

Analysis of Vesicovaginal Fistulas in Sylhet MAG Osmani Medical Hospital: A Two Years Study

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Abstract

Background: Vesico-vaginal fistula (VVF) is still a persisting scourge in the developing countries with devastating medical and social consequences. These consequences were studied among patients presenting with vesico-vaginal fistula in Sylhet MAG Osmani Medical College Hospital, Sylhet. **Objectives:** To analyze the vesico-vaginal fistula patients during the 2 years period. **Materials and Methods:** This was a descriptive and cross-sectional study conducted in the Department of Obstetrics and Gynaecology, Sylhet M.A.G. Osmani Medical College Hospital, Sylhet from May 2008 to April 2010 (2 years). Fifty-three hospitalized patients with vesico-vaginal fistula were selected by inclusion and exclusion criteria, undergoing repair operation irrespective of age. After selection of the patients informed written consent was taken. Each patient was interviewed using the semi-structured questionnaire containing socio-demographic and other relevant information like age, occupation, education of the patient and her husband, age at marriage, age at 1st child birth, monthly income and detailed history of the delivery. Type of fistula and related examination of the fistula was also done and noted. Type of repair of vesico-vaginal fistula, postoperative complications and outcome was recorded in the same manner. **Results:** The mean age of the patients with vesico-vaginal fistula was 30.5 years (SD± 8.5; range, 18 to 52). Majority (73.6%) were between 21 to 40 years; and 52.8% patients were primipara, 81.1% patients were illiterate and 69.8% patients were from lower social class. The aetiology of fistula were obstructed labour 49.1%, emergency lower segment caesarean section 37.7%, destructive delivery 11.3% and caesarean hysterectomy 1.9%. The repair operation was done of all patients in this series through vaginal approach. Repair was done first time in 83% and rest had history of failed repair. Postoperative complications were catheter block and urine leakage in 37.7% and urinary tract infection in 11.3% patients. Successful outcome was found in 79.2% cases. Causes of failure were severe scarring 36.5% difficult operation, catheter block and others each constituted 18.2% and large fistula 1.9%. **Conclusion:** Young primi are the victims of vesico-vaginal fistula, obstetric causes add up to form a major share of the etiology of vesico-vaginal fistula. Proper perinatal management is most important to reduce obs fistula formation.

Keywords: Vesico-vaginal Fistula, urine leakage, treatment outcome, repair of fistula.

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INTRODUCTION

Vesico-vaginal Fistula is described as an improper communication tract between the bladder (vesico-) and the vagina that results in continuous, involuntary urine leakage into the vagina [1, 2]. Urinary fistulas of the female genital tract are caused by birth problems, pelvic illnesses, and their treatment. Obstetric vesico-vaginal fistula is very uncommon in developed

regions of the globe, where the majority of fistulas are the result of gynecologic surgery, cancer, or radiation. After hysterectomy, the incidence of vesico-vaginal fistula was between 0.5 and 2%. Rarely, it may arise from coital damage or other trauma. In poor areas, obstetric damage accounts for around 90-95% of cases [3-7]. It is estimated that over two million women globally suffer from obstetric fistula. Between 26,000 and 40,000 of these individuals reside in Ethiopia,

100,000 to 1,000,000 in Northern Nigeria, and over 70,000 in Bangladesh. According to reports from Kenya and Nigeria, about one in 1,000 births results in obstetric fistula [3]. Each year, an estimated 5,000 new instances of obstetric fistula are diagnosed in Sudan alone [8, 9]. Vesico-vaginal fistula is a health problem produced by the interaction of several physical, social, cultural, and economic variables, as well as the financial circumstances of women. This interaction impacts women's status, health, nutrition, fertility, behavior, and vulnerability to vesico-vaginal fistula. Obstetric vesico-vaginal fistula resulting from protracted labor continues to be a significant medical issue in many developing nations with inadequate obstetric treatment. Vesico-vaginal fistulas may manifest between one and six weeks following gynecologic obstetric surgery, and recurrent fistulas can develop within three months of the first fistula repair [10, 11]. Vesico-vaginal fistula constitutes a substantial morbidity in female. Uncontrolled pee leaking into the vagina is the defining symptom, and the unpleasant odor caused by incontinence often leads in pain that may lead to major social issues, such as divorce and social isolation [12]. Existing statistics reveal that a significant proportion of women with obstetric fistula end up divorced or separated from their spouses, especially when it becomes apparent that their illness is chronic rather than temporary [8]. This debilitating and humiliating condition is mostly caused by obstructed labor, and its causes vary based on a person's socioeconomic and educational position. Other contributors to the high incidence of vesico-vaginal fistula include illiteracy, poverty, ignorance, non-use of antenatal and intrapartum medical facilities, home delivery, the practice of delivering by untrained traditional birth attendants, husband dominance, and severe deprivation and neglect [13-15].

In Bangladesh vesico-vaginal fistula is a common problem, but few studies regarding this devastating problem were done. So, this study was under taken to analyse the vesico-vaginal fistula patients, which reflects the socio- demographic characteristics and treatment outcome of patients undergoing repair of vesico-vaginal fistula.

The purpose of this research was to examine the incidence of vesico-vaginal fistula in a tertiary hospital over a two-year period.

OBJECTIVE

- To analyze the vesico-vaginal fistula patients during the 2 years period and calculate the treatment outcome.

MATERIALS AND METHODS

This descriptive and cross-sectional study was conducted on the Department of Obstetrics and Gynaecology, Sylhet M.A.G. Osmani Medical College Hospital, Sylhet. The duration of the study was from May 2008 to April 2010. All patients with vesico-vaginal fistula admitted in the Department of Obstetrics and Gynaecology, Sylhet M.A.G. Osmani Medical College Hospital, Sylhet, were considered the study population. All patients with vesico-vaginal fistula admitted in the Department of Obstetrics and gynaecology, Sylhet M.A.G. Osmani Medical College Hospital, Sylhet and fulfilled the inclusion and exclusion criteria were selected as the sample in this study. During the study of two years (from May 2008 to April 2010) 53 patients with vesico-vaginal fistula fulfilled the inclusion and exclusion criteria. So, the sample size was 53. Consecutive convenience sampling technique was followed in the study.

Inclusion Criteria

- All patients with vesico-vaginal fistula undergoing repair of fistula.

Exclusion Criteria

- Associated rectovaginal fistula.
- Congenital fistula.
- Fistula following malignancy and Radiotherapy.
- Those who denied repair of fistula.

Data Collection and Analysis

Data were collected using a semi-structured, pre-tested and pre-coded questionnaire. Data were collected by interview, observation, clinical examination and investigation. After data collection was complete, data were personally checked and updated before to tabulation. SPSS-coded, -entered, -analyzed Statistics (statistical package for the social science) Version 26 of the stats. The study's results were presented in frequency and percentage tables. All data was entered, checked, rechecked and scrutinized by the principal investigator for following standard procedure and was analyzed by SPSS software Program.

RESULTS

The age of the patients ranged from 18 to 52 years with the mean age of 30.5 (SD± 8.5) years. Figure-1 showed the distribution of the age group of the patients. Majority of the patients [25] (47.2%) were in the age between 21 to 30 years, followed by 14 (26.4%) patients were in the age between 31 to 40 years; while age group up to 20 years and above 40 years each constituted 7 (13.2%) patients.

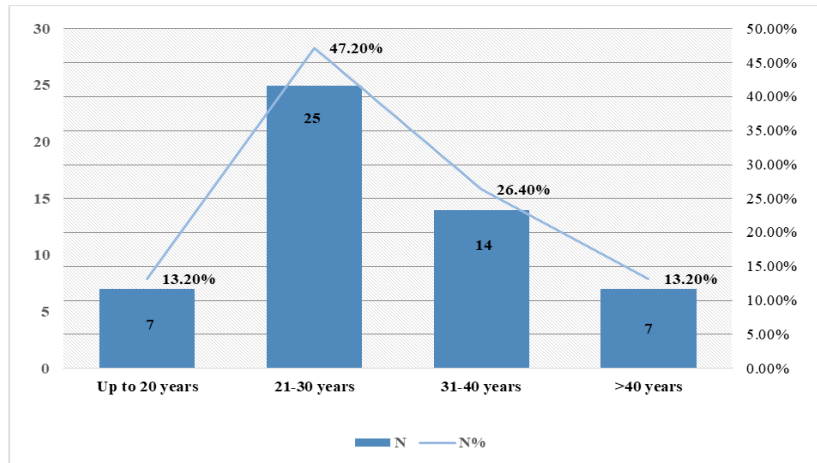


Figure 1: Distribution of the patients by age

Figure-2 showed the distribution of the patients by age at marriage. Majority of the patients 22(41.5%) became married between 15 to 17 years,

followed by 14 (26.4%) patients between 18 to 22 years, 13 (24.5%) patients above 22 years and 4 (7.5%) patients at or below 14 years.

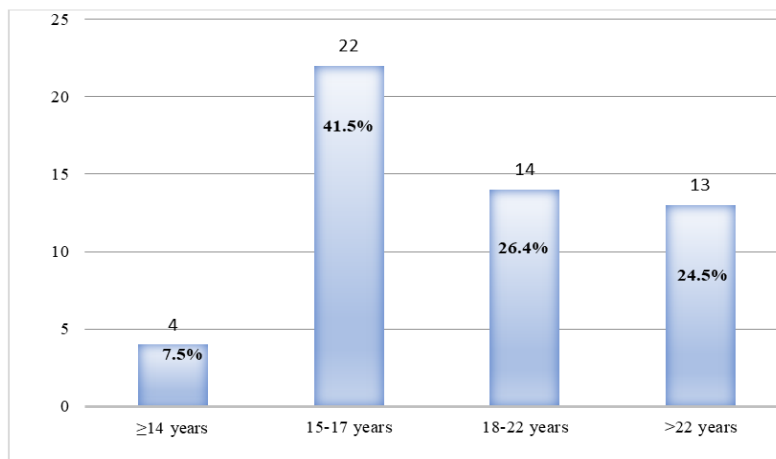


Figure 2: Distribution of the patients by age at marriage

Figure-3 showed the distribution of the patients by age at first child birth. Majority of the patients 25(47.2%) delivered her first child between 16 to 19 years, followed by 11 (20.8%) patients between

20 to 24 years, 7 (13.2%) patients between 25 to 29 years, 5 (9.4%) patients at or above 30 years and 3 (5.7%) patients at or below 15 years.

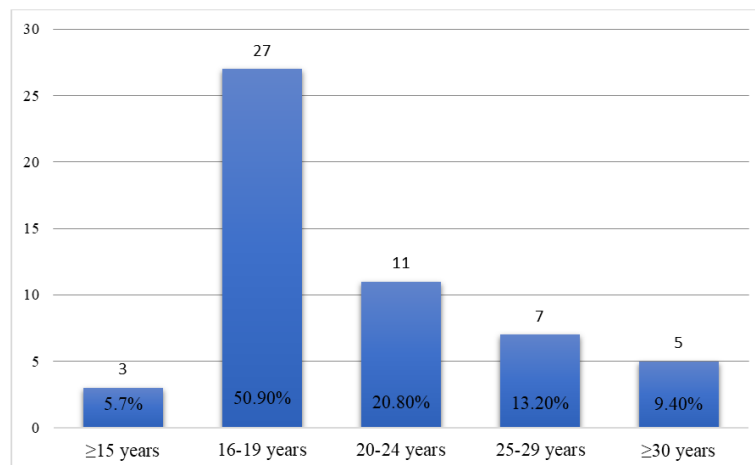


Figure 3: Distribution of the patients by age at first child birth

In this study, most of the patients were living with her husband 37 (69.8%); while husband remarried in 10 (18.9%) patients and 5 (9.4%) patients lived

separated from her husband. Distribution of the patients by marital status was shown in Figure-4.

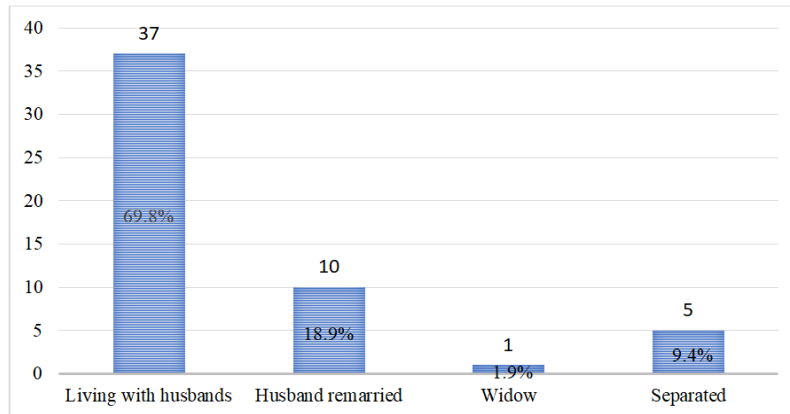


Figure 4: Distribution of the patients by marital status

In this study, most of the patients were illiterate 43 (81.1%); while primary level in 7 (13.2%) patients and secondary level in only 3 (5.7%) patients.

Distribution of the patients by level of education was shown in Figure-5.

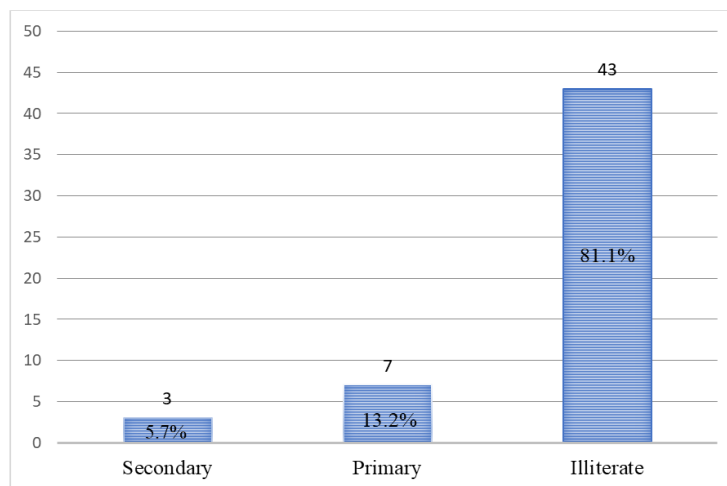


Figure 5: Distribution of the patients by level of education

In this study, most of the husband of the patients were secondary level of education 24 (45.30%), followed by illiterate 14 (26.40%); SSC level in 8

(15.10%) patients and primary level in only 7 (13.20%) patients. Distribution of the patients by level of education of husband was shown in figure-6.

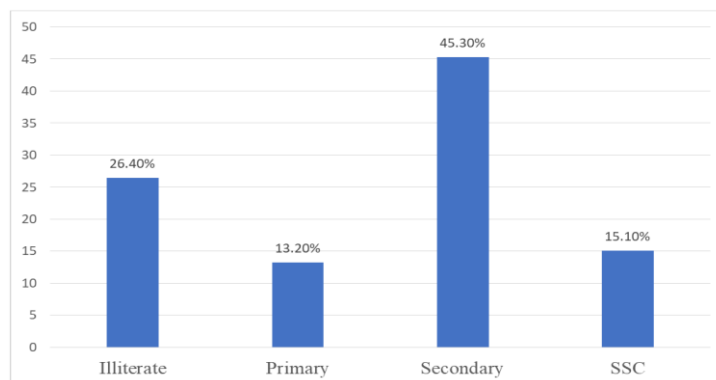


Figure 6: Distribution of the patients by level of education of education of husband

In this study, the economic status of most of the patients was lower class (69.8%), followed by

middle class (30.2%). Distribution of the patients by level of education of husband was shown in figure 7

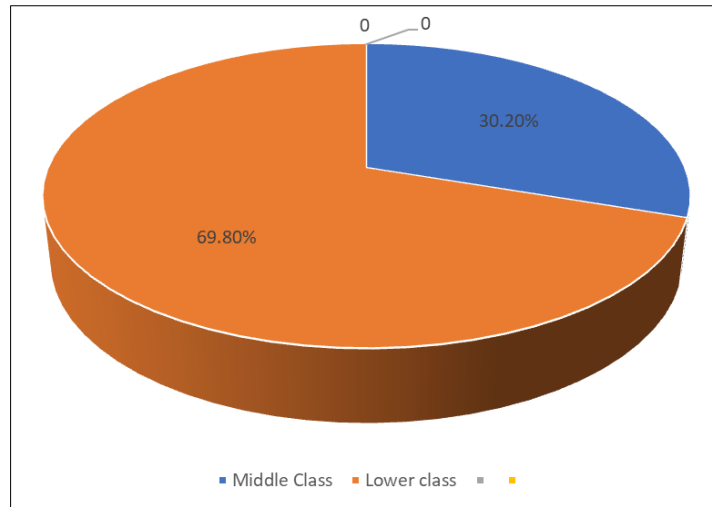


Figure 7: Distribution of the patients by economic status

Distribution of patients by aetiologic of fistula was shown in table 1. The most common aetiology of fistula was prolonged labour with vaginal delivery

(49.1%), followed by emergency lower segment caesarean section (37.7%), destructive delivery (11.3%) and caesarean hysterectomy (1.9%).

Table 1: Distribution of patients by aetiologic of fistula

Aetiology of fistula	Frequency	Percentage
Prolonged labour with VD	26	49.1
Emergency LSCS	20	37.7
Destructive delivery	6	11.3
Caesarean hysterectomy	1	1.9
Total	53	100.0

LSCS= Lower segment caesarean section, VD= vaginal delivery

Distribution of patients by site of fistula was shown in table-2. The most common type of fistula was circumferential (39.6%), followed by mid vaginal

(28.3%), juxtra-cervical (28.8%) and juxtra-urethral (11.3%).

Table 2: Distribution of patients by site of fistula (n=53)

Type of fistula	Frequency	Percentage
Mid vaginal	15	28.3
Circumferential	21	39.6
Juxtra-Cervical	11	20.8
Juxtra-Urethral	6	11.3
Total	53	100.0

Distribution of patients by size of fistula was shown in table-3. The most common size of fistula was medium size (2.1 to 4 cm) (41.5%), followed by small

(up 2 cm) (28.3%), large (>4-6 cm) and extensive (>6 cm) each type compromised (1.9%) patients.

Table 3: Distribution of patients by size of fistula (n=53)

Size of fistula	Frequency	Percentage
Small (up 2 cm)	22	41.5
Medium (2.1-4 cm)	29	54.7
Large (>4-6 cm)	1	1.9
Extensive (>6 cm)	1	1.9
Total	53	100.0

Moderate fibrosis was the most common feature of tissue surrounding fistula (62.3%), followed by none or mild fibrosis in (26.4%) and severe fibrosis in (11.3%) cases. Associated formula with fistula were vaginal stenosis in (35.8%) patients, vulval dermatitis in

(18.9%) patients, amenorrhoea and dyspareunia each constituted (15.1%) patients, depression in (15.1%) patients, infertility in (3.8%) patients and social isolation in (1.9%) patients. Associated problem with fistula was shown in table-4.

Table 4: Distribution of patients by size of fistula (n=53)

Associated problems	Frequency	Percentage
Vaginal stenosis	19	35.8
Amenorrhoea	8	15.1
Vulval dermatitis	10	18.9
Infertility	2	3.8
Dyspareunia	8	15.1
Social isolation	1	1.9
Depression	5	9.4
Total	53	100.0

Distribution of patients by previous repaired attempts was shown in figure-8. There were previous repaired attempts in (83.0%) cases, previous single repaired attempts in (9.4%) cases, previous twice and more than twice repaired attempts each constituted (3.8%) cases.

Distribution of fistula patients by surgeon assessment at repair was shown in figure 8. Surgeon's assessment at repair was difficult in (71.7%), very difficult in (18.9%) and easy in (9.4%) cases.

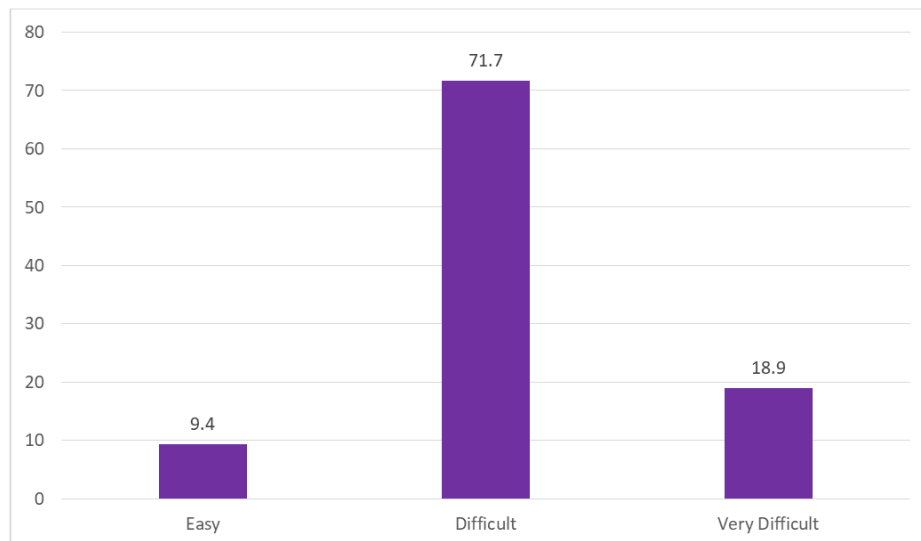


Figure 8: Distribution of fistula patients by surgeon assessment at repair

Distribution of fistula patients by postoperative complication was shown in table-5. Postoperative

complications were catheter block and urine leakage in (37.7%) and urinary tract infection in (11.3%).

Table 5: Distribution of fistula patients by postoperative complications (n=53)

Postoperative complication	Frequency	Percentage
Catheter block and urine leakage	20	37.7
Urinary tract infection	6	11.3
None	27	50.9
Total	53	100.0

Outcome of fistula was shown in figure 9. Successful outcome was in (79.2%) and failure in (20.8%) cases.

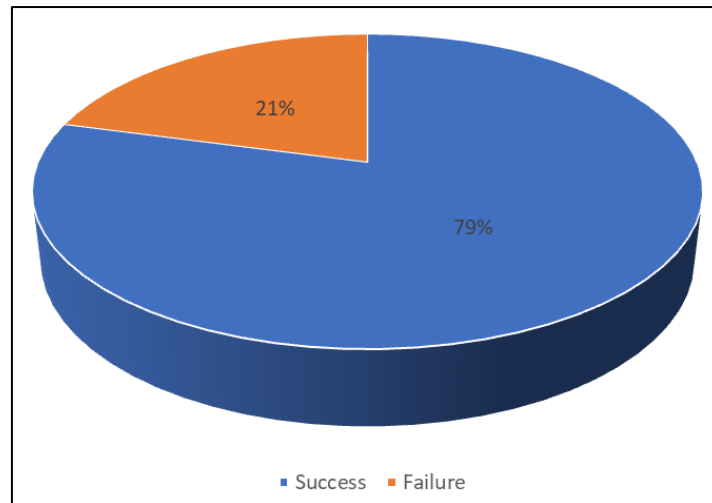


Figure 9: Outcome of fistula (n=53)

Distribution of fistula by postoperative complication was shown in table 6. Causes of failure were severe scaring (36.5%), difficult operation,

catheter block and others each constituted (18.2%) and large fistula (1.9%).

Table 6: Distribution of fistula patients by cause of failure

Cause of failure	Frequency	Percentage
Large fistula	1	9.1
Severe scaring	4	36.5
Difficult operation	2	18.2
Catheter block	2	18.2
Others	2	18.2
Total	11	100.0

DISCUSSION

The lifetime risk that a woman will die as a direct result of complications arising from pregnancy and delivery is higher in developing countries of the world than the developed ones [16]. However; maternal deaths only represent a tip of the iceberg. For every woman who dies, approximately 30 or more incur injuries, infections, and disabilities that are usually untreated, unspoken of, and are often humiliating, painful, and debilitating. One of these disabilities is vesicovaginal fistula [17]. Vesico-vaginal fistula (VVF) is not a life-threatening medical problem but the women face demoralization, social boycott and even divorce and separation. They are excluded from all religious and family activities [18].

In developing countries, obstetric fistula had remained a significant but neglected problem that the World Health Organisation (WHO) has termed forgotten disease [19]. It is a product of neglected labour, which is the hallmark of labour conducted by unskilled attendants in affected communities, and for many women in these countries, it has remained a significant health problem particularly in sub-Saharan Africa [20].

The first basic surgical principle for repair of VVF was described in 1663 by Hedrick, who stressed

the use of speculum and lithotomy position to gain adequate exposure and denudation of margin of fistula with re-approximation of the edges. The first reported surgical cure of VVF documented back to 1852 by Maram Sims-father of fistula repair surgery. He achieved success on his 30th surgical attempt on a salve [21].

The success of surgical treatment is adherence to the principle of fistula closure that is optimal tissue condition, adequate exposure, and tension free closure. These basic principles remain as important guidelines even in 21st century [22]. Urogenital fistula surgery doesn't require special or advance technology but needs experienced urogynecologist with trained team and post-operative care which can restore health, hope and sense of dignity to women [21].

Bangladesh is a developing country where vesico-vaginal fistula is a common problem, but few studies regarding this devastating problem. In this study analysis of vesico-vaginal fistula patients attended SOMCH, a tertiary hospital in Bangladesh during the 2 years (May 2008 to April 2010). During the study period 53 patients of VVF fulfilled the selection criteria and were analysed in this study.

In this study the age of the patients ranged from 18 to 52 years with the mean age of 30.5 (SD± 8.5) years. Majority of the patients 25(47.2%) were in the age between 21 to 30 years, followed by 14 (26.4%) patients were in the age between 31 to 40 years; while age group up to 20 years and above 40 years each constituted 7 (13.2%) patients. This result was in agreement with the study of Khan *et al.*, [12] that majority of their VVF patients were in the age between 21 to 30 years (53.3%), followed by 36.7% of patients were in the age between 31 to 40 years; while age group up to 20 years (6.7%) and at or above 41 years (3.3%) patients. Olusegun *et al.*, [28] also reported the similar age distribution of VVF patients that 49.1% of patients were in the age between 20 to 29 years, 34.5% of patients were in the age between 30 to 39 years, 3.6% of patients were in the age group under 20 years and 12.7% of patients were in the at or above 40 years. In a study in Dhaka Medical College Hospital during 2003-2004 Fatema [23] reported nearby similar pattern of age distribution of VVF that 44.0% of patients were in the age between 21 to 30 years, 29.0% of patients were in the age between 31 to 40 years, 13.0% of patients were in the age group up to 20 years and 14.0% of patients were in the above 40 years.

Current study showed that majority of the patients 22(41.5%) became married between 15 to 17 years, followed by 14 (26.4%) patients between 18 to 22 years, 13 (24.5%) patients above 22 years and 4 (7.5%) patients at or below 14 years. In this regards Mohamed *et al.*, [2] reported 58.8% were teenagers when married (<18, years old); Kabir *et al.*, [13] found that most of the patients 98(81.6%) had their first marriage between the ages of 10 - 15 years; Holme *et al.*, [24] observed the median age at marriage was 18 and Olivera *et al.*, [25] reported mean age at marriage was 15.6 years (range,10-22 years; standard deviation, 2.46 years).

In this study Majority of the patients 25(47.2%) delivered her first child between 16 to 19 years, followed by 11 (20.8%) patients between 20 to 24 years, 7 (13.2%) patients between 25 to 29 years, 5 (9.4%) patients at or above 30 years and 3 (5.7%) patients at or below 15 years. In this regard Olivera *et al.*, [25] reported the mean age at first pregnancy was 17.31 years (range, 8-25 years; standard deviation, 3.36 years).

The present study showed that most of the patients were primipara 28 (52.8%). followed by para-2 14 (26.4%). Grand multipara constituted 6 (11.3%) patients. This result was supported by Jatoi *et al.*, [21] that VV fistula developed in 48.1% of patients following the first delivery; while Fatema [23] reported 38% and Chaudhuri *et al.*, [3] reported 37.7% of patients developed VV fistula following the first delivery. This may be explained by the fact that these mothers delivered their babies before attainment of

physical maturity themselves. W fistula also developed in subsequent pregnancy found in this study and also by other studies [3, 21, 23]. This may be explained by the fact that in multifarious women obstructed labour is commonly due to malpresentation, the possible explanation for this being laxity and weakness of abdominal muscles, permitting forward rotation or extreme lateral displacement of their uterus [26]. Besides this, in successive pregnancies the weight of the foetus gradually increases which also causes secondary CPD and malpresentations and leading to prolonged and obstructed labour [23].

In this study out of 53 patients 40 (75.5%) patients were Islam by religion and 13 (24.5%) Patients were Hindu Dy religion. This may be due to this study 3 conducted in a Muslim predominant country.

In this study, most of the patients were living with her husband 37(69.8%), while husband remarried in 10 (18.9%) patients and 5(9.4%) patients lived separated from her husband.

In this study, most of the patients were illiterate 43 (81.1%); while primary level in 7 (13.2%) patients and secondary level in only 3 (5.7%) patients. Kabir *et al.*, [13] found majority of the fistula patients were illiterate (78.3%) and even among the iterate ones none had tertiary education. Harrison [27] reported a strong correlation between illiteracy and incidence of VVF in Zaria.

In this study, most of the husband of the patients were secondary level of education 24(45.3%), followed by illiterate 14 (26.4%); SSC level in 8 (15.1%) patients and primary level in only 7 (13.2%) patients. In this regards Mohamed *et al.*, [2] 62.8% of their patients were married to illiterate husbands.

In this study, the economic status of most of the patients were lower class [37 (69.8%)], followed by middle class 16 (30.2%). This result was very similar to Mohamed *et al.*, [2] and Fatema [23] Fatema [23] found most of the patients were lower class (57.0%), followed by middle class (40.0%) and only 3.0% from the upper-class Mohamed *et al.*, [2] found 80.8% of their patients were poor. Poor socio-economic condition is interrelated with a number of other factors such as ignorance, lack of knowledge regarding proper antenatal care and ignorance about the gravity of the situation and when to seek proper advice.

In the current study, the most common aetiology of fistula was obstructed labour with vaginal delivery 26(49.1%), followed by emergency lower segment caesarean section 20 (37.7%), destructive delivery 6 (11.3%) and caesarean hysterectomy 1(1.9%). This result was supported by Khan *et al.*, (2005) that obstructed labour (63.3%), lower segment caesarean section (13.3%), and caesarean hysterectomy

(13.3%) and other causes. Chaudhuri *et al.*, [3] found obstructed labour (78.3%), instrumental delivery (20.3%) and lower segment caesarean section (1.4%) were the causes of VVF. Olusegun *et al.*, [20] reported 92.7% of VVF was due to obstructed labour. Though surgical interference itself may cause fistula formation but it is highly probable that preceding difficult labour lasting for long time has actually initiate the process. So long duration of labour, obstructed labour as well as surgical interference may all have some contribution to the genesis of fistula.

In this study the most common site of fistula was circumferential 21 (39.6%), followed by mid vaginal 15 (28.3%), juxtra-cervical 11 (28.8%) and juxtra-urethral 6 (11.3%). In this regards Olusegun *et al.* reported that the most common type of fistula seen was midvaginal type (46.9%) followed by juxta-cervical (24.5%) and juxta-urethral (10.2%). Fatema, found involvement of neck and vault of the vagina was 49.2% and juxta-cervical in 35.6% of patients among their 59 VVF patients. Chaudhuri *et al.*, found the site of fistula was midvaginal in 66.2%, juxtacervical in 26.0% and vault in 7.8% among their VVF patients.

This study showed that the most common size of fistula was medium size (2.1 to 4 cm) 22 (41.5%), followed by small (up to 2 cm) 15 (28.3%). Large (>4-6 cm) and extensive (>6 cm) each type comprised 1 (1.9%) patients. This result was supported by Fatema [23] that most common size of fistula was small (up to 2 cm) in 44.0%, medium size (2.1 to 4 cm) in 26.0%, large size (>4-6 cm) in 21.0% and extensive (>6 cm) size in 9.0% of their VVF patients. In this regard Chaudhuri *et al.*, [3] found the size of fistula was 1-2 cm in 62.3%, less than 1 cm in 2.6.0% and more than 2 cm in 11.7% of their VVF patients.

The present study showed that moderate fibrosis was the most common feature of tissue surrounding fistula 33 (62.3%), followed by none or mild fibrosis in 14 (26.4%) and severe fibrosis in 6 (11.3%) cases. This result was in accordance with the study of Fatema [23] that moderate fibrosis was the most common feature of tissue surrounding fistula (53%), followed by none or mild fibrosis in 33% and severe fibrosis in 11% of cases of VVF.

Associated problem with fistula in this study were vaginal stenosis in 19(35.8%) patients, vulval dermatitis in 10 (18.9%) patients, amenorrhoea and dyspareunia each constituted 8 (15.1%) patients, depression in 5 (15.1%) patients, infertility in 2 (3.8%) patients and social isolation in 1 (1.9%) patients. Kabir *et al.*, [13] found amenorrhoea in 17.5%, vulval dermatitis in 31.0%, amenorrhoea in 8%, foot drop in 23.3%, infertility in 1.7%, recto-vaginal fistula in 5.8%, recurrent UTI 9.2% and dyspareunia in 4.2%. Fatema [23], found vaginal stenosis in 20%, amenorrhoea in

7%, vulval dermatitis in 7%, recto-vaginal fistula in 7% of cases.

All patients in this series were repaired through vaginal approach. Other studies also reported the route of surgical repair approach was vaginal and small percentages of patients were repaired through abdomino-perineal and abdominal approaches [3, 23]. There were no previous repaired attempts in 44(83.0%) cases, previous single repaired attempts in 5 (9.4%) cases, previous twice or more repaired attempts each constituted 2(3.8%) cases. In this regards Jatoi *et al.*, [21] reported no previous attempts in 68.8%, 1-2 attempts in 21.9%, 3-4 attempts in 6.3% and more than 4 attempts in 3.1% of their series. Fatema [23], reported no previous attempts in 91%, single attempt in 7% and two attempts in 2% of patients.

The present study showed that preoperative haemoglobin level was below 11 gm/dl in 30 (56.6%) cases and 11 gm/dl or more was in 23 (43.4%) cases. In this regards Fatema [23], found preoperative haemoglobin level was below 11 gm/dl in 83% of cases and 11 gm/dl or more in 17% of cases.

In this study surgeon's assessment at repair was difficult in 38 (71.7%), very difficult in 10 (18.9%) and easy in 5 (9.4%) cases. Fatema [23], reported that surgeon assessment at repair was easy in 37%, difficult in 36% and very difficult in 27% of cases.

Regarding postoperative complications this study showed that catheter block and urine leakage were in 20 (37.7%) and urinary tract infection in 6 (11.3%). Fatema [23], reported postoperative complications were catheter blockage in 34%, retention of urine after removal of catheter in 3%, repacking needed in 12% of cases.

In the present study successful outcome was found in 42 (79.2%) and failure in 11 (20.8%) cases. Chaudhuri *et al.*, [23] reported successful outcome was in 93.3% and failure in 6.7% of cases. Fatema [23], also found successful outcome was in 87% and failure in 13% of cases. In this regards Khan *et al.*, [12] reported success rate of 80% and Jatoi *et al.*, [21] reported a success rate of 93.1%. But Olusegun *et al.*, [20] reported successful in only 21.8% failed in 45.5% and no attempted in 32.7% of cases.

Causes of failure were severe scaring 4 (36.5%); difficult operation, catheter block and others each constituted 2 (18.2%); and large fistula 1(1.9%).

CONCLUSION

The mean age of the patients was 30.5 years (SD± 8.5; range, 18 to 52). Majority 73.6% were between 21 to 40 years; and 52.8% patients were primipara, 81.1% patients were illiterate and 69.8% patients were from lower class.

The aetiology of fistula was obstructed labour 49.1% emergency lower segment caesarean section 37.7%, destructive delivery 11.3% and caesarean hysterectomy 1.9%.

All patients in this series were repaired through vaginal approach. There were previous no repaired attempts in 83.0% cases, previous single repaired attempts in 9.4% cases, previous twice or more repaired attempts each constituted 3.8% cases. Postoperative complications were catheter block and urine leakage in 37.7%: and urinary tract infection in 11.3% patients.

Successful outcome was found in 79.2% cases. Causes of failure were severe scarring 36.5%; difficult operation, catheter block and others each constituted 18.2%; and large fistula 1.9%.

In conclusion, young primi are the victims of VNF, Obstetric causes add up to form a major share of the etiology of vesicovaginal fistula and Proper intranatal and natal management is most important to reduce fistula formation.

RECOMMENDATION

As primipara are the most common victim and the obstetric causes add up to form a major share of the etiology of vesicovaginal fistula, proper intranatal and natal management is most important. This highlights the need of competent personnel for intrapartum care so that the chances of fistula formation are reduced.

To prevent VVF, the study suggested raising awareness of women at child bearing age, improve transportation, besides inclusion of the issue in the curricula of schools and universities.

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