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Clinical Presentation of Women with Symptomatic Pelvic Organ Prolapse at a Tertiary Care Center, Nepal

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Abstract

Pelvic Organ Prolapse (POP) is a common benign condition with serious implications in terms of reproductive morbidity affecting millions of women worldwide. However, the women presenting for care represent the tip of the iceberg. This study aimed to assess the clinical presentation of POP at a university hospital in Nepal. A hospital based descriptive study was conducted at B.P. Koirala Institute of Health Sciences, Nepal. Women visiting gynecology OPD or being admitted to gynecology ward with symptomatic POP from January- September 2021 were included in the study after taking informed consent. Detailed history regarding demographic and reproductive variables, presenting symptoms and risk factors was obtained. Thorough systemic examination was performed and prolapse was staged according to POP-Q. The information collected was analyzed using SPSS Version 25.0. Fifty women with symptomatic POP were included in the study. The women were between the age 22-84 years with mean age 58.98±13.38 years. Most (84%) were postmenopausal, 66% were from Terai and 44% belonged to disadvantaged janajati group. The mean parity was 4.20±2.09 with 38% women were grand multipara. The most common presenting symptom was awareness of vaginal bulge in 88% women. The urinary symptoms were associated in 58% among which, most common was voiding dysfunction in 55%. Anterior compartment defect was noted in 92% women and 50% had stage III prolapse. The findings suggested women with POP are mostly postmenopausal with high parity from Terai belt with most women presented with stage III prolapse and anterior compartment was most involved.

Keywords: Anterior Compartment, Pelvic Organ Prolapse, Postmenopausal, Urinary Symptoms.

Introduction

Pelvic organ prolapse (POP) is the descent of one or more portion of the pelvic organs; the anterior vaginal wall, posterior vaginal wall, the uterus (cervix), or the apex of the vagina (vaginal vault, post hysterectomy) often leading to descent of nearby organs along with vaginal wall or uterus (1). It is a common benign condition with serious implications in terms of reproductive morbidity among women. The condition affects millions of women worldwide. The exact prevalence of POP is difficult to estimate because of heterogeneity in diagnostic criteria used in different studies, varied clinical presentation as well as geographical and racial variation (2). On an average, it is reported that a woman has 12.6% lifetime risk of undergoing surgery for pelvic organ prolapse (3). In context of Nepal, it is one of the leading reproductive health morbidities among Nepalese women. Unlike in developed countries, where pelvic organ prolapse is a problem of postmenopausal women, POP is highly prevalent among younger women in developing countries. The condition affects more than 1 million women of Nepal with prevalence ranging from 8- 29% in different studies. Most women belong to reproductive age group (4-6). There occurs a well-established etiological association of pelvic organ prolapse with pregnancy and childbirth (7). In addition, age, menopause and genetics are considered as non-modifiable risk factors for this condition. Social factors like lower level of education, low socioeconomic status and comorbidities like obstructive airway disease, chronic constipation, obesity are also associated with pelvic organ prolapse (8). Although pregnancy and childbirth themselves are the independent risk factors, young age at delivery, extensive physical labor during pregnancy and immediate postpartum, lack of skilled birth attendants during labor, improper nutrition are

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also identified as causative factors for high prevalence of POP in countries like Nepal (9, 10).

The prolapse can affect one specific compartment of the vagina but commonly involves more than one and usually all three (anterior, apical or posterior) compartments (11). Anterior compartment is the most involved compartment. However, it is proven that any woman who has prolapse of any compartment beyond hymen (stage II or more) is always associated with some degree of apical support loss (12). Women presenting with symptomatic POP usually have stage II or greater prolapse where the leading edge of prolapse is beyond hymen. Consequently, stage II is the most common stage at which women seek medical care (13).

The clinical presentation of pelvic organ prolapse is varied. Most women present with the symptom of vaginal bulge while others present with symptoms involving bladder and bowel. Women may describe the bulge symptoms as "something coming down the vagina" or "vaginal fullness" or sometimes as "mass per vaginum". The urinary and bowel symptoms may be due to the direct effect of POP or more commonly symptoms of other associated pelvic floor disorders. The pain symptoms involving lower abdominal heaviness, perineal pain as well as sexual symptoms like loss of libido, dyspareunia, decreased sexual satisfaction are also commonly associated conditions. However, these concerns are not frequently expressed by patients due to social stigma (14). Even though the symptoms of POP are not life threatening, these symptoms greatly impair the quality of life affecting daily activities, causing social and financial burden as well as affecting sexual and psychosocial health (15). Therefore, timely identification of risk factors and stategeies for prevention of this condition is important.

Pelvic organs prolapse is a commonly encountered condition in day-to-day practice. Despite its wider prevalence, the number of cases that we observe in health care centers is the tip of the iceberg. Given that most of the studies on POP are from the developed countries and the local data from Nepal are community based, we need to evaluate if the patient profile and clinical presentation of women presenting to health facility are like the ones reported. This article aimed to assess the demographic profile and clinical presentation of pelvic organ prolapse at B.P. Koirala Institute of Health Sciences, Dharan, Nepal. The study also assessed how common are the suggested risk factors for pelvic organ prolapse in this population.

Methodology

This study was a hospital based descriptive observational study conducted at B.P. Koirala Institute of Health Sciences, Dharan, Nepal. It is a tertiary care center located in eastern Nepal. Women who visited gynecology out-patient department (OPD) or got admitted to gynecology ward from January- September 2021 with symptomatic pelvic organ prolapse were included in the study. Women presented with other symptoms but had prolapse on examination were also included and the specific symptoms of prolapse were inquired after examination. Women less than 18 years old and those women who did not give consent were excluded. An informed consent was taken from the participants. Detailed history regarding demographic variables - age, place of residence, ethnicity, education level, occupation was obtained. The details regarding reproductive variables like menstrual status, age at first childbirth, number of deliveries and place of delivery, resumption of heavy work postpartum was obtained. Information regarding presenting symptoms of pelvic organ prolapse like bulge symptoms, urinary symptoms, defecatory symptoms, sexual symptoms, pain, vaginal bleeding or discharge was also obtained. Details regarding risk factors: smoking, carrying heavy load was also obtained. The height and weight of the women were measured and BMI was calculated. Thorough systemic examination was performed and the findings were noted. Examination of pelvic organ prolapse was performed by standard technique. Presence of vaginal atrophy, perineal tears were noted. Presence of stress urinary incontinence was assessed with cough-stress test. The prolapse was staged according to POP-Q system and the predominant compartment involved was noted. The patients were managed as per the standard hospital protocol. The required information was collected in a pre-formed proforma. Data thus collected were entered in MS Excel spreadsheet and coded accordingly and analyzed using

computer software SPSS version 25. Descriptive statistics was used and results were presented as frequency and percentages for categorical data and mean± standard deviation for continuous data.

Results

Fifty women with symptomatic pelvic organ prolapse seeking treatment were included in the study and analyzed. The women were between the age 22-84 years with mean age of the women was 58.98 ± 13.38 years. Seventeen (34%) women were from hilly areas. The mean parity was 4.20 ± 2.09, one woman was nulliparous while 19 (38%) were grand multipara (parity ≥ 5). Only 16% were premenopausal. The baseline demographic and reproductive characteristics of women are presented in Table 1.

Table 1: Demographic and Reproductive Characteristics of Women with Pelvic Organ Prolapse

Characteristics	Frequency (%)/ Mean±SD
Age (years)	58.98 ± 13.38
Residence	
ill	3 (6)
Rural Hill	14 (28)
Urban Terai	23 (46)
Rural Terai	10 (20)
Ethnicity	
Dalit	4 (8)
Disadvantaged Janajati	22 (44)
Disadvantaged non-dalit Other Terai Caste	7 (14)
Religious Minorities	0 (0)
Relatively advantaged Janajati	1 (2)
Upper Caste Group	16 (32)
Education status	
Illiterate	34 (68)
Literate	7 (14)
Primary	4 (8)
Secondary	5 (5)
Occupation	
Housewife	30 (30)
Farmer	15 (15)
Service	3 (3)
Laborer	1 (2)
Business	1 (2)
Menopausal Status	
Premenopausal	8 (16)
Postmenopausal	42 (84)
Parity	4.20 ± 2.09
Nullipara (Parity 0)	1 (2)
Primipara (Parity 1)	3 (6)
Multipara (Parity 2-4)	27 (54)
Grand Multipara (Parity 5 or more)	19 (38)
Age at delivery of first child (years)	21.06± 2.90
Place of delivery	
Home	43 (87.8)
Health Institution	6 (12.2)
Postpartum resumption of household activities (days)	7.67 ±10.63

While analyzing the associated risk factors, 66% of women were overweight, 52% were accustomed to carrying heavy load and 20% were smokers. Nineteen (38%) women had comorbid condition, most common being Hypertension (20%) followed by Chronoic Obstructive Airway Disease (COAD) in 16%. The associated risk factors are summarized in Table 2.

Table 2: Associated Risk Factors for Pelvic Organ Prolapse

Associated factors	Frequency (%)/ Mean ±SD
Smoking	10 (20)
Carrying heavy loads	26 (52)
Comorbid conditions	19 (38)
COAD	8 (16)
Hypertension	10 (20)
Diabetes Mellitus	2 (4)
Chronic Constipation	3 (6)
BMI (Kg/m^2)*	25.37 ± 4.02
Underweight (< 18.5)	1 (2)
Normal weight (18.5-22.9)	16 (32)
Overweight (23-27.5)	33 (66)

Note: *Cut off for Asian Population is used (16).

The most common presenting symptom was awareness of vaginal bulge or vaginal mass in 88% women. The urinary symptoms were associated in 58% and decfecatory symptoms in 16%. Among the urinary symptoms, most common was feeling of incomplete voiding in 55% of those with urinary complaints. Table 3. depicts the presenting symptoms of pelvic organ prolapse while the types of urinary symptoms are presented in Figure 1.

Table 3: Presenting Symptoms of Pelvic Organ Prolapse

Symptoms	Frequency (%)
Awareness of Vaginal Bulge or mass	44 (88)
Urinary Symptoms	29 (58)
Defecatory Symptoms	8 (16)
Sexual Symptoms	3 (6)
Low back/ abdominal pain	10 (20)
Pain at vulva	9 (18)
Abnormal Vaginal Bleeding	7 (14)
Vaginal Discharge	7 (14)

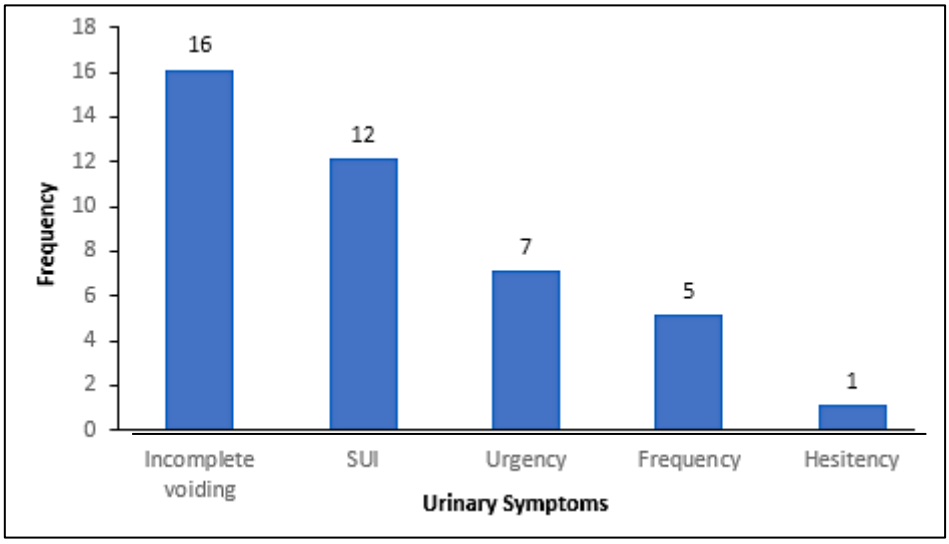


Figure 1: Urinary Symptoms in Pelvic Organ Prolapse

As presented in Table 4. Most of the women (50%) had POP-Q stage III prolapse followed by stage II in 34%. Anterior compartment defect was the most frequently involved. Anterior compartment defect was present in 92% of women and was predominant defect in 48% women.

Table 4: Type Of Defect and Stage of Pelvic Organ Prolapse

Type and stage of POP	Frequency (%)
Stage of the prolapse	
Stage I	1 (2)
Stage II	17 (34)
Stage III	25 (50)
Stage IV	7 (14)
Predominant compartment defect	
Anterior	24 (48)
Apical	22 (44)
Posterior	4 (8)
Compartments Involved	
Anterior	46 (92)
Apical	39 (78)
Posterior	27 (54)
Signs of vaginal atrophy	22 (44)

Discussion

Pelvic organs prolapse is a common pelvic floor disorder encountered in women worldwide. The study summarizes the demographic profile, risk factors, presenting features and type of pelvic organ prolapse. The mean age of presentation was 58 years with most women were from terai belt (66%) and were working as housewife or farmer. More than 90% were multiparous with mean age at first child delivery being 21 years. One woman presented with vaginal bulge symptom was nulliparous and had stage I anterior descent. All the patients had history of early resumption (less than 42 days) of household work in postpartum period. Majority (84%) were postmenopausal. Smoking, heavy weightlifting, high BMI were the associated risk factors identified in some women.

The mean age of presentation is higher in our study as compared to other studies from Nepal (6, 9). While most of those studies are community-based screening studies, ours is a hospital-based study and it may not represent the actual scenario at community. However, the age we reported may be mean age when women develop bothering symptoms and seek medical advice. Advancing age itself has been identified as risk for POP. The effect of age may be due to the factors like menopause leading to estrogen deficiency, laxity of the pelvic muscles and osteoporotic changes, co-morbid conditions.

Pregnancy and childbirth are well established risk factors for development of pelvic organ prolapse. The pregnancy itself has negative effect on pelvic floor and support to pelvic organs because of its hormonal effects, connective tissue changes in uterus, cervix, vagina and perineal body (17). Vaginal delivery adds on damage to the levator ani by direct trauma as well as be affecting the nerve supply (18). Therefore, high order parity is risk factor for development of POP as we have observed the mean parity 4.20 ± 2.09 and more than 90% multiparous women with 38% grand multipara. The effect of this obstetric event is further aggravated by young age at delivery, poor nutrition, unsupervised deliveries, lack of proper rest and care and early resumption of heavy work in postpartum period (19). The mean age of delivery of first child in women included in our study was 21.06± 2.90 years with some women having vaginal delivery as early as 16 years. Though early age of delivery has been reported as risk factor for developing POP, older age at first delivery is also identified as risk for POP. It was found that with each year increase in age at first delivery, there is 6% increase in risk for developing prolapse (20). Almost 90% women had their deliveries at home without proper supervision. All women resumed their regular household chores within 30 days of delivery with

some returning to work on the next day of delivery. Other modifiable risk factors for POP are obesity, chronic obstructive airway disease, chronic constipation, smoking. Two third of our patients were overweight. This is in contrast to other studies from Nepal where the median weight of women with prolapse was 45 kg (9).

Women with pelvic organ prolapse may present with mechanical symptoms only, like feeling vaginal mass or bulge or may have multiple symptoms involving bladder and bowel function. However, awareness of vaginal bulge is most common as well as most specific presenting symptom of pelvic organ prolapse (21). Bulge symptom was the most common symptom in women in our study also followed by urinary symptoms. Among the urinary symptoms, obstructive voiding symptoms are common. These obstructive conditions lead to increased residual urine which might be reason for recurrent urinary tract infection in women with POP (22). Urinary incontinence is also commonly associated with pelvic organ prolapse with as much as 60% women with prolapse having urinary incontinence (23).

Most of the women were having stage III prolapse at presentation. While most studies report that most women have stage II prolapse at presentation (24, 25), studies from Nepal reported stage III prolapse to be common among study population (9, 26) This might be representative of health seeking behavior of Nepalese women. As reported by other the studies (12, 25), the most common compartment involved in our study was anterior compartment followed by apical and posterior compartment. Also, the predominant defect in most of the women was anterior defect. This might be the reason for higher frequency of urinary symptoms in our participants.

The study shows some light on clinical presentation of pelvic organ prolapse at a tertiary care center. However, the study is limited by small sample size. The reason behind this small sample was because the study was carried out during Covid pandemic when most women with benign gynecologic condition prefer not to visit hospital in fear of contracting Covid-19.

Conclusion

Women seeking treatment for pelvic organ prolapse are mostly postmenopausal women with high parity from Terai belt of Nepal. Vaginal bulge symptom was the most reported symptom. Most women presented at stage III and with anterior compartment defect. Multiparity, early age at first childbirth and early resumption to household work in postpartum period were common among women with prolapse. Therefore, preventive measures should focus in addressing these factors. Regular screening programs in community may help to diagnose prolapse in early-stage obviating the need of surgical management. However, larger comparative studies will be required to prove the association between the risk factors as well as understand the epidemiology of prolapse better.

Abbreviations

COAD: Chronic Obstructive Airway Disease, POP: Pelvic Organ Prolapse, POP-Q: Pelvic Organ Prolapse Quantification, OPD: Outpatient Department.

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Author Contributions

Tulasa Basnet, Shamini Chaudhary: Conceptualize the Study, Literature Review, Data Collection, Formulation of Draft; Mohan Chandra Regmi, Achala Thakur: Supervise the Study, Review of Draft; Baburam Dixit Thapa: Data Collection, Analysis; Anamika Das, Subhadra Agrawal, Deepa Shah: Data Collection, Review of Manuscript.

Conflict of Interest

The authors declare no personal or financial conflict of interest.

Data Availability

The data supporting the findings of this study are available from the corresponding author upon reasonable request.

Declaration of Artificial Intelligence (AI) Assistance

No AI tools were used for the preparation of this manuscript.

Ethics Approval

The study was conducted after ethical approval from Institution Review Committee (IRC no: 348/077-078- IRC). Informed consent was obtained from the participants for enrollment in the study.

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