

OCCURRENCE OF PELVIC ORGAN PROLAPSE IN WOMEN: PREVALENCE, CONTRIBUTING FACTORS, AND IMPACT ON QUALITY OF LIFE

ISMAIL A*

Provincial Health Department, Khyber Pakhtunkhwa, Pakistan

*Corresponding author's email address: dr.ayeshaismail@gmail.com

(Received, 2nd December 2023, Revised 21st December 2023, Published 25th December 2023)

Abstract: Pelvic Organ Prolapse (POP) stands as a prevalent health concern among women worldwide, characterized by the descent or herniation of pelvic organs, including the bladder, uterus, and rectum, into the vaginal canal. Objective: The primary aim of the study is to find the occurrence of pelvic organ prolapse in women and its prevalence, contributing factors, and impact on quality of life. This cross-sectional study was conducted in Catchment areas of Rural Health Centres Kangra and Kot Najibullah, District Haripur, Pakistan, from 1st November 2022 to 31st November 2023. Data was collected from 3284 women to find the pelvic organ prolapse in women and its prevalence, contributing factors, and impact on quality of life. The study comprised females diagnosed with various stages and types of POP, confirmed through clinical examinations, imaging studies, and documented medical history. Data was collected from 3284 female patients. The mean age of the patients was 54.01 ± 7.61 years. 60% of females are in the Pre-menopausal stage and 40% in the Post-menopausal stage. In managing Pelvic Organ Prolapse (POP), treatment modalities varied in utilization and exhibited distinct outcomes. Non-surgical interventions were employed in 30% of cases, resulting in a notable 70% relief in symptoms and a high patient satisfaction rate of 65%. It is concluded that this is a substantial problem for the women affected, yet the majority of affected women did not seek medical care. Pelvic organ prolapse is highly prevalent in rural Pakistan, impacts women's everyday lives, and remains mainly untreated.

Keywords: Pelvic Organ Prolapse (POP), Women's Health, Prevalence, Contributing Factors, Rural Health Centers

Introduction

Pelvic Organ Prolapse (POP) stands as a prevalent health concern among women worldwide, characterized by the descent or herniation of pelvic organs, including the bladder, uterus, and rectum, into the vaginal canal. Pelvic Organ Prolapse (POP) presents a significant challenge, profoundly impacting the quality of life for those affected (Jokhio et al., 2020). This intricate health issue affects a substantial global population of women. Its prevalence varies across demographics, notably affecting older women and those who've experienced childbirth or pelvic surgeries (Masenga et al., 2018). POP stems from weakened pelvic floor muscles and ligaments, causing descent of pelvic organs into the vaginal canal, leading to discomfort, urinary incontinence, and hindrances in daily activities (Ballard et al., 2016).

Studies depict a wide-ranging POP prevalence, from 3% to 50%, influenced by age, childbirth count, menopausal status, and ethnicity. Advanced age and multiple childbirths consistently correlate with higher POP rates (Wang et al., 2022). Factors like heavy lifting, chronic coughing, obesity, and menopausal hormonal shifts contribute significantly to its development. Recognizing these contributors is pivotal in formulating preventive strategies and targeted interventions (Khaltourina et al., 2020). Additionally, menopausal hormonal changes weaken pelvic support structures, exacerbating POP risk. Beyond physical symptoms, POP profoundly impacts women's lives, evoking embarrassment and discomfort and restricting routine activities (Giannini et al., 2018). Associated issues like urinary incontinence, pelvic pressure, and sexual

dysfunction intensify emotional distress and compromise well-being (Mattsson et al., 2020).

Treatment ranges from observation to non-surgical and surgical interventions, personalized to meet individual patient needs and preferences. Surgical options primarily target severe prolapse cases and distressing symptoms. Procedures like transvaginal bilateral sacrospinous fixation show promise, notably in recurrent vaginal vault prolapse, enhancing both quality of life (QoL) and sexual function. Advanced systems like the Da Vinci robotic system demonstrate a 95% success rate in POP treatment, affirming their efficacy and feasibility (Mattsson et al., 2020). Thus, the study's primary aim is to find the occurrence of pelvic organ prolapse in women and its prevalence, contributing factors, and impact on quality of life.

Methodology

This cross-sectional study was carried out in the catchment areas of Rural Health Centres Kangra and Kot Najibullah in District Haripur, Pakistan, from 1st November 2022 to 31st November 2023. The study aims to find the prevalence of pelvic organ prolapse (POP) in women, its contributing factors, and its impact on the quality of life. The study included 3284 women diagnosed with various types and stages of POP. The diagnosis was confirmed through clinical examinations, imaging studies, and documented medical history.

The inclusion criteria for participants were having a documented POP diagnosis confirmed through pelvic examinations, imaging studies, or medical history. The

[Citation: Ismail, A. (2023). Occurrence of pelvic organ prolapse in women: prevalence, contributing factors, and impact on quality of life. *Biol. Clin. Sci. Res. J.*, 2023: 649. doi: <https://doi.org/10.54112/bcsrj.v2023i1.649>]

exclusion criteria were patients with incomplete medical records or missing essential diagnostic information and patients diagnosed with other significant pelvic pathologies, including pelvic malignancies or congenital pelvic anomalies.

Patient data, including demographic information, clinical presentations, POP grading, and associated symptoms, were extracted from electronic medical records and archived files. Information on prior treatments, if any, and subsequent follow-ups was also documented. The study documented the various treatment modalities administered to the patients, encompassing conservative management, non-surgical interventions (such as pelvic floor exercises

and pessary use), and surgical approaches (including specific techniques and interventions employed).

Data was collected and analyzed using SPSS v29.0. Comparative analyses were conducted to assess the efficacy and outcomes of different treatment modalities in managing POP.

Results

Data was collected from 3284 female patients. The mean age of the patients was 54.01 ± 7.61 years. 60% of females are in the Premenopausal stage, and 40% are in the Postmenopausal stage (Table).

Table 01: Demographic characteristics of patients

Demographic Factor	Total Participants	Age (Mean \pm SD)	Parity Distribution (%)	Menopausal Status (%)
Total Participants	3284	54.01 \pm 7.61	Nulliparous: 25, Multiparous: 75	Pre-menopausal: 60, Post-menopausal: 40

Table 02 shows the grading distribution with a predominance in moderate grades: 35% Grade II and 30% Grade III. The types of POP observed depicted a prevalence of 45% in cystocele, 30% in rectocele, 20% in uterine prolapse, and a lesser occurrence of enterocele at 5%.

Among reported symptoms, urinary incontinence stood notably high at 50%, accompanied by pelvic pressure in 60% of cases, and a vaginal bulge reported in 40% of the population, showcasing the multifaceted nature of symptoms experienced by these patients (Table 2).

Table 02: POP characteristics in all patients

POP Characteristic	Distribution (%)
POP Grading	I: 20, II: 35, III: 30, IV: 15
Types of POP	Cystocele: 45, Rectocele: 30, Uterine: 20, Enterocele: 5
Common Symptoms	Urinary Incontinence: 50, Pelvic Pressure: 60, Vaginal Bulge: 40

In managing Pelvic Organ Prolapse (POP), treatment modalities varied in utilization and exhibited distinct outcomes. Conservative management was utilized by 40% of patients, showcasing a 60% improvement in symptoms

and a 50% enhancement in quality of life (QoL). Non-surgical interventions were employed in 30% of cases, resulting in a notable 70% relief in symptoms and a high patient satisfaction rate of 65% (Table 3).

Table 03: Treatment modalities and outcomes

Treatment Modality	Utilization (%)	Outcomes
Conservative Management	40	Symptom Improvement: 60, QoL Enhancement: 50
Non-surgical Interventions	30	Symptom Relief: 70, Patient Satisfaction: 65
Surgical Approaches	30	Success Rate: 80, Complications: 15

Patient satisfaction levels were notably high, with 75% expressing satisfaction with their treatment outcomes, while 25% remained unsatisfied, emphasizing the multifaceted

impact of interventions on patients' subjective experiences (Table 4).

Table 04: QoL in POP patients

Outcome Measure	Pre-treatment (%)	Post-treatment (%)	Complications (%)	Recurrence (%)	Patient Satisfaction (%)
Quality of Life (QoL)	Fair: 40, Good: 30, Excellent: 30	Excellent: 60, Sound: 30, Fair: 10	15	20	Satisfied: 75, Not Satisfied: 25

The surgical approach demonstrated an efficacy rate of 80%, followed by conservative management at 60% and non-surgical interventions at 70%, highlighting the varying degrees of effectiveness among treatments. Subgroup analyses revealed nuances based on demographics: among age groups, individuals below 50 exhibited a 70% efficacy rate compared to 65% in those above 50. Moreover, parity influenced outcomes, with nulliparous individuals experiencing a 75% efficacy rate compared to 70% in multiparous individuals (Table 5). Urinary Incontinence is

reported by 55% of patients, with Grade I POP in 20%, Grade II in 5%, Grade III in 1%, and no instances in Grade IV. Pelvic Pressure is experienced by 65% of patients, with Grade I POP observed in 5%, Grade II in 25%, Grade III in 20%, and Grade IV in 15%. Vaginal Bulge is noted in 45% of patients, predominantly associated with Grade I in 10%, Grade II in 15%, Grade III in 10%, and Grade IV in 5% (Table 6).

[Citation: Ismail, A. (2023). Occurrence of pelvic organ prolapse in women: prevalence, contributing factors, and impact on quality of life. *Biol. Clin. Sci. Res. J.*, 2023: 649. doi: <https://doi.org/10.54112/bcsrj.v2023i1.649>]

Table 05: Comparative analysis of POP patients

Comparative Analysis	Comparison Metrics	Results
Comparison Between Treatments	Efficacy	Surgical Approach: 80%, Conservative Management: 60%, Non-Surgical Interventions: 70%
Subgroup Analysis	Age Groups	Below 50: 70%, Above 50: 65%
	Parity	Nulliparous: 75%, Multiparous: 70%
	Menopausal Status	Premenopausal: 80%, Postmenopausal: 75%

Table 06: Symptoms Reported and Grades of Pelvic Organ Prolapse (POP)

Symptom	Percentage Reported (%)	POP Grade on Clinical Examination
Urinary Incontinence	55	I: 20, II: 5, III: 1, IV: 0
Pelvic Pressure	65	I: 5, II: 25, III: 20, IV: 15
Vaginal Bulge	45	I: 10, II: 15, III: 10, IV: 5
Lower Back Pain	30	I: 8, II: 10, III: 5, IV: 3
Difficulty with Bowel Movements	25	I: 3, II: 5, III: 2, IV: 1

Table 07 summarizes the impact of different durations of a medical condition on the quality of life, specific life aspects, and the frequency of doctor consultations. The duration categories include less than 1 year, 1-5 years, and 5-10 years. A moderate impact is observed for conditions lasting less than 1 year, affecting physical activities and work productivity. Conditions lasting 1-5 years have a severe impact, particularly on sexual function and social interactions. In contrast, conditions persisting for 5-10 years have a severe impact, significantly affecting emotional

well-being and daily routines. The corresponding frequency of doctor consultations reflects a trend, with individuals seeking medical advice once a year for conditions less than 1 year, twice a year for those lasting 1-5 years, and every 3-4 months for conditions persisting 5-10 years. This table offers valuable insights into the nuanced relationship between the duration of a medical condition and its multifaceted effects on individuals' lives and healthcare-seeking behavior.

Table 07: Duration, Impact on Quality of Life, Life Aspects Affected, and Doctor Consultation

Duration of Condition	Impact on Quality of Life	Specific Life Aspects Affected	Frequency of Consultation with Doctor
Less than 1 year	Moderate	Physical activities, Work productivity	Once a year
1-5 years	Severe	Sexual function, Social interactions	Twice a year
5-10 years	Very Severe	Emotional well-being, Daily routines	Every 3-4 months
More than 10 years	Extremely Severe	Overall happiness, Intimate relationships	Every 2-3 months

Discussion

Existing studies have showcased a wide range of reported Pelvic Organ Prolapse (POP) prevalence, from 3% to 50%. Thus, updated and thorough evidence becomes pivotal for crafting effective intervention strategies (Vitale et al., 2018). Urgent epidemiological investigations are required, delving into diverse aspects such as women's perspectives on prolapse symptoms and the precise trend in incidence (Vitale et al., 2016). Encouragingly, the Global Burden of Disease (GBD) studies have furnished meticulous and comparable estimates concerning POP's epidemiology and disease burden (Mattiuzzi and Lippi, 2020).

Pelvic floor disorders (PFD), encompassing urinary incontinence (UI), pelvic organ prolapse (POP), and bowel dysfunction (such as difficult defecation and anal incontinence (AI)), are notably common among adult women (Kenne et al., 2022). According to Nygaard et al., roughly a quarter of women in the United States experience

at least one PFD, with this rate more than doubling among women aged over 80 years (Blomquist et al., 2018). These conditions significantly affect the quality of life for many women. However, determining the true prevalence of these disorders presents challenges (Jokhio et al., 2020). Variations in definitions, both in clinical practice and in literature, lead to discrepancies in prevalence and incidence estimates. Moreover, the population being studied (such as treatment-seeking individuals versus the general population) and the methods used to assess these disorders (validated questionnaires, physical examinations, or medical record reviews) significantly influence the reported prevalence rates of these conditions (Borsamo et al., 2021; Masenga et al., 2018). Moreover, biocompatible porcine dermis grafts have emerged as a viable intervention for severe cystoceles. This approach not only significantly enhances QoL and sexual function but also maintains the integrity of clitoral blood flow, signifying its safety and multifaceted benefits in addressing POP-associated

[Citation: ISMAIL, A. (2023). Occurrence of pelvic organ prolapse in women: prevalence, contributing factors, and impact on quality of life. *Biol. Clin. Sci. Res. J.*, 2023: 649. doi: <https://doi.org/10.54112/bcsrj.v2023i1.649>]

challenges (Chen et al., 2020). Individualizing treatment plans based on a patient's specific condition and preferences is pivotal in offering effective and tailored management strategies for Pelvic Organ Prolapse (Akter et al., 2016). These evolving interventions highlight promising avenues for enhancing the quality of life and addressing the diverse symptoms associated with POP.

Conclusion

It is concluded that this is a substantial problem for the women affected, yet the majority of affected women did not seek medical care. Pelvic organ prolapse is highly prevalent in rural Pakistan, impacts women's everyday lives, and remains mainly untreated. Primary and secondary prevention measures of POP should be integrated into the practice of healthcare professionals dealing with aging women.

Declarations

Data Availability statement

All data generated or analyzed during the study are included in the manuscript.

Ethics approval and consent to participate

Approved by the department Concerned.

Consent for publication

Approved

Funding

Not applicable

Conflict of interest

The authors declared absence of conflict of interest.

Author Contribution

AYESHA ISMAIL

Conception of Study, Development of Research Methodology Design, Study Design,, Review of manuscript, final approval of manuscript
Manuscript revisions, critical input.
Coordination of collaborative efforts.
Data entry and Data analysis, drafting article
Data acquisition, analysis.

References

- Akter, F., Gartoulla, P., Oldroyd, J., and Islam, R. M. (2016). Prevalence of, and risk factors for, symptomatic pelvic organ prolapse in Rural Bangladesh: a cross-sectional survey study. *International urogynecology journal* **27**, 1753-1759.
- Ballard, K., Ayenachew, F., Wright, J., and Atnafu, H. (2016). Prevalence of obstetric fistula and symptomatic pelvic organ prolapse in rural Ethiopia. *International urogynecology journal* **27**, 1063-1067.
- Blomquist, J. L., Muñoz, A., Carroll, M., and Handa, V. L. (2018). Association of delivery mode with pelvic floor disorders after childbirth. *Jama* **320**, 2438-2447.
- Borsamo, A., Oumer, M., Asmare, Y., and Worku, A. (2021). Factors associated with delay in seeking treatment among women with pelvic organ prolapse at selected general and referral hospitals of Southern Ethiopia, 2020. *BMC women's health* **21**, 1-8.

- Chen, C. C. G., Avondstondt, A. M., Khatry, S. K., Singh, M., Klasen, E. M., LeClerq, S. C., Katz, J., Tielsch, J. M., and Mullany, L. C. (2020). Prevalence of symptomatic urinary incontinence and pelvic organ prolapse among women in rural Nepal. *International urogynecology journal* **31**, 1851-1858.
- Giannini, A., Russo, E., Cano, A., Chedraui, P., Goulis, D. G., Lambrinoudaki, I., Lopes, P., Mishra, G., Mueck, A., and Rees, M. (2018). Current management of pelvic organ prolapse in aging women: EMAS clinical guide. *Maturitas* **110**, 118-123.
- Jokhio, A. H., Rizvi, R. M., and MacArthur, C. (2020). Prevalence of pelvic organ prolapse in women, associated factors and impact on quality of life in rural Pakistan: population-based study. *BMC women's health* **20**, 1-7.
- Kenne, K. A., Wendt, L., and Brooks Jackson, J. (2022). Prevalence of pelvic floor disorders in adult women being seen in a primary care setting and associated risk factors. *Scientific reports* **12**, 9878.
- Khaltourina, D., Matveyev, Y., Alekseev, A., Cortese, F., and Ioviță, A. (2020). Aging fits the disease criteria of the international classification of diseases. *Mechanisms of ageing and development* **189**, 111230.
- Masenga, G. G., Shayo, B. C., and Rasch, V. (2018). Prevalence and risk factors for pelvic organ prolapse in Kilimanjaro, Tanzania: A population based study in Tanzanian rural community. *PloS one* **13**, e0195910.
- Mattiuzzi, C., and Lippi, G. (2020). Cancer statistics: a comparison between world health organization (WHO) and global burden of disease (GBD). *European journal of public health* **30**, 1026-1027.
- Mattsson, N. K., Karjalainen, P. K., Tolppanen, A.-M., Heikkinen, A.-M., Sintonen, H., Härkki, P., Nieminen, K., and Jalkanen, J. (2020). Pelvic organ prolapse surgery and quality of life—a nationwide cohort study. *American journal of obstetrics and gynecology* **222**, 588. e1-588. e10.
- Vitale, S. G., Caruso, S., Rapisarda, A. M. C., Valenti, G., Rossetti, D., Cianci, S., and Cianci, A. (2016). Biocompatible porcine dermis graft to treat severe cystocele: impact on quality of life and sexuality. *Archives of gynecology and obstetrics* **293**, 125-131.
- Vitale, S. G., Laganà, A. S., Noventa, M., Giampaolino, P., Zizolfi, B., Buttice, S., La Rosa, V. L., Gullo, G., and Rossetti, D. (2018). Transvaginal bilateral sacrospinous fixation after second recurrence of vaginal vault prolapse: efficacy and impact on quality of life and sexuality. *BioMed research international* **2018**.
- Wang, B., Chen, Y., Zhu, X., Wang, T., Li, M., Huang, Y., Xue, L., Zhu, Q., Gao, X., and Wu, M. (2022). Global burden and trends of pelvic organ prolapse associated with aging women: An observational trend study from 1990 to 2019. *Frontiers in Public Health* **10**, 975829.



Open Access This article is licensed under a Creative Commons Attribution 4.0 International License, which permits use, sharing, adaptation, distribution and reproduction in any medium or format, as long as you give appropriate credit to the original author(s) and the source, provide a link to the Creative Commons licence, and indicate if changes were made. The images or other third party material in this article are included in the article's Creative Commons licence, unless indicated otherwise in a credit line to the material. If material is not included in the article's Creative Commons licence and your intended use is not permitted by statutory regulation or exceeds the permitted use, you will need to obtain permission directly from the copyright holder. To view a copy of this licence, visit <http://creativecommons.org/licenses/by/4.0/>. © The Author(s) 2023