

## Original Article

# Assessment of Risk Factors and Outcome of Operative Procedures of Genital Prolapse

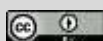
DOI: dx.doi.org

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Received: 21 November 2023  
Accepted: 27 November 2023  
Published: 28 November 2023

Published by:  
Sheikh Sayera Khatun Medical  
College (SSKMC), Gopalganj,  
Bangladesh

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## ABSTRACT

**Introduction:** Genital Prolapse is a common gynecological problem, especially in developing countries. There is a scarcity of information on genital prolapse in our country and research works based on post-operative outcomes are very few. So, this study aimed to analyze the risk factors & outcome of operative procedures of genital prolapse.

**Methods and materials:** This cross-sectional study was conducted at the Department of Obstetrics and Gynecology Department of Shaheed Tajuddin Ahmad Medical College Hospital, Gazipur, Bangladesh. The study was conducted from July 2019 to December 2019. All data was collected by interview, physical & lab examination using a structured questionnaire containing all the variables of interest. After data collection, statistical analysis was done by statistical package for social science (SPSS) software.

**Result:** It was observed that history of abdominal surgery was found in 6(6%) patients, vaginal delivery was found in 100 (100%) patients, home delivery was in 90 (90%), the majority 44(44%) patients had prolonged labor during delivery, and 2% had instrumental delivery. In this study, 80(80%) patients had 2<sup>nd</sup> degree of uterine prolapses, 15(15%) patients had 1<sup>st</sup> degree & only 5(5%) patients had 3<sup>rd</sup> degree of uterine prolapses. **Conclusion:** The study concluded that most of the cases of genital prolapse were acquired in nature and mainly related to childbirth injuries. The patients with genital prolapse mostly were in the 6<sup>th</sup> decade. Moderate cystocele, moderate rectocele, and urethrocele

(The Insight 2023; 6(1): 187-197)

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*stress incontinence were more frequent conditions of the patients.*

**Keywords:** *Genital Prolapse, Prolonged Labor, Parity, Hysterectomy*

## INTRODUCTION

Genital Prolapse is a common gynecological problem especially in developing countries. According to World Health Organization, approximately 33% of the total global burden of disease is related to reproductive health [1]. In the United Kingdom, genital prolapse accounts for 20% of women [2]. A cohort study with more than 17000 women (aged 25-39) carried out in England & Scotland shows that the incidence of prolapse (with at least one hospital admission with the prolapse problem) is 2.04 per 1000 person-years of observation. The annual incidence of surgery for prolapse is 16.2 per 10000 [3]. A study carried out by a women health initiative in the United States among 27342 participants, forty percent (40%) had some degree of prolapse and 14% were diagnosed with uterine prolapse [4]. Pelvic organ prolapse (POP) refers to the protrusions of the pelvic organs into or out of the vaginal canal [5]. POP is a disease in which one or more of the female pelvic organs, such as the bladder, uterus, vaginal cuff, rectum & intestine, descend through the vagina [6,7]. POP is related to various symptoms such as urinary incontinence, voiding dysfunction, frequency, dyschezia, pelvic heaviness, prolapse sensation, vaginal pain & low back pain [8,9]. The severity of the uterine prolapse is divided into three degrees [10]. First Degree: The cervix protrudes into the lower third of the vagina. Second Degree: The cervix protrudes past the vaginal opening. Third Degree: The entire uterus protrudes past the vaginal opening. Nowadays, to make a

more precise description, a quantitative measurement system of the pelvic organ prolapse (POP) is being used which is known as the POP-Q system [10]. Uterine & genital prolapse may rarely be caused by congenital weakness of the pelvic floor. The strongest risk factor for pelvic organ prolapse (POP) is parity, because childbirth can cause damage to the pudendal nerves, fascia & supporting structures as well as muscle [3,11,12]. Genital prolapse is caused by the damage of the pelvic floor during vaginal deliveries especially those with protracted labor, instrumental deliveries (forceps, vacuum extraction) & home vaginal delivery of large babies. Once the prolapse is established it is more difficult to control with only medication exercise or pessaries. More than 50,000 Bangladeshi women are currently suffering from POP, which affects their quality of life in numerous ways. The country has no strategic health plan or intervention program for screening and management of POP. Proper management during the second stage of labour, avoiding instrumental deliveries preventing prolapse in the long term. The condition that increases intra-abdominal pressure such as constipation, obesity, and chronic cough should be treated for the primary or secondary prevention of prolapse. Pelvic floor exercise after childbirth can be helpful [13,14]. There is a scarcity of information on genital prolapse in our country and research works based on post-operative outcomes are very few. While concerns relating to genital prolapse are important to women's health and social

well-being, none of the available health facilities is particularly attenuated to addressing the needs. Therefore, developing health care services considering women's explanatory models could be of importance for providing a healthier, happier, and more productive life for women. Keeping that issue in mind, a different perspective of genital prolapse is to be brought into light, as beyond being a health-related problem, it has got some social & psychological disruptions as well. The present study is designed to find out the risk factors & outcome of operative procedures of genital prolapse.

## **OBJECTIVE**

### **General Objective**

- To determine the risk factors & outcome of operative procedures of genital prolapse.

### **Specific Objectives**

- To evaluate the sociodemographic risk factors.
- To determine the relationship between parity & genital prolapse.
- To identify the precipitative factors.
- To find out the complications after the operation.
- To evaluate the relief of symptoms 7 days after the operation.

## **METHODS & MATERIALS**

This cross-sectional study was conducted at the Department of Obstetrics and Gynaecology department of Shaheed Tajuddin Ahmad Medical College Hospital, Gazipur, Bangladesh. The study

was conducted from July 2019 to December 2019. 100 patients with genital prolapse who attended outdoors, and indoor, admitted for surgery in the Department of Obstetrics and Gynaecology Shaheed Tajuddin Ahmad Medical College Hospital were included in this study. A conventional Type of sampling technique was followed in this study. Patients with genital prolapse were recruited for the study purposively. The patients were evaluated by detailed history, thorough physical examination & relevant laboratory investigations. The maximum extent of prolapse was clinically measured during a Valsalva maneuver or coughing & was confirmed by the patients as being the most severe protrusion. The post-operative outcome was determined by evaluation of complications developed after the operation. Written informed consent to participate in this study was taken. Data was collected by interview, physical & lab examination using a structured questionnaire containing all the variables of interest. After data collection, statistical analysis was done by statistical package for social science (SPSS) software. The research protocol is approved by the thesis committee (Local Ethical Committee).

### **Inclusion Criteria**

- Patients of 50-70 years of age.
- Patients having genital prolapse.
- Patients who had given consent to participate in the study.

### **Exclusion Criteria**

- Patients with vault prolapse.
- Patients who had elongated cervix.
- Patients who did not give consent to participate in the study.

**RESULTS****Table I: Socio-demographic status of the patients (N=100)**

Particulars of the patients	N	%
<b>Age (years)</b>		
<b>51-60</b>	65	65.0
<b>61-70</b>	35	35.0
<b>mean±SD</b>	59.0±5.4	
<b>Range (min, max)</b>	(50,70)	
<b>Educational status</b>		
<b>Illiterate</b>	85	85.0
<b>Signature</b>	14	14.0
<b>Primary</b>	1	1.0
<b>Marital status</b>		
<b>Living with husband</b>	52	52.0
<b>Husband living abroad</b>	1	1.0
<b>Widow</b>	47	47.0
<b>Occupational status</b>		
<b>Housewife</b>	72	72.0
<b>Day laborer</b>	18	18.0

Table I shows particular patients. It was observed that 65 (65%) patients belonged to 51-60 years. The mean age was found  $59 \pm 5.4$  years with a range from 50 to 70 years. Regarding the Educational status of the patients, 85(85%) patients were illiterate. Regarding Marital Status more than half 52 (52%) Patients were living with their husband and 47 (47%) patients were widows. Regarding occupational status, Three Fourth 72 (72%) Patients were Housewives, 18(18%) were day laborers and 10 (10%) were workers.

**Table II: Nutritional Status of the patients (N=100)**

Nutritional Status	N	%
<b>Underweight</b>	23	23.0
<b>Average Body Weight</b>	67	67.0
<b>Obese</b>	10	10.0

Table II shows that 23% of patients were Underweight, 67% of patients had average body weight and 10 % were obese.

**Table III: Distribution of the study population by parity and number of living children (N=100)**

Parity	N	%
<b>1 (primipara)</b>	2	2.0
<b>2-4(multipara)</b>	53	53.0
<b>≥5 (grand multipara)</b>	45	45.0
<b>Number of living children</b>		
<b>1-2</b>	10	10.0
<b>3-4</b>	48	48.0
<b>≥5</b>	12	12.0
<b>Mean ±SD</b>	4.98±2.3	
<b>Range (min, max)</b>	(1, 10)	

Table III shows the parity and number of living children of the patients. It was observed that primipara was found 2(2%) multipara were 53 (53%) and grand multipara was 45 (45%). Regarding the number of living children, 1-2 children were found 10(10%) patients, 3-4 children were 48 (48%) and  $\geq 5$  children were 42 (42%)

patients. The mean number of living children was found  $4.98 \pm 2.3$ .

**Table IV: Distribution of the study population by age of last child (N=100)**

Age of the last child (years)	N	%
<5	3	3.0
5-10	26	26.0
11-18	25	25.0
>18	46	46.0
Mean $\pm$ SD	16.69 $\pm$ 8.6	
Range (min, max)	(3, 30)	

Table IV shows the age of the last child of the patients. It was observed that the majority 46(46%) patients had the last child >18 years. The mean age of the last child was found  $16.69 \pm 8.6$  years with a range from 3 to 30 years.

**Table V: Distribution of the study population by clinical characteristics (N=100)**

Clinical characteristics	N	%
Abdominal surgery history	6	6.0
<b>Mode of delivery</b>		
Vaginal	100	100.0
Cesarean section	0	0.0
<b>Place of delivery</b>		
Home	90	90.0
Hospital	10	10.0
<b>Complication during delivery</b>		
Prolonged labor	44	44.0
Obstructed labor	12	12.0

<b>Precipitate labor</b>	24	24.0
<b>Instrumental delivery</b>	02	2.0
<b>Obesity</b>	10	10.0

Table V shows the clinical characteristics of the patients. It was observed that a history of abdominal surgery was found in 6(6%) patients, vaginal delivery was found in 100 (100%) patients, home delivery was in 90 (90%), majority 44(44%) patients had to prolong labor during delivery and 2% had instrumental delivery.

**Table VI: Type of work done by the patient during puerperium (N=100)**

Type of work	N	%
<b>Light work</b>	8	8
<b>Moderate Work</b>	32	32
<b>Heavy Work</b>	60	60

Table VI shows that 60% of patients did heavy work during puerperium, 32% did moderate work and only 8% did light work.

**Table VII: Presence of other precipitating factors (N=100)**

Etiology	N	%
<b>Chronic Cough</b>	20	20
<b>Chronic Constipation</b>	15	15
<b>Heavy Physical Work</b>	31	31
<b>Family History</b>	22	22

Table VII shows that 31% of patients were engaged in heavy physical activities, 22% of patients gave a family history of genital prolapse, 20% suffered from chronic cough, and 15 % suffered from chronic constipation.

**Table VIII: Birth attendant during delivery (N=100)**

Birth Attendant	N	%
Untrained birth attendant	85	85
Trained birth attendant	15	15

Table VIII shows 85% of patients were delivered by an untrained birth attendant and only 15% were attended by a trained person

**Table IX: Distribution of the study population by presenting symptom (N=100)**

Presenting symptoms	N	%
Felt like something coming down	100	100.0
Frequency of micturition	92	92.0
Burning during micturition	41	41.0
Retention of urine	20	20.0
Difficulty in emptying the bladder	53	53.0
Stress incontinence	38	38.0
Constipation	45	45.0
Backache	51	51.0
Dragging pain in the lower abdomen	25	25.0

White discharge	22	22.0
Irreducible prolapse	5	5.0

Table IX shows the presenting symptoms of the patients. It was observed that 100(100%) patients had feeling of something coming down, 20(20%) had retention of urine, 92(92%) had frequency of micturition, 51(51%) had backache, 53(53%) had difficulty in emptying bladder, 41(41%) had burning during micturition, 45(45%) had constipation, 38(38%) had stress incontinence, 25(25%) had dragging pain in lower abdomen, 22 (22.0%) had white discharge and 5 (5%) had irreducible prolapse.

**Table X: Distribution of the study population by degree of prolapse (N=100)**

Degree of prolapse	N	%
2 <sup>nd</sup>	80	80.0
1 <sup>st</sup>	15	15.0
3 <sup>rd</sup>	5	5.0

Table X shows the degree of uterine prolapses in patients. It was observed that 80(80%) patients had 2<sup>nd</sup> degree uterine prolapses, 15(15%) patients had 1<sup>st</sup> degree & only 5(5%) patients had 3<sup>rd</sup> degree uterine prolapses.

**Table XI: Distribution of the study population by examination findings (N=100)**

Condition	N	%
Cystocele		
Mild	03	3.0

<b>Moderate</b>	90	90.0
<b>Severe</b>	07	7.0
<b>Rectocele</b>		
<b>Mild</b>	31	31.0
<b>Moderate</b>	69	69.0
<b>Severe</b>	0	0.0
<b>Urethrocele</b>	27	27.0
<b>Decubitus ulcer</b>	36	36.0
<b>Stress incontinence</b>	40	40.0
<b>Elongation of cervix</b>	17	17.0

Table XI shows the condition of the patients. It was observed that 90 (90%) patients had moderate cystocele, 69(69%) patients had moderate rectocele, 27(27%) patients had urethrocele, 36(36%) had decubitus ulcer, 40(40%) had stress incontinence and 17 (17%) had an elongation of the cervix.

**Table XII: Surgical management of the study population (N=100)**

<b>Name of operation</b>	<b>N</b>	<b>%</b>
<b>Vaginal hysterectomy with anterior Colporrhaphy &amp; posterior colpoperineorrhaphy</b>	70	70.0
<b>Anterior colporrhaphy</b>	15	15.0
<b>Posterior colpoperineorrhaphy</b>	5	5.0
<b>Pelvic floor repair</b>	10	10.0

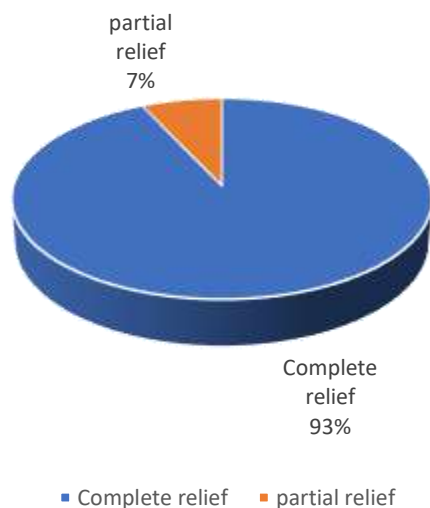
Table XII shows the management of the study population by vaginal hysterectomy with anterior colporrhaphy and posterior colpoperineorrhaphy 70(70%), anterior

colporrhaphy 15(15%), posterior colpoperineorrhaphy 5(5%), pelvic floor repair 10(10%).

**Table XIII: Distribution of the study population by type of complication after operation (N=100)**

<b>Complication after operation</b>	<b>N</b>	<b>%</b>
<b>Pyrexia</b>	20	20.0
<b>Hemorrhage</b>	5	5.0
<b>Urinary infection</b>	15	15.0
<b>Local sepsis</b>	01	1.0
<b>Urinary retention</b>	03	3.0
<b>Urinary incontinence</b>	01	1.0
<b>Pelvic cellulitis</b>	0	0.0
<b>Pulmonary embolism</b>	0	0.0
<b>Mortality</b>	0	0.0
<b>No complication</b>	55	55.0

Table XIII shows that mortality was nil. It was observed that 20(20%) had pyrexia, 5(5%) had hemorrhage, 15(15%) had urinary infection, 4 (4%) had local sepsis and 3(3%) had urinary retention. There is a presence of complications of 45% & 55% of patient had no complications.



**Figure 1: Distribution of the study population by relief of symptoms 7 days after operation (N=100)**

Figure 1 shows the relief of symptoms after the operation of the patient. It was observed that complete relief was found 93(93%) and 7 (7%) had partial relief.

## DISCUSSION

In this present study, 65.0% of patients were in the 6<sup>th</sup> decade and the mean age was  $59 \pm 5.4$  years varying from 50 to 70 years. Similarly, Kishwara et al. (2010) showed 46% of genital prolapse belonged to the 30-49 years age group [15]. Akhter (1996) found that 74.0% of patients were in >40 years age group [16]. Regarding the educational status of the current study patients, it was observed that 85.0% of patients were illiterate. In our country, Kishwara et al. (2010) found that most (78.5%) of the women had no education [15]. In this study, more than half 52(52.0%) patients were living with their husband and 47.0% were widows. Similar observations were also observed by Puri et al. (2011) and Kishwara et al. (2010)[17,15]. It was observed that 72(72.0%) patients were housewives, 18.0% were day

labourers and 10.0% were workers. Puri et al. (2011) study revealed that 66.6 % of the women performed normal housewife work, 27.4% were involved in hard work like farming, livestock rearing, and load carrying and only 6.0% of the women had office work [17]. In our country Kishwara et al. (2010) study revealed a strong association between grand multiparity and prevalence of genital prolapse [15]. The result is quite consistent with the current study, where the present study found primipara were 2.0%, multipara 53.0%, and grand multipara were 45.0%, which indicates that genital prolapse was predominant in multipara and grand multipara. A similar association was also observed by Chauvin et al. (2012), Marcelli et al. (2011) and Onwude (2009)[18-20]. The mean number of living children was found  $4.98 \pm 2.3$  varying from 1-10. Similarly, Puri et al. (2011) observed that 48.0% of the women had 3 - 5 children [17]. Women having 1 - 2 children were 29.1%. 12.9 % had more than 5 children and 9.9 % of the women had no children. The median number of children was 3. In another study, Marcelli et al. (2011) found 79.5% of women had given birth at least twice [19]. The above findings are consistent with the current study. In this present study majority of 46(46.0%) patients had a last child >18 years. The mean age of the last child was found  $16.69 \pm 8.6$  years with a range from 3 to 30 years. Puri et al. (2011) found that 63.3 % of the women gave birth to their first child at the age of 15 to 20 years [17]. 31.0 % gave birth between the age group of 20 to 25 years. 3.7 % of the women became mothers for the first time before 15 years and only 0.3 % of the women above 30 years gave birth for the first time. The median age for the first childbirth was



18 years, which is comparable with the current study. History of abdominal surgery was found 6(6.0%) patients, vaginal delivery was found 100(100.0%) patients, home delivery was 90(90%), majority 44(44%) patients had prolonged labour during delivery & 2% had instrumental delivery. Puri et al. (2011) found that the majority (80.2 %) of women delivered vaginally, while only 0.8 % of women delivered their child by surgical methods and 0.5 % experienced both vaginal and surgical methods, 68.8 % of women delivered at home and 13 % at the hospital <sup>[17]</sup>. In this series 100(100.0%) patients felt like something coming down , 20(20.0%) had retention of urine, 92(92.0%) had frequency of micturition, 51(51.0%) had backache, 41(41.0%) had burning during micturition, 45(45.0%) had constipation, 38(38.0%) had stress incontinence, 25(25%) had dragging pain in lower abdomen, 22(22.0%) had white discharge and 5(5.0%) had irreducible prolapse. Marcelli et al. (2011) found that 25.0% of women had stress urinary incontinence <sup>[19]</sup>. In another study Dietz and Simpson (2008) observed that women reported stress incontinence 76.0%, urge incontinence 69.0%, frequency 47.0%, nocturia 49.0%, and symptoms of prolapse 38.0% <sup>[5]</sup>. Genital prolapse may be manifested along with backache, frequency of micturition, sometimes loss of bladder control, and difficulty in emptying the bowel, or rectocele (Dutta 2009; Begum and Tahera 1992) <sup>[21]</sup>.

The majority 80(80.0%) of the patients had 2<sup>nd</sup> degree of uterine prolapse, 15 (15%) had 1<sup>st</sup>-degree prolapse & only 5(5%) had 3<sup>rd</sup>-degree prolapse. Mitra (1973) observed that 27.9% of cases had a first degree of genital prolapse, 46.7% of cases had 2<sup>nd</sup>

degree of genital prolapse 25.4% had a third degree of genital <sup>[22]</sup>. 90(90.0%) patients had moderate cystocele, 69(69.0%) patients had moderate rectocele, 27(27.0%) patients had urethrocele, 36(36.0%) had decubitus ulcer, 40(40.0%) had stress incontinence and 17(17.0%) had elongation of cervix. The majority 70 (70%) patients of the study population underwent vaginal hysterectomy with anterior colporrhaphy and posterior colpoperineorrhaphy, 15(15%) patients had anterior colporrhaphy, 5(5%) had posterior colpoperineorrhaphy and 10(10%) had pelvic floor repair. Regarding the type of complication after operation it was observed in this study that 20(20.0%) had pyrexia, 5(5.0%) had hemorrhage, 15(15.0%) had urinary infection, 4(4.0%) had local sepsis, 3(3%) had urinary retention and 1(1%) had urine incontinence. Post-operative mortality was found nil in this study. Other complications were less and managed by conservative treatment. complete relief was found 93(93.0%) and partial relief was 7(7.0%). In another study, Mitra (1973) found that the operation was successful in 90% with complete relief <sup>[22]</sup>. In 10.3% there was no relief of symptoms, but anatomical success was 99%. In Hunter's (1950) series 97% of patients had admitted that the operation was worthwhile and only 3% were doubtful about its success <sup>[23]</sup>.

### Limitations of The Study

The study was conducted in a single hospital with a small sample size. So, the results may not represent the whole community. Moreover, only symptomatic patients who actively sought medical help

were studied. Many asymptomatic patients and patients with mild symptoms who did not come to the hospital were not included in the study. Thus, the study does not represent the disease pattern of the entire population of Bangladesh.

## CONCLUSION

The study concluded that most of the cases of genital prolapse were acquired in nature and mainly related to childbirth injuries. The patients with genital prolapse mostly were in the 6<sup>th</sup> decade. The majority of the patients were illiterate and they were mostly housewives. Multiparity, more than two children, home delivery, prolonged labor during delivery and the 2<sup>nd</sup> degree of prolapses was predominant. Conduction of labour by untrained birth attendants, lack of nutrition during pregnancy & after childbirth, heavy physical work during puerperium, all these underlying factors proceeds to & development of genital prolapse. Moderate cystocele, moderate rectocele, and urethrocele stress incontinence were more frequent conditions of the patients. Pyrexia and urinary infection were more common complications after surgical procedures of genital prolapse. Complete relief was found in 93.0% of the patients after the operation.

**Funding:** No funding sources

**Conflict of interest:** None declared

**Ethical approval:** The study was approved by the Institutional Ethics Committee

## RECOMMENDATION

This study recommends, to ensure the availability & improvement of services for health workers at the root level, the

implementation of laws that fully protect women from young marriage, frequent childbirth, domestic violence & gender discrimination. Moreover, further studies should be conducted involving a large sample size and multiple centers.

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