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CLINICAL CHARACTERISTICS OF WOMEN WITH PELVIC FLOOR DYSFUNCTION ACCORDING TO THE PFDI-20 AT BINH DUONG GENERAL HOSPITAL

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ABSTRACT

Objective: To describe the clinical characteristics of pelvic floor dysfunction (PFD) in women using the Pelvic Floor Distress Inventory-20 (PFDI-20) at Binh Duong General Hospital.

Subject and method: A descriptive case-series study was conducted on 77 women diagnosed with PFD from May 2025 to December 2025. Eligible participants were aged ≥18 years, non-pregnant, and had clinically confirmed PFD. Data were collected through interviews, medical records, and the PFDI-20 questionnaire, which evaluates pelvic organ prolapse (POPDI-6), colorectal–anal (CRADI-8), and urinary (UDI-6) symptoms. Variables were summarized using frequencies, percentages, and mean ± standard deviation.

Results: The mean age was 46.36 ± 5.57 years, and mean BMI was 22.84 ± 2.78 kg/m^2. Most participants had a history of vaginal delivery (74.0%) and two childbirths (83.1%). Urinary symptoms were predominant, with stress urinary incontinence reported in 71.4% and overall urinary incontinence in 75.0%. Colorectal–anal symptoms were common, particularly straining during defecation (72.7%) and involuntary loss of gas (66.2%), while fecal incontinence was less frequent (6.5%). Pelvic organ prolapse symptoms were uncommon, with vaginal bulge reported in 3.9%. Pelvic pain was rare (1.3%). Overall, symptom burden was mainly driven by urinary and defecatory dysfunction.

Conclusion: Pelvic floor dysfunction in this cohort was characterized predominantly by urinary incontinence and colorectal–anal symptoms, while pelvic organ prolapse and pelvic pain were less common. The PFDI-20 is a useful tool for comprehensive symptom assessment, supporting early detection and appropriate management in clinical practice.

Keywords: Pelvic floor dysfunction, PFDI-20, pelvic organ prolapse, colorectal–anal disorders, urinary disorders.

1. INTRODUCTION

Pelvic floor dysfunction (PFD) is a group of common disorders in women, encompassing conditions related to impaired pelvic support, lower urinary tract dysfunction, colorectal–anal disorders, sexual dysfunction, and pelvic pain. Epidemiological studies indicate that pelvic floor dysfunction is a prevalent health issue among women worldwide [1, 2]. In a large-scale community-based study conducted in Spain involving 1,446 women, Peinado-Molina et al. reported that 55.8% of women experienced urinary incontinence, 10.4% had fecal incontinence, 14.0% had symptomatic pelvic organ prolapse, and 18.7% suffered from pelvic pain. Notably, only approximately 40% of women had a single isolated disorder, while the remainder presented with two or more pelvic floor dysfunctions, highlighting a high degree of symptom overlap and a substantial disease burden in the female population [1].

In obstetrics and gynecology clinical practice, pelvic floor dysfunction is often identified through signs of pelvic organ prolapse or urinary and fecal incontinence. However, many cases predominantly present with functional symptoms such as a sensation of pelvic heaviness, urinary frequency, bladder pain, difficulty with defecation, or the need for manual assistance during urination or defecation, making diagnosis based solely on physical examination potentially insufficient [3, 4]. Therefore, the use of standardized assessment instruments such as the Pelvic Floor Distress Inventory-20 (PFDI-20) facilitates the systematic evaluation of symptom domains related to pelvic organ prolapse (POPDI-6), colorectal–anal distress (CRADI-8), and urinary distress (UDI-6), thereby providing a comprehensive reflection of the clinical symptom burden [5].

In Vietnam, particularly at the provincial level, studies on pelvic floor dysfunction based on standardized assessment instruments remain limited. In this situation, we conducted the present study to investigate the symptom characteristics of pelvic floor dysfunction according to the PFDI-20, thereby providing a scientific basis for screening, comprehensive evaluation, and appropriate management strategies in obstetrics and gynecology clinical practice.

2. STUDY SUBJECTS AND METHODS

2.1. Study design

A descriptive case series study.

2.2. Study setting and study period

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The study was conducted at Binh Duong General Hospital during the period from May 2025 to December 2025.

2.3. Study population

Women diagnosed with pelvic floor dysfunction who presented for examination at Binh Duong General Hospital.

- Inclusion criteria

Women aged 18 years and older, non-pregnant, who consented to participate in the study and had a confirmed diagnosis of pelvic floor dysfunction based on clinical presentation with suggestive symptoms (lower urinary tract symptoms, anorectal symptoms, pelvic organ prolapse, sexual dysfunction, and pelvic pain), and clinical assessment of pelvic floor function using the Modified Oxford Scale (MOS) with scores ranging from 0 to 3 [6].

- Exclusion criteria

Patients with conditions affecting pelvic floor muscle contractility, including degenerative or congenital disorders involving connective tissue or neural tissue; diabetes mellitus; cerebrovascular disease; progressive neurological disorders; radicular low back pain; pelvic malignancy; a history of pelvic surgery; asthma; or psychiatric disorders. Patients with acute infection or tumors of the vagina, uterus, rectum, or bladder; pelvic malignancy that has not been definitively treated or is of uncertain nature; or those who have undergone pelvic organ prolapse surgery, perineal reconstruction, rectal surgery, or anal surgery within the past 5–6 weeks were also excluded.

2.4. Sample size and sampling method

Participants were recruited using a convenience sampling method, including those who met the inclusion criteria and had no exclusion criteria during the study period from May 2025 to December 2025. In total, 77 women with a confirmed diagnosis of pelvic floor dysfunction were enrolled in the study.

2.5. Study content

General characteristics: age, body mass index (BMI), menopausal history, and obstetric history, including parity and mode of delivery.

Clinical characteristics were recorded based on the Vietnamese version of the PFDI-20 questionnaire [5]. The PFDI-20 assesses various aspects of pelvic floor dysfunction symptoms and consists of 20 items, divided into three subscales: pelvic organ prolapse symptoms (POPDI-6; items 1–6), colorectal–anal symptoms (CRADI-8; items 7–14), and urinary symptoms (UDI-6; items 15–20). The following key items were used to determine the prevalence of each disorder: symptomatic pelvic organ prolapse was defined by an affirmative response to item 3; fecal incontinence was identified based on the total number of affirmative responses to items 9 and 10; urinary incontinence was identified based on the total number of affirmative responses to items 16 and 17; and pelvic pain was defined by an affirmative response to item 20 [1].

2.6. Data collection methods

All study participants were interviewed directly, and data were collected using a standardized research data collection form. General characteristics and obstetric history were obtained through patient interviews and review of medical records. Symptoms of pelvic floor dysfunction were assessed using the PFDI-20 questionnaire, including the POPDI-6, CRADI-8, and UDI-6 subscales, under the guidance of trained investigators. The collected data were reviewed and compiled for subsequent analysis.

2.7. Data processing and analysis

The data were processed and analyzed using SPSS version 26.0. Categorical variables were described using frequencies and percentages, while continuous variables were summarized as means and standard deviations. The results were presented in tables and figures.

2.8. Ethical approval

The study was conducted following approval by the Institutional Review Board (IRB) for Biomedical Research of Can Tho University of Medicine and Pharmacy (Approval No.25.383.HV-PCT/HĐĐĐ, dated 30/06/2025) and with authorization from Binh Duong General Hospital.

3. RESULTS

During the study period from May 2025 to December 2025, a total of 77 women diagnosed with pelvic floor dysfunction were enrolled in the study. Several study findings are presented below.

Table 1. General characteristics of the study population

General characteristics		n	%
Mean age (standard deviation), years		46.36 ± 5.57	
Age group	Aged 18–45 years	41	53.2
	Aged 46–55 years	31	40.3
	Aged 56 years and older	5	6.5
Mean BMI (standard deviation), kg/m^2		22.84 ± 2.78	
BMI Categories	BMI < 23 kg/m^2	45	58.4
	BMI ≥ 23 kg/m^2	32	41.6
Menopausal history		20	26.0
Number of deliveries	2 deliveries	64	83.1
	≥ 3 deliveries	13	16.9
Mode of Delivery	Vaginal delivery	57	74.0
	Cesarean section	5	6.5
	Vaginal delivery and cesarean section	15	19.5

Our study findings showed that the mean age of the study participants was 46.36 ± 5.57 years, with the 18–45 age group accounting for the highest proportion (53.2%). The mean BMI was 22.84 ± 2.78 kg/m^2, of which 58.4% had a BMI < 23 kg/m^2. The proportion of postmenopausal women was 26.0%. The majority of participants had a history of two deliveries (83.1%). The predominant mode of delivery was vaginal delivery (74.0%), followed by a combination of vaginal delivery and cesarean section (19.5%), while exclusive cesarean section accounted for a small proportion (6.5%).

Table 2. Characteristics of pelvic organ prolapse according to the PFDI-20

Pelvic Organ Prolapse Symptoms (n = 77)		n (%)
POPDI-6	Do you usually experience pressure in the lower abdomen?	0 (0,0)
	Do you usually experience heaviness or dullness in the lower abdomen?	0 (0,0)
	Do you usually have a bulge or something falling out that you can see or fell in the vaginal area?	3 (3,9)
	Do you usually have to push on the vagina or around the rectum to have a complete bowel movement?	0 (0,0)
	Do you usually experience a feeling of incomplete bladder emptying?	6 (7,8)
	Do you ever have to push up in the vaginal area with your fingers to start or complete urination?	0 (0,0)

Among participants, pelvic organ prolapse–related symptoms assessed by the POPDI-6 were largely absent. No respondents reported lower abdominal pressure or heaviness (0.0% each), the need to splint/push on the vagina or around the rectum to complete bowel movements (0.0%), or the need to digitally elevate/push up in the vaginal area to initiate or complete urination (0.0%). A visible or palpable vaginal bulge was reported by 3.9% (3/77), and a feeling of incomplete bladder emptying was reported by 7.8% (6/77).

Table 3. Colorectal and anal symptoms according to the PFDI-20 scale

Colorectal and anal symptoms (n = 77)		n (%)
CRADI-8	Do you feel you need to strain too hard to have a bowel movement?	56 (72,7)
	Do you feel you have not completely emptied your bowels at the end of a bowel movement?	13 (16,9)
	Do you usually lose stool beyond your control if your stool is well formed?	0 (0,0)
	Do you usually lose stool beyond your control if you stool is loose or liquid?	5 (6,5)
	Do you usually lose gas from the rectum beyond your control?	51 (66,2)
	Do you usually have pain when you pass your stool?	0 (0,0)
	Do you experience a strong sense of urgency and have to rush to the bathroom to have a bowel movement?	0 (0,0)
	Does part of your stool ever pass through the rectum and bulge outside during or after a bowel movement?	0 (0,0)

In the CRADI-8 domain, the most frequently reported symptoms were excessive straining during defecation (72.7%, 56/77) and involuntary loss of rectal gas (66.2%, 51/77). A smaller proportion reported a sensation of incomplete bowel emptying after a bowel movement (16.9%, 13/77). Fecal incontinence for well-formed stool was not reported; however, fecal incontinence for loose/liquid stool occurred in 6.5% (5/77). No participants reported pain with defecation, urgency requiring rushing to the bathroom, or protrusion/bulging of stool outside the rectum.

Table 4. Urinary symptoms according to the PFDI-20 scale

Urinary Symptoms (n = 77)		n (%)
UDI-6	Do you usually experience frequent urination?	0 (0,0)
	Do you usually experience urine leakage associated with a feeling of urgency; that is, a strong sensation of needing to go to the bathroom?	6 (7,8)
UDI-6	Do you usually experience urine leakage related to laughing, coughing, or sneezing?	55 (71,4)
	Do you usually experience small amounts of urine leakage (that is, drops)?	5 (6,5)
	Do you usually experience difficulty emptying your bladder?	2 (2,6)
	Do you usually experience pain of discomfort in the lower abdomen or genital region?	1 (1,3)

In the UDI-6 domain, stress urinary incontinence was the predominant symptom, reported by 71.4% during activities such as laughing, coughing, or sneezing. Urge-related leakage was reported by 7.8% (6/77), and leakage of small amounts (drops) by 6.5% (5/77). Difficulty emptying the bladder was uncommon (2.6%, 2/77), and pain/discomfort in the lower abdomen or genital region was rare (1.3%, 1/77). No participants reported frequent urination.

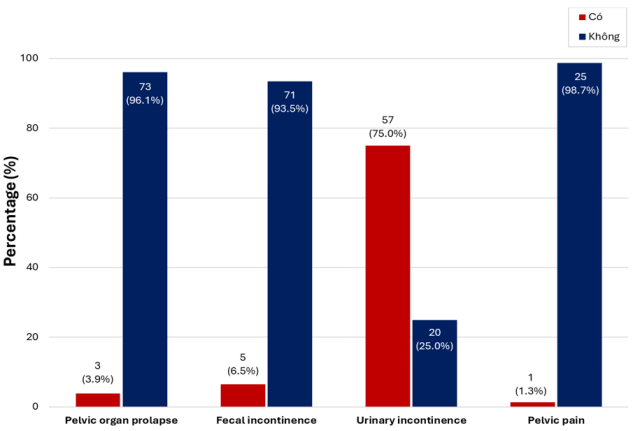


Figure 1. Pelvic floor dysfunction outcomes based on the PFDI-20

Based on the PFDI-20 scale, urinary incontinence was the most commonly reported symptom, affecting 75.0% of participants (57/77). Fecal incontinence was reported by 6.5% (5/77), and pelvic organ prolapse–related symptoms were uncommon (3.9%). Pelvic pain was rare (1.3%, 1/77).

4. DISCUSSION

The study described the clinical characteristics of pelvic floor dysfunction in 77 women who presented to Binh Duong General Hospital between May 2025 and December 2025. The results showed that the mean age of the study participants was 46.36 ± 5.57 years, with the 18–45 age group accounting for the highest proportion (53.2%). The mean BMI was 22.84 ± 2.78 kg/m^2. Most participants had a history of two deliveries, and the predominant mode of delivery was vaginal delivery. Regarding clinical characteristics, symptoms of pelvic floor dysfunction were identified across all three domains of the PFDI-20 scale. In the pelvic organ prolapse domain, symptoms were largely uncommon with a visible/palpable vaginal bulge was reported by 3.9% and a feeling of incomplete bladder emptying by 7.8%. In the colorectal–anal domain, the most frequent symptoms were excessive straining (72.7%) and involuntary loss of rectal gas (66.2%) while loose/liquid stool leakage occurred was 6.5%. In the urinary domain, stress urinary incontinence predominated (71.4%), with less frequent urge-related leakage (7.8%), small-amount leakage (6.5%), voiding difficulty (2.6%), and pain/discomfort (1.3%), while urinary frequency was 0.0%. Overall, these findings indicate that pelvic floor dysfunction in this cohort was predominantly mild to moderate, with the symptom burden mainly driven by urinary incontinence and defecatory dysfunction, rather than overt prolapse or pelvic pain.

This overall pattern is broadly consistent with postpartum and population-based evidence showing that urinary incontinence tends to be the most frequently reported pelvic floor complaint across diverse settings, although the relative contributions of prolapse- and bowel-related symptoms vary substantially by population and case definition. For example, González-Timoneda et al. (2025) reported that approximately half of women experienced at least one pelvic floor disorder within 10 years after childbirth, with most symptomatic cases being mild to moderate [7]. Similarly, the nationwide Spanish study by Peinado-Molina et al. (2023) found urinary incontinence to be the most common subtype, although the reported prevalence was higher than in our series (75.0% versus 55,8%) likely reflecting differences in sampling (general population versus clinically identified pelvic floor dysfunction) and symptom thresholds [1]. Similarly, the nationwide Spanish study by Peinado-Molina et al. also found urinary incontinence to be the most common subtype [1], whereas research from Ethiopia reported pelvic organ prolapse as the leading disorder (28.0%), followed by urinary incontinence (19.0%) [2]. Taken together, these discrepancies highlight the influence of obstetric exposures, menopausal status, and methodological choices, particularly questionnaire-based definitions versus clinical assessment on the observed distribution of pelvic floor dysfunction subtypes. From a clinical perspective, the repeated observation across studies that urinary incontinence is a leading manifestation supports routine screening and early conservative management, especially in women with childbirth-related risk factors. Given that our cohort was largely characterized by mild-to-moderate symptom severity, pelvic floor physical therapy, particularly supervised pelvic floor muscle training combined with behavioral strategies, represents a pragmatic first-line option to reduce symptom burden, improve function, and potentially limit progression to more overt prolapse requiring procedural intervention.

Regarding pelvic organ prolapse, only a small proportion of women in our cohort reported the hallmark bulge symptom (3.9%), indicating that symptomatic prolapse was uncommon. This finding is in line with population-based estimates reporting similarly low rates of symptom-defined prolapse; for instance, Wu et al. observed a 2.9% prevalence when prolapse was defined by seeing or feeling a vaginal bulge among about 2000 women [3]. Importantly, symptom-based prevalence is consistently far lower than examination-based prevalence. Community data suggest that some degree of prolapse can be detected on pelvic examination in roughly 41–50% of women, yet only a small minority report related symptoms. Together, these observations imply that many cases are mild and clinically silent, and that relying solely on symptom questionnaires may underestimate the true anatomical burden of prolapse [4]. Clinically, our results support risk-stratified counseling and targeted assessment, particularly in women with established risk factors, so that conservative management (including pelvic floor muscle training and lifestyle measures) can be initiated early, potentially reducing progression to advanced prolapse requiring invasive interventions. Established risk factors supported by systematic review evidence include parity, vaginal delivery, increasing age, and higher BMI [8]. In the colorectal–anal symptom domain, although a substantial proportion of participants reported defecatory dysfunction and impaired flatus control, the prevalence of true fecal incontinence in our study was only 6.5%. This estimate is broadly consistent with prior pooled evidence, which has reported a prevalence of fecal incontinence among women of approximately 8.9%[9], depending on case definitions and the underlying study populations. With respect to chronic pelvic pain, the literature indicates a wide range of prevalence in women, typically 4% to 16% [10], reflecting heterogeneity in diagnostic criteria, recruitment settings, and population characteristics.

Taken together, our findings reinforce that pelvic floor dysfunction represents a meaningful public health issue with tangible impacts on women's daily functioning and well-being, warranting further investigation in diverse clinical and community settings. Beyond documenting symptom patterns, future work should clarify context-specific risk profiles and modifiable contributors to inform more effective prevention. Importantly, epidemiologic evidence on prevalence and associated factors can be translated into targeted strategies, including individualized pelvic floor exercise programs, structured antenatal and postnatal support, and lifestyle optimization (such as weight management, constipation prevention, and appropriate activity habits). Strengthening patient education, counseling, and access to early conservative care, particularly pelvic floor physical therapy, may help reduce symptom persistence and limit progression to more severe stages that require invasive treatment. Prospective and interventional studies are also needed to determine which preventive packages most effectively decrease the incidence and severity of pelvic floor dysfunction over time.

A descriptive case-series design with convenience sampling may have introduced selection bias and limited the external validity of the findings. In addition, the relatively small sample size (77 participants) and recruitment from a single healthcare facility may reduce the representativeness of the study population, thereby constraining the generalizability of the results. Finally, pelvic floor dysfunction was classified primarily using the self-reported PFDI-20 questionnaire; therefore, misclassification and information bias cannot be excluded.

5. CONCLUSION

The study demonstrated that pelvic floor dysfunction in women presents with diverse clinical manifestations, simultaneously affecting pelvic support, colorectal–anal function, and the lower urinary tract. Pelvic pain, defecatory dysfunction, and irritative urinary symptoms were more predominant than typical manifestations of pelvic organ prolapse or classic urinary incontinence. The use of the PFDI-20 questionnaire enables a comprehensive assessment of the functional symptoms of pelvic floor dysfunction, thereby supporting a holistic diagnostic and management approach and contributing to improved quality of life for patients in obstetrics and gynecology practice.

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