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Original Article

Unveiling Pelvic Floor Health: Understanding Awareness, Perspectives and Habits in Pakistani Women of Reproductive Age

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ABSTRACT

The pelvic floor, a crucial anatomical structure supporting pelvic organs, is vital in various physiological functions. Pelvic Floor Dysfunction (PFD) encompasses disorders affecting pelvic floor muscles and is a significant health concern globally. Pelvic floor muscle training (PFMT) has been advocated for managing PFD, especially in women post-childbearing. However, there is a lack of awareness and understanding regarding PFMT in Pakistani women. **Objective:** To assess the Knowledge, Attitude, and Practice (KAP) towards PFMT among women of childbearing age in a rural health centre in Haripur, Pakistan. **Methods:** A cross-sectional study was conducted at a Rural Health Center in Haripur, Pakistan, involving 158 women aged 20 to 50. A structured questionnaire covered KAP's details regarding PFMT. Data analysis employed SPSS 26.0, utilizing mean and standard deviation. **Results:** The study revealed a response rate of 52.6%, with a mean age of 30±7.3 years for participants. Notably, 29.1% of women reported an inability to control their urine. Knowledge assessment showed that 54.9% of participants knew pelvic exercises and their potential benefits. Attitude towards PFMT was positive in 41.8% of women, while only 20.5% practised PFMT regularly. Pregnant women exhibited a higher prevalence of urinary incontinence. **Conclusions:** The study concludes that a substantial proportion of women in Pakistan lack awareness of PFMT benefits, leading to inadequate practice. This underscores the importance of implementing awareness programs and training sessions targeting women of childbearing age to address the challenges posed by PFD effectively.

INTRODUCTION

The pelvic floor, or the pelvic diaphragm, is composed of ligaments, muscles and fascia; their precise integration and coordinated activity is indispensable to support organs and their activity in the pelvic floor. These include reproductive organs, bowels (intestines), and bladders [1]. In addition to providing support to abdominal viscera, there are three primary functions of pelvic floor muscles, which include; (i) continence or constrictor mechanism anal, urethral and vaginal orifices, (ii) Support vaginal contractions and blood flow during sexual intercourse, (iii) Support vaginal delivery during labor [2]. Pelvic floor dysfunction (PFD) refers to the inability to control and coordinate the activity of pelvic floor muscles. PFD includes a wide range of clinical disorders, including chronic pelvic pain, sexual dysfunction, strained defecation, frequent urge to urinate and urinary incontinence [3]. It's a severe health issue that affects women of all ages throughout the world. It has been reported that at least 2% of women suffer four disorders associated with PFD, and approximately 40% face at least one PFD-related disorder, which is very high [4]. PFD has severe consequences for the overall physical and mental well-being of women, slowly compromising their quality of life and resulting in a loss of confidence to socialize and less participation in various leisure activities. The signs and harms of PFD are vital to be understood by women, especially of childbearing age [5]. The pelvic floor functions best when the muscles are healthy enough to release fully after the state of full contraction. Pelvic floor muscle training (PFMT), also called Kegels, has been widely prescribed by medical practitioners to treat sexual dysfunction and urinary incontinence problems in women,

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especially during the postpartum period [6]. PFMT involves practising different contracting and relaxing pelvic floor muscle exercises in various combinations and time durations to strengthen the control and coordination of this group of muscles [7]. During exercise, the pelvic floor muscle lifts upwards and squeezes around the urinary orifice, suppressing detrusor activity. PFMT strengthens pelvic floor muscles and has been observed to improve the fecal and urinary continence and overall sexual health of women [8]. Most studies were conducted in Western countries to analyze women's practices, attitudes and Knowledge (PAK) about PFD. The data on these studies from the Pakistani population is very scarce as most of the time, it goes undiagnosed due to a lack of awareness of this disorder [9].

Therefore, the present study was conducted in the Gynecology and Obstetrics department at Rural Health Center, Haripur, Pakistan, to analyze PAK about PFD among women of reproductive age in Islamabad, Pakistan.

METHODS

This cross-sectional study was performed at the Rural Health Center, Haripur, Pakistan. The study was conducted from 1 November 2023 to 15 December 2023 for a duration of 1.5 months. In total, 158 female inpatients and outpatients of reproductive age were included in the study by convenience sampling [10]. The inclusion criterion included (i) women aged 20 to 50 and (ii) consent of participation in the study. The exclusion criterion included patients who could not complete the questionnaire because of (i) lack of ability to read or write and (ii) psychological issues. Written consent was obtained from all study participants before the questionnaire's completion [11]. Investigators designed the questionnaire based on four categories reported in a previous study and consisting of 17 questions. The four categories comprised personal questions (5 questions), questions on Knowledge (4 questions), attitude (4 questions) and practice (4 questions). The gravity of the problem and general understanding of PFMT were analyzed by asking one fundamental question: (i) Can you control your urine? The Knowledge, attitude, and practice levels were analyzed using the questions in the table below (Table 1).

Table 1: Knowledge, attitude and practice questions that were included in the questionnaire to collect KAP data from participants

Sr. No.	Questions
	Knowledge
A	Do you know pelvic exercise will improve your uterus health?
B	Do you think PFMT can improve your sexual health?
C	Do you think you have to perform PFMT?
D	Do you know pelvic exercise can bring positive change in your life?
	Attitude
E	Do you often hold your urine for a long time?
F	Do you think exercise should be part of your daily routine?
G	Do you believe in taking oral medicine?
H	Do you believe exercise is less effective than oral medicine?
	Practice
I	Did you perform pelvic exercises once in a week?
J	Did you notice your sitting posture?
K	Did you follow any instructions given by the doctor for pelvic health?
L	Did you ever get PFMT?

"Yes" was awarded 1 point for each question, while "No" was given 0. The hardcopy questionnaire was distributed among patients after receiving their formal consent when they visited the gynaecology department of Shifa International Hospital. The patients willing to participate in the study were provided a quiet and comfortable place to complete the questionnaire.

RESULTS

The response rate of this study was 52.6%, as only 158 women out of 300 were willing to participate. The mean age of all willing participants was 30±7.3 years. Responding to one basic question asked by participants, we found that 29.1% of women cannot control their urine. Most women were well-educated, non-pregnant and had 2-4 children. Table 2 shows the characteristics of participants in this study.

Table 2: Characteristics of study participants, including education level, parity, pregnancy status and no children.

Variables		N (%)
Level of education	Vocational	12 (7.59)
	Primary	27 (17.08)
	Secondary	65 (41.13)
	Bachelors	45 (28.48)
	Masters	9 (5.7)
Pregnancy status	Pregnant	43 (27.2)
Job status	Working	45 (28.48)
No of children	No Children	30 (18.98)
	1	25 (15.82)
	2-4	80 (50.63)
	5 Or more	23 (14.55)

Table 3 below shows the number of participants who responded "Yes" to KAP questions.

Table 3: Questions asked from participants and the percentage of their positive response regarding each question

Questions	Positive response
A	85
B	61
C	76
D	125
E	129

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F	43
G	85
H	76
I	10
J	98
K	16
L	6

In the light of this study, the results are reported as a bar graph. As demonstrated in Figure 1, from the knowledge aspect, 53.8% of women thought PFMT could improve their uterus health (A), 38.7% of women knew that PFMT could enhance their sexual health (B), 48.1% of women thought they have to perform pelvic exercises (C) and 79.1% knew that PFMT could bring positive change in their life (D). Overall, the respondents had 54.9% knowledge of pelvic exercises and their promising effects.

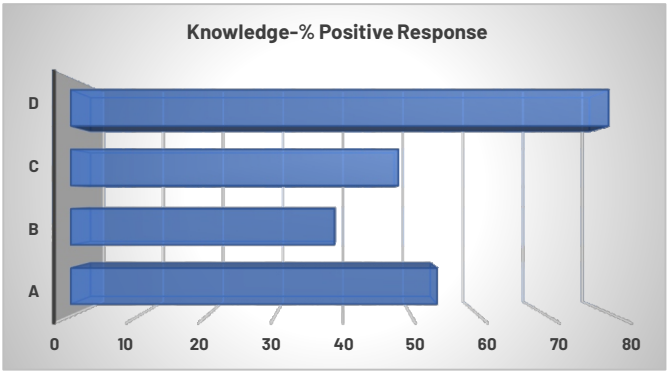

Figure 1: Bar graph for questionnaire data on participants' Knowledge of PFMT

Figure 2 shows the response to questions highlighting the attitude of participants towards PFMT, and it was observed that 81.6% of women hold their urine for a long time (E), 27.2% agreed that it should be part of daily routine exercise(F), 53.7% believed in taking oral medicine for PFD (G), while 48.1 % were of opinion that exercise is less effective than oral medicine (H). Overall, 41.8% of participants had a positive attitude towards practising and believing in the health benefits of PFMT.

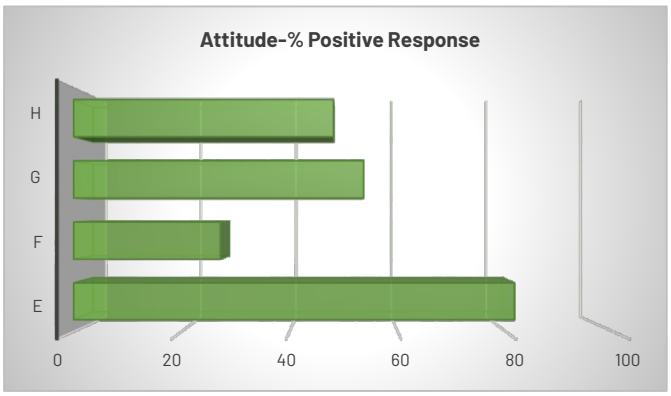

Figure 2: Bar graph for Questionnaire data on the attitude of women towards PFMT

As shown in figure 3, for the practice part of the survey, only 6.3% performed PFMT exercises once a week (I), 62% were aware of their normal sitting posture (J), 10.1% followed instructions provided by a gynaecologist to improve pelvic health (K) and only 3.79% participants ever received PFMT in their life. Overall, 20.5% of the practice level for pelvic exercises was observed in participants.

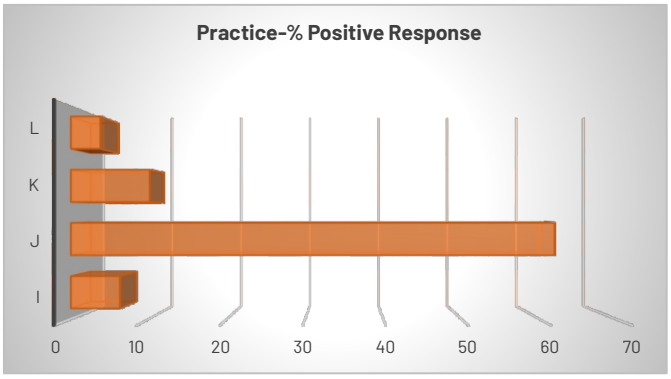

Figure 3: Bar graph for Questionnaire data depicting the practice aspect of PFMT in participants

We analyzed that the majority of women who were suffering from urinary belonged to the age bracket of 36 ± 6 years ($p>0.05$), belonged to the working class and that problems related to urinary incontinence did not significantly increase with parity ($p>0.05$). Urinary incontinence was more common in pregnant women as compared to non-pregnant women ($p>0.05$).

DISCUSSION

Urinary incontinence is a very prevalent problem in women of reproductive age. Pelvic floor muscle disorder reduces both urine and faecal incontinence in women, compromising their overall quality of life [14]. PFMT has proved to be a problem solver, and women undergoing PFMT have reported significant improvement in their sexual health, mental health, dealing with urinary incontinence and other discomforts linked with PFD [15, 16]. In pregnant women, it has been reported that PFMT has a pivotal role both in the antenatal and postnatal period, and it is imperative to educate all women about its promising effects [17]. Unfortunately, most women were unaware of these exercises and the benefits they can bring to their health. Most of these participants were very optimistic about practising their exercises when they were educated on the benefits they could gain from PFMT. Our findings are relevant to observations reported by another study conducted to carry out KAP analysis on pregnant women visiting the Gynecology Department KRL (Kahuta Research Laboratories), Islamabad. Most of these women were unaware of PFMT, and those who had Knowledge about PFMT did not know how to perform these exercises to gain the maximum healthy outcome [9]. Our findings also

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highlight that most of the women considered urinary incontinence normal during pregnancy and after vaginal delivery. In another study conducted across Lahore, only 12% of women were willing to participate in these exercises to recover from PFD, which shows a staggering lack of awareness and training on the health benefits of PFMT among the masses. This study also reported that approximately 80% of women did not know about PFMT, following our findings, which report that only 20% of women knew about PFMT [18]. If we ponder upon the practice part of this study, the results are quite concerning, as only 3.79% of women had ever received PFMT, and only 6.1% practised these exercises once a week. On the other hand, only 10% of women followed instructions provided by gynaecologists about PFMT. The results for Knowledge (54.9%), attitude (41.8%) and practice (20.5%) levels can be compared with a similar study conducted by Jarni et al., at the Obstetrics and Gynaecology Clinic at Sultan Ahmad Shah Medical Centre, Malaysia. The reported participants had comparatively similar levels of Knowledge (52%) as presented by our study, and the attitude score was 58.9%, which is higher than our research findings. In comparison, the practice level was 70% among participants, which shows a considerable difference as our participants had only 20.5% practice level in terms of PFMT [19]. In another study conducted in Malaysia at a primary care clinic, the response rate for this study was 72.1%, relatively much higher than our reported response rate of 52.6%. This shows the overall understanding of the severity of the problem among women of childbearing age in Pakistan. The reported results showed scores of 58% for Knowledge, 46.4% for attitude and 45.2% for practice, which are relatively similar. It can be observed in the studies mentioned above that the gap between Knowledge and practice is not very high, which points towards better practical implications of Knowledge on PFMT, unlike our study where we can see a massive gap between Knowledge (54.9%) and practice (20.5%) of PFMT [20]. This points out the need for reinforcement sessions and a proper campaign on a larger scale to highlight the undermined problem of PFD and educate the masses on treating these dysfunctions with PFMT. Also, we observed during the literature survey that most studies focused on pregnant women only. Our results highlight the fact that many non-pregnant women also face urinary incontinence problems. Therefore, more KAP surveys for inclusion of data on non-pregnant women must be conducted to get precise estimates of PFMT knowledge, attitude and practice in the Pakistani population.

CONCLUSIONS

In light of this study, we conclude that the majority of the women are unaware of the benefits of PFMT, which points towards a lack of educational campaigns on the serious issue of PFD. Among those who had adequate Knowledge of PFMT, they could not follow instructions properly and practice it regularly owing to their busy schedules and exertion following a hectic day. We recommend that awareness programs and training should be introduced to women of reproductive age to enable them to tackle the chronic discomforts of PFD.

Authors Contribution

Conceptualization: AI
Methodology: IB
Formal analysis: AI, IB
Writing-review and editing: AI, IB
All authors have read and agreed to the published version of the manuscript.

Conflicts of Interest

The authors declare no conflict of interest.

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