Research Article

Clinical Characteristics of Pelvic Organ Prolapse at a Nationally Referred General Hospital: A Retrospective Study (2023-2024)

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Abstract

Objective: To evaluate the clinical characteristics of patients with Pelvic Organ Prolapse (POP) in national referral hospitals and analyze the relationship between age, parity, and prolapse severity.

Methods: This medical record–based retrospective study included 353 POP patients from 2023–2024. Variables assessed were age, parity, prolapse severity (POP-Q), sexual activity status, and type of therapy received. Correlation analysis was performed using Spearman's rank correlation with SPSS version 26.

Results: Most patients (81.3%) were postmenopausal, and 64.6% were multiparous. The majority presented with stage IV prolapse (34.8%), and operative therapy was the primary treatment choice (89.5%). Significant associations were observed between age and prolapse severity ($\rho = 0.208$, $p < 0.001$) and between parity and prolapse severity ($\rho = 0.215$, $p < 0.001$). These findings indicate that increasing age and higher parity are significantly associated with more severe POP, although the correlation strength was weak.

Conclusions: POP was most commonly found in postmenopausal women, with higher severity among older and multiparous patients. These findings highlight the importance of early screening and preventive strategies to reduce POP progression. Further prospective multicenter studies are needed to evaluate the long-term impact of POP on quality of life and to compare the effectiveness of conservative versus operative therapies.

Keywords: conservative therapy, degree of prolapse, parity, Pelvic Organ Prolapse, reproductive age, surgical intervention.

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INTRODUCTION

Pelvic Organ Prolapse (POP) is one of the most common gynecological disorders, particularly among elderly women. Approximately 3–11% of women experience symptoms of POP, and 11.1–19% eventually require surgical intervention.[1,2] The prevalence of POP varies globally, with higher incidence rates observed in older populations and in regions with limited access to health services.[3] Key risk factors for POP include age, parity, and menopausal status. As women age, the quality of connective tissues and the strength of pelvic floor muscles decline, compromising the support of pelvic organs and predisposing them to prolapse.[4,5] Evidence shows that nearly half of older women experience some degree of POP, with a substantially increased risk after menopause due to estrogen deficiency, which affects the integrity of pelvic connective tissues.[6,7]

Parity, particularly vaginal delivery, has also long been recognized as a major predisposing factor. Recent studies suggest that even a single vaginal delivery can increase the likelihood of developing POP later in life.[8,9] Other contributing factors, such as obesity, chronic respiratory diseases, and strenuous physical activity, may further exacerbate pelvic floor weakness.[10,11]

The diagnosis of POP is generally established through anamnesis and physical examination

using the Pelvic Organ Prolapse Quantification (POP-Q) system, which is considered the gold standard for assessing prolapse severity based on defined vaginal anatomical landmarks.[12,13] This classification system not only allows for objective diagnosis but also assists clinicians in determining the most appropriate treatment strategy. Women with advanced prolapse (POP-Q stage III or IV) typically require surgical interventions such as hysterectomy or pelvic reconstruction to restore anatomical support and alleviate symptoms.[14,15] Meanwhile, patients with mild to moderate prolapse may benefit from conservative treatments, including Pelvic Floor Muscle Training (PFMT) and pessary use, which aim to strengthen pelvic floor muscles and reduce symptom burden.[16,17] The choice of therapy must consider clinical factors such as patient age, severity of prolapse, and patient preferences to achieve optimal outcomes.

Although numerous studies have examined the epidemiology and management of POP, data describing the clinical characteristics of POP patients in national referral hospitals remain limited. Most existing research focuses on the general population or primary healthcare facilities, and few studies provide detailed insights into patient profiles and treatment patterns within tertiary care centers. Therefore, this study aims to describe the clinical characteristics of POP patients in national referral hospitals, including age distribution, reproductive status, prolapse severity, and treatments received. Furthermore, the study will explore the relationship between key risk factors such as parity and reproductive age group and prolapse severity. Using a medical record–based retrospective approach, this study is expected to provide a deeper understanding of POP patterns and management in referral hospitals, which may serve as a foundation for optimizing diagnostic and therapeutic strategies in these settings.

METHODS

This study is a retrospective observational study based on medical records conducted at national referral hospitals during the period of 2023 to 2024. The aim of this study was to examine the clinical characteristics of patients with Pelvic Organ Prolapse (POP), determine prolapse severity using the POP-Q system, and analyze the relationship between major risk factors and POP severity.

The study sample consisted of 353 patients diagnosed with POP who received either conservative or surgical treatment during the study period. A total sampling technique was applied, with samples selected according to predefined inclusion and exclusion criteria. The inclusion criteria were patients with complete medical records containing clear information on age, parity, sexual activity status, prolapse severity, and the type of therapy received. Patients were excluded if they had incomplete medical records, a history of previous pelvic reconstructive surgery, or severe comorbidities that could influence therapeutic outcomes.

Data were analyzed using SPSS software version 26. Spearman's rank correlation test was used to assess the relationship between parity, reproductive age group, and prolapse severity. A p-value < 0.05 was considered statistically significant.

RESULTS

The results showed that the majority of patients in this study were postmenopausal, totaling 287 patients (81.3%). The pre-menopausal group consisted of 43 patients (12.2%), while only 23 patients (6.5%) were of active reproductive age. This finding suggests that most women who experience uterine prolapse are in the postmenopausal phase, a period marked by a sharp decline in estrogen production and progressive loss of pelvic tissue elasticity and support. This may also explain the higher prolapse severity commonly found in this age group, which could increase the likelihood of seeking medical care.

In terms of parity, 228 patients (64.6%) were multiparous (2–4 children), and 57 patients (16.1%) were grand multiparous (≥ 5 children). Meanwhile, 64 women (18.1%) were primiparous, and only 4 women (1.1%) were nulliparous. This distribution indicates a strong association between higher parity and the occurrence of uterine prolapse.

Most patients in the study remained sexually active, totaling 263 individuals (74.5%), while 90 patients (25.5%) were no longer sexually active. This may be influenced by the age distribution, as younger patients tend to maintain sexual activity longer. Sexual activity may also influence symptom perception, although a causal relationship cannot be established based on retrospective data.

A total of 316 patients (89.5%) underwent

surgical management, whereas 37 patients (10.5%) received conservative therapy. This reflects the high proportion of patients presenting with advanced degrees of uterine prolapse, which often require definitive surgical treatment. The basic characteristics of the patients are presented in Table 1.

Table 1. The Characteristics of Patients who Presented to the Gynecology Outpatient Clinic

Variable	n	%
Category		
Reproductive Age	23	6.5
Pre-menopause	43	12.2
Post-menopause	287	81.3
Parity (child)		
Nulipara (0)	4	1.1
Primipara (1)	64	18.1
Multipara (2-4)	228	64.6
Grandemultipara (≥ 5)	57	16.1
Sexual Activity		
Active	263	74.5
Inactive	90	25.5
Treatments		
Operation	316	89.5
Conservative	37	10.5

The most common degree of uterine prolapse was degree 4, found in 123 patients (34.8%), indicating that one-third of the women presented with the most severe form of prolapse, in which the uterus may protrude completely outside the vagina. Degree 1 prolapse, representing the mildest condition, was observed in 101 patients (28.6%). Degree 2 was found in 59 patients (16.7%), and degree 3 in 70 patients (19.8%). The distribution of prolapse severity is shown in Table 2.

Table 2. Distribution of Degrees of Uterine Prolapse

Degree of Prolapse	n	%
1	101	28.6
2	59	16.7
3	70	19.8
4	123	34.8
Total	353	100.0

Correlation analysis was conducted to assess the relationship between key risk factors and prolapse severity. The results are presented in Table 3.

Table 3. The Relationship between Risk Factors and the Degree of Uterine Prolapse

Risk Factors	r	*P-value*	Conclusion
Reproductive Age Group	0.208	< 0.001	Significant
Parity	0.215	< 0.001	Significant

The correlation test results showed a significant relationship between reproductive age and the degree of uterine prolapse ($r = 0.208$, $p < 0.001$). However, despite its statistical significance, the correlation was weak. This indicates that increasing age may contribute to more severe prolapse, but age alone is not a strong determinant of POP severity.

Parity also demonstrated a statistically significant relationship with the degree of uterine prolapse ($r = 0.215$, $p < 0.001$). Similar to reproductive age, the correlation was weak, suggesting that while higher parity may influence prolapse severity, it does not strongly predict the degree of POP.

DISCUSSION

The findings of this study showed that the majority of patients with Pelvic Organ Prolapse (POP) referred to national referral hospitals were postmenopausal women (81.3%), with a high proportion of multiparous individuals (64.6%). The most prevalent form of prolapse was stage 4 (34.8%). Most patients underwent operative management (89.5%), while only 10.5% received conservative therapy. Correlation analysis indicated that both age and parity were significantly associated with prolapse severity, although the strength of the correlations was weak. These findings align with previous studies identifying age and parity as key risk factors for POP.

Consistent with earlier research, this study supports that POP is more common in older women, especially after menopause. The decline in estrogen levels during the postmenopausal phase contributes to weakening of connective tissue and pelvic floor muscles, thereby increasing the risk of pelvic organ descent. Previous studies have also demonstrated that estrogen deficiency contributes to diminished pelvic support integrity, making postmenopausal women more susceptible to both the development and progression of POP.[4,5] Furthermore, earlier research reported that approximately 11% of women experience significant POP symptoms, with a lifetime risk of

up to 19% for surgical intervention.[1,2] This aligns with the current findings, where the majority of patients presented with advanced prolapse requiring operative treatment.

Parity also showed a significant relationship with the severity of prolapse. Most patients in this study were multiparous (64.6%) or grand multiparous (16.1%), while only 1.1% were nulliparous. Although the correlation between parity and prolapse severity was statistically significant ($\rho = 0.215$, $p < 0.001$), the association was weak. This suggests that while increasing parity contributes to a greater risk of severe POP, parity alone does not serve as a strong predictor. Vaginal childbirth is known to be a major factor leading to pelvic floor weakening, and even a single vaginal delivery has been shown to increase POP risk later in life.[8,9]

The predominance of stage 4 prolapse (34.8%) in this study suggests that cases referred to national referral hospitals generally involve advanced stages that require definitive management. The distribution of severity stage 1 in 28.6%, stage 2 in 16.7%, and stage 3 in 19.8% is consistent with findings, who emphasized the importance of the POP-Q system in determining prolapse severity and guiding treatment selection. Patients with stage III or IV prolapse are more likely to require surgical intervention compared to those with milder stages.[12,13]

In terms of therapeutic approaches, the majority of patients (89.5%) underwent operative treatment, whereas only 10.5% received conservative management such as pessary use or pelvic floor muscle training. This pattern suggests that conservative therapy is less frequently chosen or less effective in cases presenting to tertiary referral centers, where advanced prolapse is more common. Previous studies have shown that conservative therapy is generally more effective for mild to moderate prolapse, while surgical intervention is typically indicated for advanced prolapse to restore anatomical structure and improve quality of life.[16,17] Regarding sexual activity, 74.5% of patients in this study remained sexually active despite experiencing POP of varying degrees. This finding indicates that sexual function can still be maintained even in the presence of prolapse. Previous research has reported that approximately 60% of women with POP may experience sexual dysfunction, including dyspareunia or decreased libido, although many remain sexually active and seek treatments that can improve comfort and sexual function.[18,19] Therefore, clinical management of POP should consider not only anatomical correction but also interventions that may enhance sexual function outcomes.

The clinical implications of this study highlight the importance of strengthening early screening for women with high-risk profiles, especially in primary healthcare settings, to prevent the progression of prolapse to more advanced stages. Given the high rate of operative treatment, clearer clinical guidelines regarding surgical indications are needed. Additionally, greater patient education about conservative therapy options may benefit women presenting with early-stage POP. Considering that many patients remain sexually active, management strategies should also address sexual health. The associations between prolapse severity, age, and parity underscore the need for preventive measures such as pelvic floor strengthening programs and targeted risk-reduction strategies for multiparous women.

This study has several limitations. The retrospective design based on medical records restricts the completeness of certain data, especially subjective aspects such as symptom burden and quality of life. The study was conducted in a single national referral hospital, which may limit the generalizability of the findings to broader populations, particularly those in primary or secondary care settings. Additionally, assessments of sexual activity and treatment preference were descriptive, preventing deeper exploration of psychosocial factors.

Future research should adopt prospective designs with direct patient interviews to more thoroughly assess the impact of POP on quality of life. Multicenter studies involving multiple healthcare levels are needed to provide a more comprehensive epidemiological picture. Further research should also evaluate the long-term effectiveness of conservative versus surgical treatments, as well as the impact of preventive strategies such as pelvic floor exercises and patient education in reducing the incidence and severity of POP.

CONCLUSION

This study shows that the majority of patients with Pelvic Organ Prolapse (POP) in national referral hospitals are postmenopausal women with a history of multiparity, and the dominant degree of prolapse is degree 4, which often

requires surgical intervention as the primary therapy. Although age and parity were found to have a statistically significant relationship with the severity of prolapse, the strength of the correlation was weak, indicating that these factors are associated with POP severity but are not strong predictors on their own. The fact that most patients came at later stages highlights the insufficient early screening and early presentation, where ideally POP should be detected at lower stages (degree 1–2) to reduce progression and the need for surgical intervention. Therefore, strengthening prevention strategies and early screening programs in high-risk women is crucial. Future studies with prospective and multicenter designs are needed to further evaluate long-term outcomes and compare the effectiveness of conservative management versus operative therapy, while also considering anatomical, functional, and quality of life aspects.

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