

Clinical Profile of Patients of Pelvic Organ Prolapse and Its Associated Factors

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ABSTRACT

Background: Prolapse is among the most common indication for gynaecological surgery. It is difficult to estimate prevalence of pelvic organ prolapse even in developed countries due to lack of epidemiological studies. This study was done to find the prevalence, risk factors and common presenting complaints of women with pelvic organ prolapse.

Methods: Women with pelvic organ prolapse visiting Paropakar Maternity and Women's Hospital during 4 months duration in 2021 were approached and after obtaining an informed consent, all the patient information on various risk factors and clinical profile (age, parity, body mass index, smoking etc.) for pelvic organ prolapse were collected in a pre-developed proforma. Pelvic Organ Prolapse was classified by Pelvic Organ Prolapse Quantification system. Data analysis was done using statistical package for the social sciences-25. Ethical approval was taken from Institutional Review Committee- National Academy of Medical Sciences.

Results: Out of 58 cases enrolled in the study, prevalence of pelvic organ prolapse was found to be 1.28%. Women belonging to age group ≥ 49 years was 91.4%. Bulge symptom was the most common presenting complaint among the women, 98.3%. 50% of women (n=29) were grand multipara. 53.4% (n=31) of women had delivered their first baby before 20 years of age. Multiparity, vaginal birth and menopausal age were the common risk factors.

Conclusions: Menopausal age, multi-parity, vaginal births, age at first vaginal delivery of less than 20 years were significant risk factors for development of prolapse. Bulge symptom was the most common presenting complaint. However, Smoking habit, overweight were not related to pelvic organ prolapse.

Keywords: Pelvic organ prolapse; prevalence; risk factors

INTRODUCTION

Pelvic organ prolapse (POP) is a common reproductive morbidity affecting women which can lead to genital tract dysfunction and diminished quality of life.¹ Pelvic organ prolapse affects millions of women world-wide. In the United States, it is the third most common indication for hysterectomy. A woman has an estimated cumulative lifetime risk of 12 percent to undergo surgery for POP.² According to the Nepal Demographic and Health Survey (2011), 6% of the women of the reproductive age group (15-49 years) were suffering from POP.³

Vaginal childbirth is the most frequently cited risk factor, in the Pelvic Organ Support Study, increasing parity was associated with prolapse risk.⁴ Reported obstetric risk factors for POP in Nepal included lifting heavy loads in postpartum period, and early resumption of work after delivery.⁵ This study was done to find out the clinical profile of patients with POP and its associated factors

so that we could plan for management and advice preventive measures for reduction of burden of this disease in our country.

METHODS

This is a cross sectional study. Following approval from Institutional Review Board (IRB) of National Academy of Medical Sciences (NAMS) and Institutional Review Committee (IRC) of Paropakar Maternity and Women's Hospital (PMWH), this observational study was conducted at Paropakar Maternity and Women's Hospital, Thapathali. A written informed consent was obtained from the women who were diagnosed with symptomatic pelvic organ prolapse for enrollment in the study. Proforma was made including the questionnaire such as age, ethnicity, occupation, education status, symptoms and duration of illness. Risk factors such as body mass index, smoking, parity, age at first delivery were included. Associated factors such as

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decubitus ulcer and perineal laxity were also included. Women who came for pregnancy confirmation and having severe morbidity such as urogenital carcinoma, and respiratory failure were excluded from the study. POP was classified on the basis of Pelvic Organ Prolapse Quantification (POP-Q) classification system.⁶ Sampling was purposive/non-probability sampling. Data collection was started from July 16 till November 16, 2021 and 58 questionnaire were completed. Data information was entered directly from the completed questionnaire into master chart and dataset of Statistical Package for the social science (SPSS) version 25. Data entry was done at regular intervals. The result of data was depicted as tables, diagrams and chart. Data analysis was carried out using SPSS version 25. Frequencies of relevant variable were determined. Appropriate statistical test was carried out for testing the significance (p-value is considered significant if it is <0.05).

RESULTS

Total number of gynecological cases who visited in gynaecological outpatient department during the period of four months from July 16-November 16, 2021 (Shrawan 1 to Kartik 30, 2078 BS) were 4526. Among them 58 cases were of pelvic organ prolapse. Prevalence of pelvic organ prolapse among total gynecological cases during the study period was 1.28%.

Women belonging to age group ≥ 49 years was 91.4%. Only 36.2% of the women were literate. Majority of women were from Brahmin ethnicity, 32.8%, next to it were from Mongolian ethnic group, 22.4% and then from Newar community, 15.5%, Next 15.5% of women were grouped in other ethnic group like Sarki, Mandal, Khatoon, B.K. Remaining 13.8% of women were from Chhetri community (Figure 1).

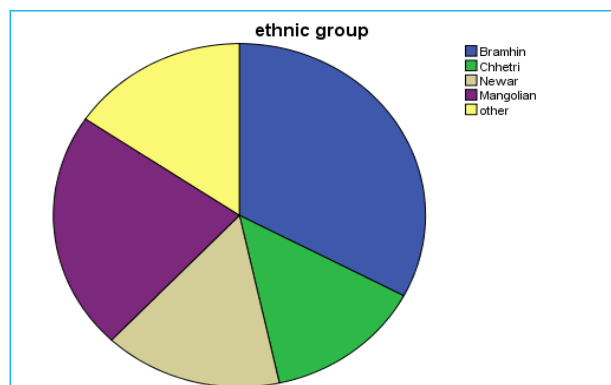


Figure 1. Pie chart showing ethnic group of patients of POP.

Majority of patients were from hills, 82.8% (n=48), then

from terai, 13.8% (n=8) and only 3.4% (n=2) were from mountain region. Majority of woman, 69% (n=40) were housewife with early onset of household work after delivery (before 6 weeks postpartum).

Bulge symptom was the most common presenting complain among the women, 98.3% (n=57) but along with bulge symptom there were associated complains and pelvic pain was the most common associated complain which was seen in 32.8% of women. 29.3% of women had urinary incontinence along with bulge symptom. Digital decompression was required in 17.2% of women (n=10). However sexual dysfunction was a complain only in 3.4% of women (Table 1).

Table 1. Presenting complain of patient with pelvic organ prolapse.

Presenting complains	Responses		Percent of Cases
	n	Percent	
Bulge symptom	57	52.80%	98.30%
Constipation	3	2.80%	5.20%
urinary incontinence	17	15.70%	29.30%
Digital decompression	10	9.30%	17.20%
pelvic and back pain	19	17.60%	32.80%
Sexual dysfunction	2	1.90%	3.40%
Total	108	100.00%	186.20%

Majority of the women, 43.1% (n= 25) of women were having symptoms of pelvic organ prolapse for more than 10 years. However, it was seen that 34.5% of women (n=20) presented to our hospital before 5 years of having symptoms. Remaining 22.4% of women were having symptoms in between 5-9 years. 50% of women (n=29) were grand multipara with more than or equal to five parity. Then 44.8% of women were with parity 2-4 whereas one woman was nulliparous and remaining 3.4% of women (n=2) were with one parity history. All parous women enrolled in this study had vaginal delivery, 98.3% (n=57), no data was found regarding cesarean delivery and instrumental delivery. One woman was unmarried and nulliparous. It was found that 53.4% (n=31) of women had delivered their first baby before 20 years of age. Remaining 44.8% of women had their first delivery after 20 years of age (Figure 2).

Among the women enrolled in the study, 36.8% of women were found to have chronic medical illness (chronic hypertension, diabetes mellitus). Smoking whias been accepted as one of the risk factor for pelvic organ prolapse was seen among 23.7% (n=9) of women however COPD was present in among 15.8% of women. 18.4% of women had history of surgical intervention in the past

like open cholecystectomy and mini-laparotomy. Among 58 women, 58.6% (n=34) women were of body mass index range less than 25 kg/m², however remaining women had body mass index of more than or equals to 25 kg/m².

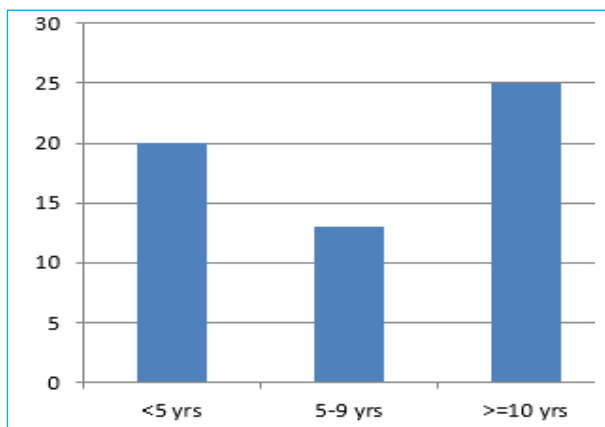


Figure 2. Bar diagram showing duration of Pelvic Organ Prolapse.

Table 2. Parity and degree of pelvic organ prolapse.

	Parity	Grading of POP			p value
		II	III	IV	
	Nulli	0	1	0	0.909
	para 1-2	0	2	0	
	para 4	6	17	3	
	≥ 5	4	22	3	
Total		10	42	6	

Table 3. Decubitus ulcer and degree of pelvic organ prolapse.

	Decubitus ulcer	Grading of POP			P value
		II	III	IV	
	Yes	0	5	3	0.015
	No	10	37	3	
Total		10	42	6	

As shown in table 2, relation of parity and degree of POP which was statistically not significant (p>0.05). As shown in Table 3, relation of decubitus ulcer with degree of POP and it was statistically significant (p<0.05).

DISCUSSION

One of the most widespread reproductive health problems in Nepal is pelvic organ prolapse with over 1 million of Nepalese women suffering from this disease.⁷ In a descriptive analysis study done by in mobile reproductive health camps in eastern terai found that

20.1% of women visiting the camp were having pelvic organ prolapse.⁸ The most common reported causes of uterine prolapse in Nepal are extensive physical labor especially during and after pregnancy, low availability of skilled birth attendants and rapid succession of pregnancies and malnutrition due to lack of nutritious food.^{9,10}

In this study the prevalence of pelvic organ prolapse was found to be 1.28 % of total 4526 gynaecological cases who attended GOPD during the study period. A hospital based study from maternity hospital, Thapathali in 1997, reported the prevalence of POP was 9.6% among 1147 patient attending gynaecologic clinic.¹¹ Similarly another hospital based study done in same hospital reported in 2013 reported that the prevalence POP was 6.03%.¹²

This finding could reflect the fact that the number of prolapse cases coming to hospitals has relatively declined due to free prolapse surgeries provided in camps and government hospitals by Nepal government over last 14 years. But another reason could be COVID-19 pandemic from the year 2019 when we had lockdown for months in first and second wave due to which gynaecological case load in the hospital was decreased for various reasons.

In this study, majority of women with pelvic organ prolapse were from Brahmin ethnicity (32.8%), then from Mongolian ethnicity (22.4%) and then from Newar ethnicity (15.5%). This finding is comparable to a study conducted in western Nepal by UNFPA (2002) where 90% of women were Brahmin and Chhetri.¹³ Though Brahmin ethnicity is known to be relatively advantaged ethnic group in various aspect in the society compared to other ethnicity like janajatis and dalits who are socially more excluded and disadvantaged group, POP is seen more common among them.

But this finding is quite contrast to to another hospital based study done by Barbara et al in Iwamura hospital in 2007 which showed that majority of women with uterine prolapse were of Newari origin (84%).⁷ This could be because of higher number of Newari population in Bhaktapur district. Majority of the patient enrolled in the study were illiterate (63.8%). ARROW study reported that 77.27% of women with POP were illiterate and only 10% of women had completed their primary school level.¹⁴ These findings suggest that education status of women is one of the important factor in development and progression of prolapse. Also, illiterate people mostly lacks health care seeking behaviours .

In this study majority of women were housewives (69%) and farmers (29.3%). There was only one women working

in office. In a study by Darsan A et al¹², majority of women (48.4%) with POP were farmers whereas 18.9% of them were wage laborers together with farming.¹⁴ In another study done at Maternity hospital, Kathmandu in 2013, majority of women with POP were farmers (44.6%), housewives (35.6%) and laborers (19%).

In the present study, majority of women had their first delivery before they were 20 years of age (54.4%). This finding can be compared to CAED study, where they found 65% of women with POP had their first childbirth in less than 20 years of age including 4% of women who gave birth to their first child under the age of fifteen. Childbirth at young age leads to prolapse in early years.⁹ According to Nepal Demography and Health Survey (2006), 60% of women are married by the age of 18 years and 40% of Nepalese women have given birth to at least one child by the age of nineteen.³ In a study done by Ganesh Dangal et al in mobile health camps in eastern Nepal found that majority of women (60%) developed pelvic organ prolapse after first and second child birth.⁸

In this study all women had vaginal delivery and as per the history given by them most of the delivery were at home, attended by family members and relatives. In a study done in maternity hospital in 2013, 86.7% of women with POP had spontaneous vaginal delivery at home, 13.1% had hospital delivery and most of the deliveries were not supervised by any medical personnel (73.6% vs 13.2%).¹² Similar finding was observed in another study done by Darsan et al in TUTH about 89% of women had deliveries at home compared to 11% at hospital.¹⁴

Scenario has significantly improved in recent years because of various programs of Nepal Government in reproductive health like "Aama Surakshya program" and so on. Previously, in most of the rural Nepal, birth used to be perceived as a natural event and no special preparedness done before, during and after the delivery. Such behaviour hinders the need and importance of institutional delivery, importance of rest after delivery.¹⁵

Multiparity is often attributed as one of the risk factor for POP. In this study, 50% of women had parity more than or equal to 5 (grand multipara) and 44.8% of women had parity 2-4 (multiparity). In a study done by Madhusudan Subedi reported that 30.4% had prolapse after first childbirth, 44.9% noted after second childbirth and the mean age of women developing prolapse was 27.91 years.¹⁵ In a longitudinal study done by Dhital et al, 2013 found that women with POP had higher parity (mean =5.3, SD=2.17 as compared to women without POP (mean=2.7, SD=1.71, p<0.001).¹⁶ This study supported that increasing number of parity was associated with

increasing incidence of POP and similar finding has been shown by various studies.

Majority of women in this study presented with bulge symptom (98.3%) and there was association of other symptoms with bulge symptom. Pelvic and back pain was another common associated symptom seen in 32.8% of women. Remaining had mostly urinary symptoms like increased frequency and stress urinary incontinence. In this study majority of the women, 43.1% (n= 25) of women were having symptoms of POP for more than 10 years. However, it was seen that 34.5% of women (n=20) presented to our hospital before 5 years of having symptoms. Most of the hospital based study and community based study also had shown heaviness of vagina, back pain and urinary symptom as the major presenting symptom and duration also ranged from 5-20 years.^{10,14} Because of various awareness program and free surgery services provided by the government, scenario have quite changed recently that patient have started presenting to hospital early compared to few years back.

In this study 58.6% of women with POP had BMI less than 25 kg/m². In a clinical review paper of Doshani et al, women who are overweight with body mass index of more than 25-30 kg/m² and obese with body mass index of more than 30 kg/m² have high risks of prolapse.¹⁷ In this study normal weight women is seen to have more frequency of prolapse which is contrast to other study. Since most of the people enrolled were from rural areas and people living in rural areas are not overweight or obese in our country probably because of more physical work also because of lack of nutritious food, poverty etc. Also majority of patient were from hilly region and BMI significantly didn't contributed to the number of prolapse cases, as the cause of prolapse was more profoundly seen in hilly area due to more physical work rather than obesity.¹²

In this study 91.4% of women belongs to menopausal age group (>49 years). Karam et al concluded after his study in six nulliparous women with premature ovarian failure that estrogen deficiency alone in the absence of aging and previous child birth was of minimal significance in the maintenance of continence.¹⁸ In this study majority of women were menopause and there were various other associated risk factors as well. Data between degree of prolapse and age was also statistically not significant (p>0.005, i.e 0.353).

In this study decubitus ulcer seen in 13.79% of cases (among having 2nd degree and 3rd degree) POP. Various studies has shown significant relationship between

decubitus ulcer and degree of POP. In this study perineum laxity was seen in 46.6% of women. In a study done by Klingele et al found that excessive perineal descent was associated ($p < .01$) with pelvic organ prolapse.¹⁹

This study was carried out in a small sample for a short duration of period. Some of the associated risk factors (obstetrics and non-obstetrics) could not be studied like in this study all had given birth vaginally so no data regarding instrumental delivery and cesarean delivery could be obtained. Also no data regarding connective tissue disorder could be obtained. Majority of the patient in this study were from poor socioeconomic background, so no data could be obtained regarding women belonging to high socioeconomic status and relation to pelvic organ prolapse. There is a high chance of recall bias as majority of women were elderly, illiterate and it was too difficult for them to remember their pregnancy details and other history.

CONCLUSIONS

Prevalence of Pelvic Organ Prolapse among the gynecological cases who visited PMWH was 1.28% in given period which seems to be quite low compared to previous studies done in same hospital. Most of the women had IIIrd degree pelvic organ prolapse (72.4%).

Menopausal age, illiteracy, multi-parity, vaginal births, age at first vaginal delivery of less than 20 years, home delivery, lax perineum were risk factors for development of prolapse. However, smoking habit, COPD, overweight were seems to be less related to pelvic organ prolapse. Common presenting complaints were bulge symptom alone or in association with pelvic pain and urinary symptoms. Decubitus ulcer was associated in 13.8% of cases and lax perineum was seen in 46.6% of cases.

Education and awareness programs about female health especially in the rural areas could bring more change in the various risk factors like early marriage, multi-parity, first vaginal birth at early age and home delivery.

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CONFLICT OF INTEREST

The authors declare no conflict of interest

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