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KNOWLEDGE ATTITUDE AND PRACTICE OF PELVIC FLOOR DYSFUNCTION ASSOCIATION WITH URINARY INCONTINENCE SYMPTOMS AMONG WOMEN

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Article Info

Abstract

Background:

Pelvic floor dysfunction (PFD) is a higher incidence among women. PFD encompasses a range of disorders, including urinary incontinence, pelvic organ prolapse, sexual dysfunction, and fecal incontinence, significantly impacting quality of life. According to studies, estimates of the prevalence of PFD vary by location, ranging from 1.9% to 46.5% of women. Pregnancy, childbirth, ageing, obesity, chronic illnesses including coughing or constipation, and sedentary lifestyles are all contributing causes. This study aims to examine the awareness of physical therapy as a treatment option for PFD among females in Karachi.

Objective:

This study is to determine the awareness of pelvic floor dysfunction in association with urinary incontinence symptoms among females in Karachi.

Keywords:

Pelvic floor disorder/Abnormalities, Urinary bladder, Defection, Urinary incontinence, Fecal incontinence.

1. INTRODUCTION

The pelvic floor supports the body as a whole. The nervous system's several levels direct the organs, bladder, intestine, smooth and striated muscles, nerves, ligaments, and other connective tissues cortically and reflexively.[1]

The risk of pelvic floor problem in women is estimated to be 25%, and it increases threefold in women who exercise. Pelvic floor dysfunction (PFD) has been shown to significantly impair a patient's life quality, sexual satisfaction, and self-perception.[2]

The pelvic floor (PF) is a complex anatomical structure with a particular biomechanical function and muscular and fascial components that are controlled by the nervous system. The stability of the pelvic girdle, continence, voiding, defecation, sexual function, and delivery all depend on the PF. Our goal is to examine integral PF function and dysfunction from anatomical perspective, particularly as it relates to chronic pain.[3] It is estimated that between 23 and 49% of women worldwide suffer with PFD. [4] As people age, the prevalence of urinary incontinence (UI) increases, with up to 77% of women in nursing homes affected [5].Accordingly, up to 25% of healthy non-pregnant women in the US and 46.5% of adult women in Japan report having at least one pelvic floor issue.[6].The prevalence of pelvic floor problems worldwide ranges from 1.9% to 46.50%. Thus, in healthy non-pregnant women, pelvic floor disorders are up to 25% in the US, and in Japan, 46.5% of adult women report at least one disorder[7]

Some women with pelvic floor disorders (PFDs) choose not to seek care, which limits research on healthcare utilization. Although 41% of women aged 40 years or older experience urinary

incontinence (UI), only 25% of those with symptoms sought treatment, 23% received some form of treatment, and 12% received subspecialty care. Additionally, 19% of women over 45 who participated in a community-based online poll reported experiencing unintentional bowel leakage, but only 29% of them sought medical attention. Therefore, the public health burden of PFDs among women in the US is likely underestimated due to the low prevalence of care-seeking behavior[8] . A history of

premenopausal urinary tract infections (UTIs), estrogen insufficiency, urogenital surgery, cystocele, high post void residual (PVR), and previous UTIs have all been linked to recurrent UTIs in postmenopausal women. In older women with recurrent UTIs, high PVR and the potential benefits of estrogen supplementation have been noted.[9]Anal sphincter damage after childbirth, prior vaginal births, diabetes during pregnancy, inactivity, constipation, low estrogen levels, and a body mass index (BMI) of more than 25 kg/m² are among the factors that contribute to pelvic floor dysfunction.[10]

2. METHODOLOGY:

This cross-sectional study will be conducted from September 2024 to January 2025 in Karachi, involving 504 women aged 18-50 years. The study aims to evaluate pelvic floor dysfunction in association with urinary incontinence symptoms. Inclusion criteria include women willing to participate, while those unable to complete the questionnaire due to writing difficulties or psychological disorders will be excluded. All participants will provide written informed consent. Data will be collected using the King Health Questionnaire, focusing on pelvic floor dysfunction.

3. RESULT

Participant Characteristics

A total of 219 women participated in the study. The distribution of participants by age group indicated that 27.9% were in the 16-24 age group, 27.9% in the 25-34 group, 22.4% in the 35-44 group, 21.5% in the 45-54 group, and 0.5% in the 55-60 group (Figure 1). Regarding marital status, 79.0% of participants were married, while 21.0% were single (Figure 2). Participants reported varying levels of health: 70.8% described their current health as "not better," 12.8% as "a little," 11.9% as "moderately," and 4.6% as "a lot." (Table 1).

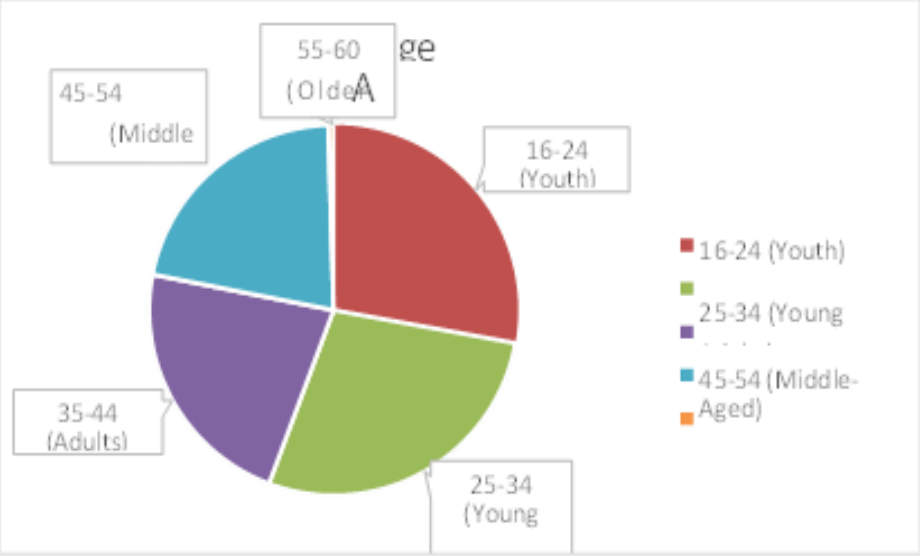

Figure 1

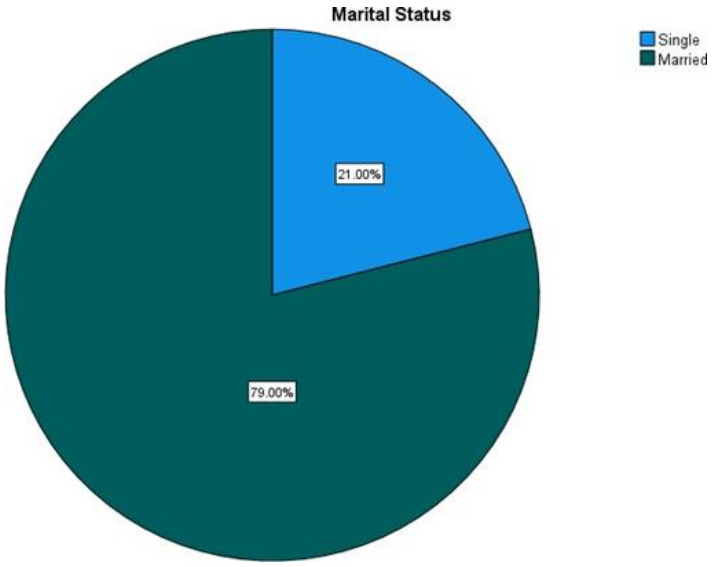

Figure 2

Table 1: Current Health

Frequency			Percent	Valid Percent	Cumulative Percent
Valid	Not better	155	70.8	70.8	70.8
	A little	28	12.8	12.8	83.6
	Moderately	26	11.9	11.9	95.4
	A lot	10	4.6	4.6	100.0
	Total	219	100.0	100.0	

Symptom Severity Distribution

The composite symptom scores were categorized into three severity groups: mild, moderate, and severe. Most participants (64.4%) fell into the mild symptoms category, followed by 26.0% in the moderate category, and 9.6% in the severe category. A bar chart summarizing this distribution is presented in Figure 3.

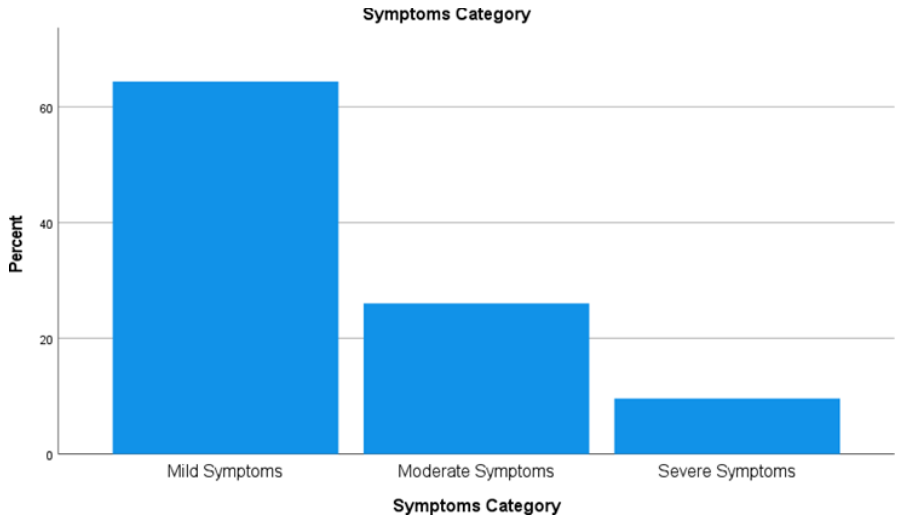

Figure 3

Symptom Severity Across Groups

1. **Age Groups:** Mild symptoms were most prevalent across all age groups, with a notable concentration in the 16-24 (45 participants) and 25-34 (35 participants) age ranges. Moderate and severe symptoms were more evenly distributed among the older age groups, with severe symptoms most concentrated in participants aged 25-54 (Figure 4).

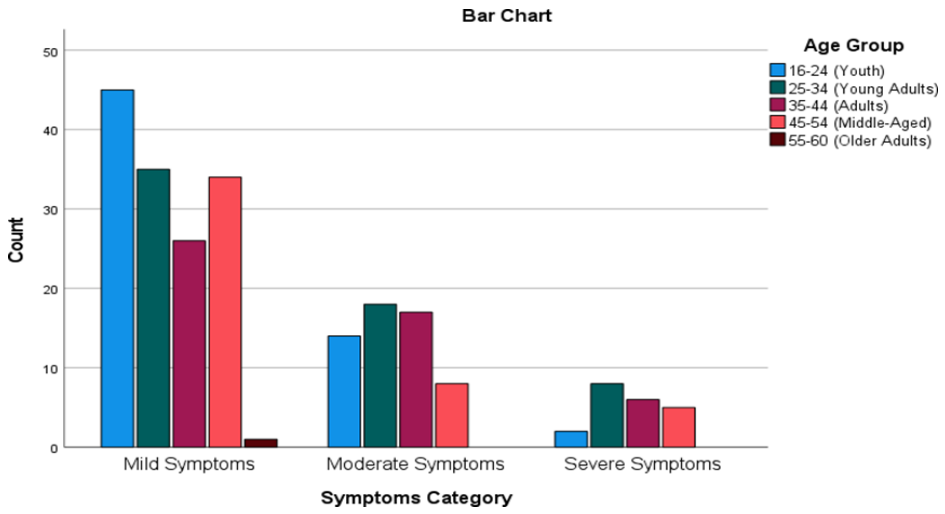

Figure 4

2. **Marital Status:** Mild symptoms were more common among both married (102 participants) and single (39 participants) individuals. Moderate symptoms were predominantly reported by married participants (50 out of 57), while severe symptoms were exclusively observed in the married group (21 participants) (Figure 5).

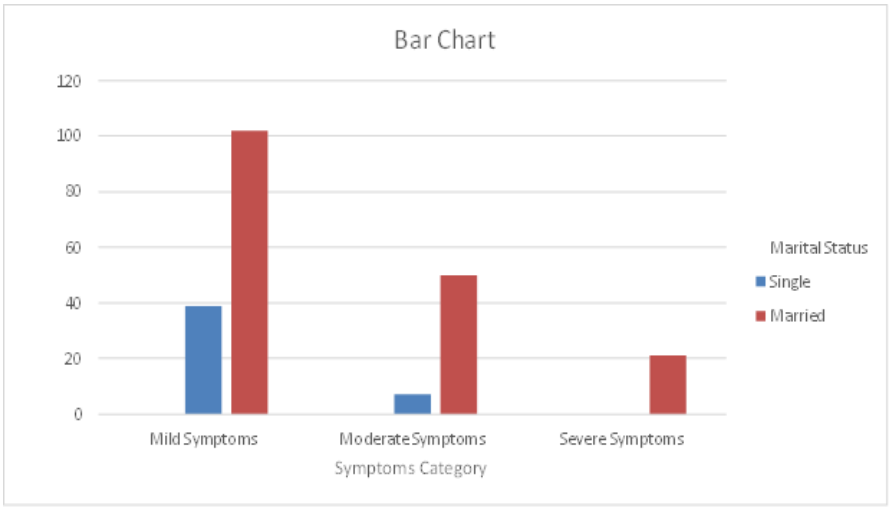

Figure 5

Composite Symptom Scores by Category

A boxplot (Figure 6) illustrates the distribution of composite scores within each severity category. Median composite scores progressively increased from mild to severe categories, demonstrating the internal consistency of the categorization.

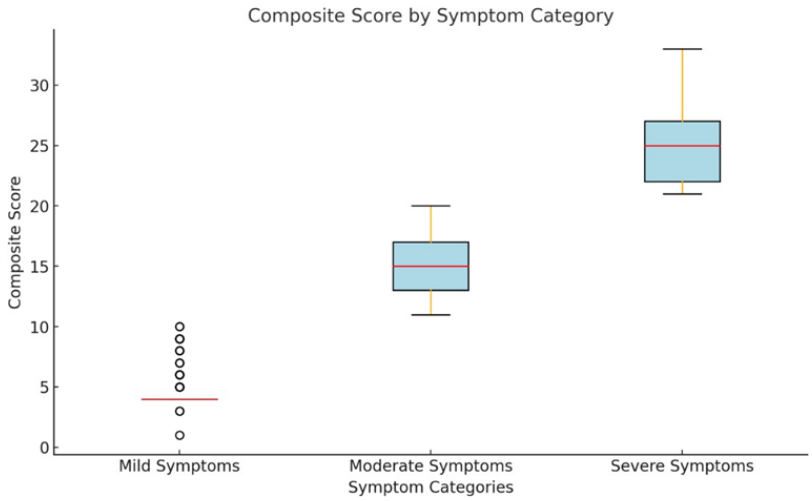

Figure 6

Regression Analysis

A multiple linear regression analysis was performed to identify predictors of the composite symptom score. The model included demographic variables (age and marital status), health-related variables (current health, bladder pain, nocturia frequency, urgency to pass urine, and pads to stay dry), and psychosocial factors (fluid intake control, worry about smell, and intercourse incontinence).

Table 2: Multiple Linear Regression

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
B			Std. Error	Beta		
1	(Constant)	-3.691	1.267		-2.912	.004
	Age	-.006	.030	-.009	-.204	.839
	Marital Status	1.633	.754	.093	2.165	.032
	Current Health	1.389	.336	.170	4.134	.000
	Bladder Pain	2.955	.606	.252	4.879	.000
	Nocturia Frequency	.485	.720	.041	.674	.501
	Worry About Smell	.582	.523	.072	1.112	.268
	Urgency To Pass Urine	2.333	.757	.185	3.081	.002
	Fluid Intake Control	1.597	.424	.222	3.766	.000
	Pads to Stay Dry	1.604	.589	.165	2.722	.007
	Intercourse Incontinence	2.204	1.088	.124	2.025	.044

The model summary revealed an adjusted R-squared value of 0.674, indicating that approximately 67.4% of the variance in composite scores could be explained by the predictors (Table 3). The standard error of the estimate was 4.086, suggesting reasonable predictive accuracy.

Table 3: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.830[a]	.689	.674	4.086

a. Predictors: (Constant), Intercourse Incontinence, Age, Current Health, Worry About Smell, Marital Status, Bladder Pain, Nocturia Frequency, Fluid Intake Control, Urgency To Pass Urine, Pads to Stay Dry

Significant Predictors

The analysis identified several significant predictors:

- Current Health ($\beta = 0.170$, $p < 0.001$): Participants with poorer health had higher composite symptom scores.
- Bladder Pain ($\beta = 0.252$, $p < 0.001$): Bladder pain was positively associated with symptom severity.
- Urgency to Pass Urine ($\beta = 0.185$, $p = 0.002$): Increased urgency contributed significantly to higher scores.
- Fluid Intake Control ($\beta = 0.222$, $p < 0.001$): Controlling fluid intake was associated with higher symptom scores.
- Pads to Stay Dry ($\beta = 0.165$, $p = 0.007$): Using pads to manage symptoms was positively associated with severity.
- Intercourse Incontinence ($\beta = 0.124$, $p = 0.044$): Participants experiencing incontinence during intercourse had higher scores.

Other variables, such as age ($\beta = -0.009$, $p = 0.839$), nocturia frequency ($\beta = 0.041$, $p = 0.501$), and worry about smell ($\beta = 0.072$, $p = 0.268$), were not statistically significant predictors.

Collinearity Diagnostics

Variance Inflation Factor (VIF) values for all predictors ranged from 1.126 to 2.794, indicating no issues with multicollinearity in the model.

Table 4:Variance Inflation Factor

VIF
1.201
1.216
1.126
1.781
2.419
2.794

2.393
2.311
2.437
2.508

Crosstabulations

Crosstabulations revealed associations between symptom severity and demographic factors:

Age and Symptoms: Severe symptoms were more common in older age groups (25-54 years).

Table 5: Symptoms * Age Group Crosstabulation

		Age Group					Total
16-24 (Youth)			**25-34 (Young Adults)**	**35-44 (Adults)**	**45-54 (Middle- Aged)**	**55-60 (Older Adults)**	
Symptoms Category	**Mild Symptoms**	45	35	26	34	1	141
	Moderate Symptoms	14	18	17	8	0	57
	Severe Symptoms	2	8	6	5	0	21
Total		61	61	49	47	1	219

Marital Status and Symptoms: Severe symptoms were exclusively observed among married participants.

Table 6: Symptoms * Marital Status Crosstabulation

Marital Status				**Total**
Single			**Married**	
Symptoms Category	**Mild Symptoms**	39	102	141
	Moderate Symptoms	7	50	57
	Severe Symptoms	0	21	21
Total		46	173	219

Summary

The results highlight the multifactorial nature of pelvic floor dysfunction symptoms, with significant contributions from health-related and psychosocial factors. Interventions targeting bladder pain, urgency, and behavioral factors such as fluid intake control may be effective in reducing symptom severity.

Discussion

This study aimed to examine the knowledge, attitudes, and practices (KAP) regarding pelvic floor dysfunction (PFD) and its association with urinary incontinence (UI) symptoms among women in Karachi. The findings revealed that symptom severity was predominantly mild for the majority of participants, with moderate and severe symptoms observed in smaller but significant proportions. Regression analysis highlighted several significant predictors of symptom severity, including current health status, bladder pain, urgency to pass urine, fluid intake control, and the use of pads to stay dry. Demographic and psychosocial factors also played a crucial role, emphasizing the multifaceted nature of PFD symptoms.

Symptoms Severity Distribution

The majority of participants reported mild symptoms, aligning with prior research indicating that many women with PFD experience mild-to-moderate symptoms before seeking medical intervention. However, the presence of moderate and severe symptoms in a considerable subset underscores the need for improved early screening and intervention strategies.

Significant Predictors

The positive association between poor self-reported health and higher symptom severity is consistent with previous studies, which have identified overall health status as a key determinant of PFD-related outcomes. This finding suggests that addressing general health issues could alleviate PFD symptoms. Moreover, Bladder pain was one of the strongest predictors of symptom severity, highlighting its central role in PFD. This aligns with the literature, which frequently identifies bladder pain as a major determinant of quality of life in women with urinary incontinence. Also, the significant association between urgency and symptom severity emphasizes the need for targeted interventions, such as behavioral therapy and pelvic floor muscle training, to reduce urgency-related symptoms. Furthermore, behavioral coping mechanisms, such as restricting fluid intake and using pads, were linked to higher symptom severity. While these strategies may provide short-term relief, they could also perpetuate the condition by discouraging normal bladder habits and delaying professional care-seeking.

Demographic and Psychological Factors

The study found that severe symptoms were more prevalent among older participants and married women. This is consistent with research showing that age-related pelvic floor weakening and childbirth history contribute to PFD severity. Married participants may also report higher symptom severity due to the impact of PFD on intimate relationships and family life. Cultural norms and stigma surrounding urinary incontinence may explain why certain behaviors, such as fluid restriction and reliance on absorbent products, are prevalent. Additionally, the low prevalence of severe symptoms in single women may reflect differences in healthcare access, symptom awareness, or reporting behavior.

Comparison with Previous Studies

The findings of this study align with existing research in several key areas. For example, the observed association between bladder pain and symptom severity is consistent with studies by Peinado-Molina et al. (2023) and Jaffar et al. (2020), which emphasize the significant burden of pain-related symptoms in PFD populations. Similarly, the role of urgency to pass urine as a major predictor has been well-documented in the literature, highlighting its contribution to diminished quality of life. However, some findings diverge from prior studies. For instance, while nocturia frequency was hypothesized to significantly predict symptom severity, it did not emerge as a significant factor in this study. This discrepancy may be due to

cultural or population-specific differences, warranting further investigation in future research.

Strengths and Contributions

This study employed a robust statistical approach, including regression analysis and collinearity diagnostics, to identify key predictors of PFD symptom severity. The inclusion of both demographic and psychosocial factors provided a holistic understanding of the condition. By focusing on women in Karachi, this study provides valuable insights into the cultural and contextual factors influencing PFD symptoms in a South Asian setting. These findings can inform culturally tailored interventions and public health strategies.

Limitations

The cross-sectional nature of the study limits the ability to establish causality between predictors and symptom severity. Longitudinal studies are needed to confirm these associations over time. Moreover, reliance on self-reported measures for variables such as current health and symptom severity may introduce reporting bias. Objective clinical assessments could complement future studies. Furthermore, while the study sample was diverse, it may not fully capture the experiences of women outside urban settings or those with limited access to healthcare.

Implications

The findings highlight the importance of routine screening for PFD symptoms, particularly in married and older women. Incorporating PFD assessments into primary healthcare services could facilitate early diagnosis and intervention. Moreover, behavioral interventions, such as pelvic floor muscle training and bladder retraining, should be prioritized for managing urgency and bladder pain. Public health campaigns can address stigma and promote awareness about the benefits of seeking professional care rather than relying on coping mechanisms like fluid restriction. Furthermore, educational initiatives should be designed to resonate with the cultural context of South Asian women, emphasizing the importance of pelvic health and encouraging open dialogue about urinary symptoms.

Future Research Directions

Firstly, future research should explore the long-term trajectory of PFD symptoms and their predictors to better understand causal relationships. Secondly, randomized controlled trials are needed to evaluate the efficacy of specific interventions, such as pelvic floor physical therapy and lifestyle modifications, in reducing symptom severity. Thirdly, additional research should examine the impact of psychosocial variables, such as mental health and relationship dynamics, on PFD symptoms to inform comprehensive care strategies.

Conclusion

This study aimed to assess the knowledge, attitudes, and practices (KAP) surrounding pelvic floor dysfunction (PFD) and its association with urinary incontinence (UI) symptoms among women in Karachi. The findings highlight the multifaceted nature of PFD, encompassing demographic, health-related, and psychosocial factors that collectively influence symptom severity. By analyzing a representative sample of 219 women, the study provides valuable insights into the prevalence, predictors, and implications of PFD in this population.

The results revealed that while the majority of participants experienced mild symptoms, a significant

proportion reported moderate to severe symptom burdens, underscoring the need for early screening and intervention. Key predictors of symptom severity included poor self-reported health, bladder pain, urgency to pass urine, fluid intake control, and the use of pads to manage symptoms. These findings emphasize the importance of addressing not only physical symptoms but also behavioral and psychosocial factors to comprehensively manage PFD.

Demographic factors such as age and marital status further contextualized the burden of PFD, with older and married women experiencing higher symptom severity. These findings align with global evidence on the role of age- related pelvic floor weakening and the impact of childbirth on pelvic health. However, the cultural context of South Asia adds unique dimensions, including stigma and reliance on self-management strategies, which may delay professional care-seeking.

The study's strengths lie in its comprehensive approach to identifying predictors of symptom severity and its focus on a culturally specific population. However, the limitations, including the cross-sectional design and reliance on self-reported data, highlight the need for longitudinal and intervention-based research to confirm and expand upon these findings.

From a practical perspective, the study underscores the urgent need for public health initiatives aimed at increasing awareness of PFD, promoting early diagnosis, and encouraging evidence-based management strategies. Interventions should target key predictors such as bladder pain and urgency, while also addressing cultural barriers that limit care access. Educational campaigns tailored to the South Asian context can play a pivotal role in reducing stigma and empowering women to seek timely medical care.

In conclusion, this study provides a robust foundation for understanding PFD in Karachi’s female population and highlights actionable strategies for improving care delivery and patient outcomes. Addressing the challenges of PFD will require a multidisciplinary approach, integrating medical, behavioral, and cultural perspectives to holistically improve the quality of life for affected women.

References

1. Quaghebeur J, Petros P, Wyndaele JJ, De Wachter S. Pelvic-floor function, dysfunction, and treatment. European Journal of Obstetrics & Gynecology and Reproductive Biology. 2021 Oct 1;265:143-9.
2. Dułak DN, Trzcinski RT. The burden of pelvic floor dysfunction. Journal of Science and Medicine in Sport. 2022 Apr 1;25(4):293.
3. herschorn s. female pelvic floor anatomy: the pelvic floor, supporting structures, and pelvic organs. reviews in urology. 2004;6(suppl 5):s2.
4. Mohamed, Gamil, Omar., Amel, M., Yousef., Hossam, Al-Din, Hussein, Kamel., M., M., Yosri. Prevalence of pelvic floor dysfunction among women with polycystic ovarian syndrome: a case-control study. Bulletin of Faculty of Physical Therapy, (2023).;28(1) doi: 10.1186/s43161-023-00120-3
5. de tayrac r, jundt k, letouzey v, cayrac m, masia f, mousty e, marès p, prudhomme m, fritel x, fatton b. anatomy and physiology of the pelvic floor. perineal trauma at childbirth. 2016:17-39.
6. Peinado-Molina RA, Hernández-Martínez A, Martínez-Vázquez S, Rodríguez-Almagro J, Martínez-Galiano JM. Pelvic floor dysfunction: prevalence and associated factors. BMC public health. 2023 Oct 14;23(1):2005.
7. van reijn-baggen da, han-geurts ij, voorham-van der zalm pj, pelger rc, hagenaars-van miert ch, laan et. pelvic floor physical therapy for pelvic floor hypertonicity: a systematic review of treatment efficacy. sexual medicine reviews. 2022 apr;10(2):209-30
8. wu x, yi x, zheng x, chen z, liu j, dai x. knowledge, attitudes, and practice of pelvic floor dysfunction and pelvic floor ultrasound among women of childbearing age in sichuan, china. frontiers in public health. 2023 may 10;11:1160733
9. wu x, yi x, zheng x, chen z, liu j, dai x. knowledge, attitudes, and practice of pelvic floor dysfunction and pelvic floor ultrasound among women of childbearing age in sichuan, china. frontiers in public health. 2023 may 10;11:1160733
10. chen y, pang r. pelvic floor dysfunction.
11. peinado-molina ra, hernández-martínez a, martínez-vázquez s, rodríguez- almagro j, martínez-galiano jm. pelvic floor dysfunction: prevalence and associated factors. bmc public health. 2023 oct 14;23(1):2005.
12. hallock jl, handa vl. the epidemiology of pelvic floor disorders and childbirth: an update. obstetrics and gynecology clinics. 2016 mar 1;43(1):1-3.
13. rosenbaum ty. pelvic floor involvement in male and female sexual dysfunction and the role of pelvic floor rehabilitation in treatment: a literature review. the journal of sexual medicine. 2007 jan;4(1):4-13.
14. jaffar a, mohd-sidik s, nien fc, fu gq, talib nh. urinary incontinence and its association with pelvic floor muscle exercise among pregnant women attending a
15. temtanakitpaisan t, bunyavejchevin s, buppasiri p, chongsomchai c. knowledge, attitude, and practices (kap) survey towards pelvic floor muscle training (pfmt) among pregnant women. international journal of women's health. 2020 apr 17:295-9.
16. Jundt K, Peschers U, Kentenich H. The investigation and treatment of female pelvic floor dysfunction. Deutsches Ärzteblatt International. 2015 Aug;112(33- 34):564