3, 40 years)

It was hard for women to see how these difficulties could be successfully overcome. However, there were also facilitators of sustained change. For instance, PFMT was more likely to be remembered if there was some association with a particular activity or time of day, and women were more likely feel that PFMT was worth it when they understood why they had to do it.

'Because, [the trainee] said: 'Ah, you have to perform the exercise at home', but I was like 'ah, why?...' [murmuring with dissatisfaction with the trainee's orientation] only when [others in the group] explained that I understood why I have to perform it every day, did you get it? Then I started to perform it... because I understood the importance... what occurs there...' (Interview 1, P12, 18 years)

Discussion

This longitudinal qualitative study explored the perspectives of women participating in an education program about the pelvic floor and PFD. Women felt that the four-session group education program was delivered well and they gained useful knowledge from it that they applied in daily life and shared with others. They thought what they learned could be useful to other women for prevention and management of PFD.

No existing qualitative studies were found about women's experiences of a group educational intervention for pelvic floor or PFD; this study may be the first to document this. A particular strength of this study was its longitudinal nature and, therefore, the women's experience over time. Some findings were consistent with those from previous authors: for instance, the women experienced similar problems to those previously documented^{6,7,27} when trying to sustain PFMT in daily life over several months. Whatever difficulties women face with maintaining behaviour change, this study adds the perception of persistent value of education for women. It was sufficient for them to feel that this was a public health intervention that

should be made available at suitable times and places, which would enable a wide range of women to attend. This finding may not represent the perceptions of those who did not take part in the interviews; this was the primary limitation of the study.

Health promotion and education about PFD may be a way to deal with myths and misinformation about the pelvic floor and PFMT.^{15,18,28–31} The participants thought that the educational activity was valuable because it increased their knowledge related to the pelvic floor, reduced their uncertainty about treatment options and offered solutions to their concerns. This confidence in what they knew is potentially important for treatment satisfaction. In a focus group study of women experiencing overactive bladder symptoms, Smith et al³⁰ found that those who felt confused about the condition, associated medical tests and care were more dissatisfied with their care.

The benefit of group activities and education to empower and support women and reduce the stigma and isolation associated with some health conditions is well-documented (eg, obesity, human immunodeficiency virus and overactive bladder).^{30,32,33} This study found that some women would prefer the groups to be more homogeneous (eg, similar in age and symptoms) and some felt that the mix of those with and without symptoms was particularly useful for the symptom-free women, as it helped them understand the value of the information and PFMT behaviour for preventing PFD. For women with symptoms, the group gave them an opportunity to express what they were feeling and be supported by others with similar experiences. It seems that group-based incontinence-specific educational interventions may be effective for treating and preventing urinary incontinence³⁴ and this means that it is important to understand what it is about group delivery that increases or decreases the effect.

The main criticism by participants in our educational program was that there was not enough time to practise PFMT within each session. Contact with health professionals for supervision of PFMT may be an important contributor to the effect of training;³⁵ however, a lack of self-efficacy for correct PFM contraction and PFMT in general seems common.⁷ While a PFM assessment was not offered to verify a correct contraction, the four-session program offered an opportunity to teach and follow-up with women, to increase their confidence and skill in performing PFMT, and most women did try PFMT at home. However, there was concern that some women confused PFMT with other activities, such as diaphragmatic breathing, over time. Incorporating sufficient practice and feedback on practice of PFMT within an education program is essential to support uptake and maintenance of PFMT, and consistent with theories of supporting self-efficacy³⁶ and behaviour change.¹¹

If, as the women in this study suggested, such group PFD education is made more widely made available as a public health intervention, further study is needed to understand where the value lies from the perspective of those taking part. One potential study is to investigate the effect of such a program on help-seeking. Some beliefs about urinary incontinence act as a barrier to help-seeking, despite bothersome symptoms;³⁷ the education sessions in the current study appeared to encourage further help-seeking behaviour from those with symptoms. It is unclear, for instance, if participants' help-seeking behaviour arose from gaining more confidence to talk about their symptoms, having a positive experience with health professionals regarding their PFD symptoms, being educated to dispel myths that nothing could be done, or other reasons. This study suggested that women without PFD symptoms also found education useful and this might also change their help-seeking behaviour over time.

In conclusion, women who participated in a specific pelvic floor education program considered the content and delivery appropriate and useful. The participants had assimilated new knowledge and shared it with others, and many had tried to adopt PFMT as part of daily life. They felt that the education sessions might benefit other women, with and without PFD symptoms, and that pelvic floor education would ideally be more widely available. A perception of the value of the education persisted over time, even though maintenance of some health-promoting behaviours such as PFMT decreased.

What was already known on this topic: Pelvic floor muscle training is well established as first-line therapy for urinary incontinence and is helpful for other pelvic floor disorders. The efficacy of pelvic floor muscle training depends on sufficient exercise adherence. Adherence appears more likely if patients are knowledgeable about their pelvic floor. Group-based education about the pelvic floor has the potential benefits of efficiency and peer support.

What this study adds: Women who participated in group-based education about the pelvic floor found the content and format appropriate and useful. Many shared their new knowledge with others. Many felt that the intervention would benefit other women, with and without pelvic floor dysfunction, and that group education would ideally be more widely available as a public health intervention. Their perception of the value of the education persisted over time, even though maintenance of some health-promoting behaviours, such as pelvic floor muscle training, decreased.

eAddenda: Tables 1, 2 and 7 and Appendix 1 can be found online at <https://doi.org/10.1016/j.jphys.2021.06.010>

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References

- Abrams P, Andersson KE, Birder L, Brubaker L, Cardozo L, Chapple C, et al. Fourth international consultation on incontinence recommendations of the international scientific committee: evaluation and treatment of urinary incontinence, pelvic organ prolapse, and fecal incontinence. *Neurourol Urodyn*. 2010;29:213–240.
- Bø K, Berghmans B, Mørkved S, Van Kampen M. Evidence-based physical therapy pelvic floor bridging science and clinical practice. In: Bø K, Sherburn M, eds. *Overview of physical therapy for pelvic floor dysfunction*. Oxford: Elsevier; 2015:1.
- Herbruckl F. Stress urinary incontinence: prevention, management, and provider education. *Urol Nurs*. 2008;28:200–206.
- Woodley SJ, Boyle R, Cody JD, Mørkved S, Hay-Smith EJC. Pelvic floor muscle training for prevention and treatment of urinary and faecal incontinence in antenatal and postnatal women. *Cochrane Database Syst Rev*. 2017;12:CD007471.
- Wu JM, Vaughan CP, Goode PS, Redden DT, Burgio KL, Richter HE, et al. Prevalence and trends of symptomatic pelvic floor disorders in U.S. women. *Obstet Gynecol*. 2014;123:141–148.
- Dumoulin C, Hay-Smith J, Frawley H, McClurg D, Alewijnse D, Bø K, et al. 2014 consensus statement on improving pelvic floor muscle training adherence: International Continence Society 2011 State-of-the-Science Seminar. *Neurourol Urodyn*. 2015;34:600–605.
- Hay-Smith J, Dean S, Burgio K, McClurg D, Frawley H, Dumoulin C. Pelvic-floor-muscle-training adherence 'modifiers': a review of primary qualitative studies-2011 ICS State-of-the-Science Seminar research paper III of IV. *Neurourol Urodyn*. 2015;34:622–631.
- Kim H, Yoshida H, Suzuki T. The effects of multidimensional exercise treatment on community-dwelling elderly Japanese women with stress, urge, and mixed urinary incontinence: a randomized controlled trial. *Int J Nurs Stud*. 2011;48:1165–1172.
- de Freitas LM, Bø K, Fernandes ACNL, Uechi N, Duarte TB, Ferreira CHJ. Pelvic floor muscle knowledge and relationship with muscle strength in Brazilian women: a cross-sectional study. *Int Urogynecol J*. 2019;30:1903–1909.
- Fante JF, Silva TD, Mateus-Vasconcelos ECL, Ferreira CHJ, Brito LGO. Do women have adequate knowledge about pelvic floor dysfunctions? A systematic review. *Rev Bras Ginecol Obstet*. 2019;41:508–519.
- Michie S, Van Stralen MM, West R. The behaviour change wheel: a new method for characterising and designing behaviour change interventions. *Implement Sci*. 2011;6:42.
- Alewijnse D, Metsemakers JF, Mesters IE, van den Borne B. Effectiveness of pelvic floor muscle exercise therapy supplemented with a health education program to

- promote long-term adherence among women with urinary incontinence. *Neuro-urol Urodyn*. 2003;22:284–295.
13. Alewijnse D, Mesters I, Metsemakers J, van den Borne B. Predictors of long-term adherence to pelvic floor muscle exercise therapy among women with urinary incontinence. *Health Educ Res*. 2003;18:511–524.
 14. Doshani A, Pitchforth E, Mayne CJ, Tincello DG. Culturally sensitive continence care: a qualitative study among South Asian Indian women in Leicester. *Fam Pract*. 2007;24:585–593.
 15. de Andrade RL, Bø K, Antonio FI, Driusso P, Mateus-Vasconcelos ECL, Ramos S, et al. An education program about pelvic floor muscles improved women's knowledge but not pelvic floor muscle function, urinary incontinence or sexual function: a randomised trial. *J Physiother*. 2018;64:91–96.
 16. Zhang N, He Y, Wang J, Zhang Y, Ding J, Hua KQ. Effects of a new community-based reproductive health intervention on knowledge of and attitudes and behaviors toward stress urinary incontinence among young women in Shanghai: a cluster-randomized controlled trial. *Int Urogynecol J*. 2016;27:545–553.
 17. Berzuk K, Shay B. Effect of increasing awareness of pelvic floor muscle function on pelvic floor dysfunction: a randomized controlled trial. *Int Urogynecol J*. 2015;26:837–844.
 18. Chiarelli P, Cockburn J. The development of a physiotherapy continence promotion program using a customer focus. *Aust J Physiother*. 1999;45:111–119.
 19. Diokno AC, Newman DK, Low LK, Griebing TL, Maddens ME, Goode PS, et al. Effect of group-administered behavioral treatment on urinary incontinence in older women: a randomized clinical trial. *JAMA Intern Med*. 2018;178:1333–1341.
 20. Griffiths F, Pepper J, Jørstad-Stein EC, Smith JF, Hill L, Lamb SS. Group versus individual sessions delivered by a physiotherapist for female urinary incontinence: an interview study with women attending group sessions nested within a randomised controlled trial. *BMC Women's Health*. 2009;9:25.
 21. Carpenter C, Suto M. *Qualitative research for occupational and physical therapists: A practical guide*. Oxford: Blackwell Publishing; 2008.
 22. Creswell JW, Poth CN. *Qualitative Inquiry and research design choosing among five approaches*. 4th ed. Thousand Oaks: SAGE Publications; 2018.
 23. Tong A, Sainsbury P, Craig J. Consolidated criteria for reporting qualitative research (COREQ): a 32-item checklist for interviews and focus groups. *Int J Qual Health Care*. 2007;19:349–357.
 24. O'Brien BC, Harris IB, Beckman TJ, Reed DA, Cook DA. Standards for reporting qualitative research: a synthesis of recommendations. *Acad Med*. 2014;89:1245–1251.
 25. Moser A, Korstjens I. Series: practical guidance to qualitative research. Part 3: sampling, data collection and analysis. *Eur J Gen Pract*. 2018;24:9–18.
 26. Thomas DR. A general inductive approach for analyzing qualitative evaluation data. *Am J Eval*. 2006;27:237–246.
 27. Bø K, Kvarstein B, Nygaard I. Lower urinary tract symptoms and pelvic floor muscle exercise adherence after 15 years. *Obstet Gynecol*. 2005;105:999–1005.
 28. Neels H, Wyndaele JJ, Tjalma WA, De Wachter S, Wyndaele M, Vermandel A. Knowledge of the pelvic floor in nulliparous women. *J Phys Ther Sci*. 2016;28:1524–1533.
 29. Neels H, Tjalma WA, Wyndaele JJ, De Wachter S, Wyndaele M, Vermandel A. Knowledge of the pelvic floor in menopausal women and in peripartum women. *J Phys Ther Sci*. 2016;28:3020–3029.
 30. Smith AL, Nissim HA, Le TX, Khan A, Maliski SL, Litwin MS, et al. Misconceptions and miscommunication among aging women with overactive bladder symptoms. *Urology*. 2011;77:55–59.
 31. Pintos-Díaz MZ, Alonso-Blanco C, Parás-Bravo P, Fernández-de-Las-Peñas C, Paz-Zulueta M, Fradejas-Sastre V, et al. Living with urinary incontinence: potential risks of women's health? A qualitative study on the perspectives of female patients seeking care for the first time in a specialized center. *Int J Environ Res Public Health*. 2019;16:3781.
 32. Miller-Kovach K, Hermann M, Winick M. The psychological ramifications of weight management. *J Womens Health Gend Based Med*. 1999;8:477–482.
 33. Crittenden KS, Kaponda CP, Jere DL, McCreary LL, Norr KF. Participation and diffusion effects of a peer-intervention for HIV prevention among adults in rural Malawi. *Soc Sci Med*. 2015;133:136–144.
 34. Demain S, Smith JF, Hiller L, Dziedzic K. Comparison of group and individual physiotherapy for female urinary incontinence in primary care. *Physiotherapy*. 2001;87:235–242.
 35. Hay-Smith EJ, Herderschee R, Dumoulin C, Herbison GP. Comparisons of approaches to pelvic floor muscle training for urinary incontinence in women. *Cochrane Database Syst Rev*. 2011;12:CD009508.
 36. Bandura A. Self-efficacy: toward a unifying theory of behavioral change. *Psychol Rev*. 1977;84:191–215.
 37. Koch LH. Help-seeking behaviors of women with urinary incontinence: an integrative literature review. *J Midwifery Womens Health*. 2006;51:39–44.