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*Research Article*

### FEATURES OF VESICOVAGINAL FISTULA; AN OBSERVATIONAL STUDY HIGHLIGHTING ITS AWARENESS IN LOCAL POPULATION

<sup>1</sup>Shoukat Mughal, <sup>2</sup>Syed Farhan Ahmed, <sup>3</sup>Imran Memon, <sup>4</sup>Muhammad Rashid Khan

<sup>1</sup>MBBS, MS(Urology), Senior Registrar, Department of Urology, Liaquat University of Medical And Health Sciences, Jamshoro., <sup>2</sup>MBBS, FCPS(Urology), Assistant Professor, Department of Urology, Liaquat National Medical College & Hospital., <sup>3</sup>MBBS, FCPS(Urology), Assistant Professor, Department of Urology, Liaquat University of Medical And Health Sciences, Jamshoro., <sup>4</sup>MBBS, FCPS(Urology), Senior Registrar, Department of Urology, Liaquat National Medical College & Hospital.

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**Abstract:**

***Introduction:** The patients of vesicovaginal fistula suffer long term misery due to unacquaintedness of curable nature and proper places of treatment. This study was done to assess the awareness and find out the most familiar causative elements of vesicovaginal fistula, factors responsible for delay in seeking treatment and the results of surgical treatment in our setup*

***Setting:***

***Materials and methods:** This was a cross sectional study carried in urology department Liaquat National hospital Karachi from 10 August 2011 to 20 August 2017, with non probability convenient sampling technique performed on 150 patients. Prior permission was obtained from hospital concerned authorities to conduct the study. After informed consent female patients presented with sign and symptoms of vesicovaginal fistula were included in the study while patients presented with vesicouterine fistula, vesicocolic, vesicocutaneous or uretrovaginal fistulas were excluded from the study. All the data was entered and analyzed using SPSS version 20. Frequency and percentages were calculated for qualitative data. .*

***Results:** Total 150 patients were enrolled in the study. Majority of patients 66(44%) were of less than 20 years of age. Most of patients i.e. 90(60%) were illiterate and 106(70.66%) patients belonged to poor socioeconomic condition. Commonest cause of vesicovaginal fistula was obstructed labor which was seen in 108(72%) of patients. 28(18.66%) patients presented to hospital for surgery after 4 years of development of fistula while 6(4%) patients presented after 8 years. 114(76%) patients have single fistulas while 36(24%) patients have multiple fistulas. 82(54.6%) fistulas were repaired by vaginal approach while 56(37.33%) fistulas were repaired by abdominal route and in 12(8%) patients combined approach was adopted. In 142(94.66%) patients surgery was successful while in 8(5.33%) patients repair was failed.*

***Conclusion:** Our study predicted that the commonest cause of vesicovaginal fistula was obstructed labor. Majority of patients were unaware about the curable nature of problem and the place where these types of patients are managed. Success rate of surgery was high in our setup. There is need to prevent the development of fistula by improving the awareness of the problem.*

**Key words:** Vesicovaginal fistula, obstructed labor, hysterectomy

**Corresponding author:**

**Dr. Imran memon,**

Mobile No: 03332745326

Address: Department Of Urology, Liaquat University of Medical & Health Sciences, Jamshoro. E Mail: [dr.memon.imran@gmail.com](mailto:dr.memon.imran@gmail.com)

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**INTRODUCTION:**

Globally, millions of women are facing problem of vesicovaginal fistula. [1] Obstetric fistula is an anomalous connection involving the vagina, rectum and/or bladder. Vesicovaginal fistula (VVF) implies that the fistula is between vagina and bladder. [2,3] VVFs are annihilating conditions for the affected women. [4] According to the World Health Organization globally, about 50 000 to 100 000 women developed obstetric fistula per year. [2] In Pakistan about 3% of women faced this problem while in the province of Sindh, the rate of vesicovaginal fistula is 2%. [5] In developing countries rate of developing vesicovaginal fistula is high [6] as compared to developed world in which urogenital fistulae are relatively uncommon. [7,8]

Vesicovaginal fistula presents with different signs and symptoms, mostly patients complain of urine leaking from vagina. [9] this causes continuous wetness, discomfort and odor which leads to serious social problems, stress and anxiety. [10] The cause of VVF vary among young and elder women and in developed world and developing countries. Like in elder women it is mainly due to uninhibited cancer growth, gynecological surgery as well as pelvic radiation and vaginal foreign bodies. [11] The most common etiology of vesicovaginal fistula worldwide is obstructed labor specially in countries where obstetrical care is not readily available more often women in rural and remote areas who are delivered by unskilled birth attendant at home. [2,12,13]

The diagnosis of the VVF is based upon signs and symptoms with which patient present, different clinical methods and dye testing. [10] VVF is repaired surgically and different surgical approaches has been used worldwide, depending on the surgeon skills and resources available. Vaginal approach is the preferred route in majority of cases [12,13] This study was intended to assess the general features in patients presenting with vesicovaginal fistula. Further, the awareness of the disease which leads to the delay in the treatment was also documented in this study.

**MATERIAL AND METHODS:**

This study was carried in urology department Liaquat National hospital Karachi from 10 August 2012 to 20 August 2016. It was cross-sectional descriptive study performed on a sample size of 150 patients. Sampling technique was non-probability convenient. Prior permission was obtained from hospital concerned authorities to conduct the study. The informed consent was obtained from the patients or their attendants before recruiting patients with complete

confidentiality of the data. Inclusion criteria consisted of the female patients presented with sign and symptoms of vesicovaginal fistula and were diagnosed on basis different investigations while patients presented with vesicouterine fistula, vesicocolic, vesicocutaneous or uretrovaginal fistulas were excluded from the study.

All the information was collected on self designed questionnaire which included relevant information regarding demographic data, time lapse between formations of fistula and reaching to hospital for treatment and result of surgical treatment offered to them. Data was entered on SPSS version 20. Frequency & percentages were calculated and presented in the form of table and pie chart.

**RESULTS:**

Total 150 patients were enrolled in the study. Most of the patients, 66(44%) were of less than 20 years while 44(29.33%) patients belong to 20-30 age group. Majority of patients i.e. 90(60%) were illiterate. 106(70.66%) patients belonged to poor socioeconomic condition while 38(26.5%) women belonged to middle class.

Commonest cause of vesicovaginal fistula was obstructed labour which was seen in 108(72%) of patients while second commonest cause was found to be abdominal hysterectomy seen in about 22(14.6%) of the affected women and LSCS was responsible for causing VVF in about 10(6.6%) patients. Majority of patients that is about 82(54.6%) patients presented to hospital for surgery after 6 years while 28(18.6%) women being affected by VVF presented for surgery after 4 years.

114(76%) patients had single fistulas while 36(24%) patients had multiple fistulas. 82(54.6%) fistulas were repaired by vaginal approach while 56(37.33%) fistulas were repaired by abdominal route and in 12(8%) patients combined approach was adopted. In 142(94.66%) patients surgery was successful while in 8(5.33%) patients repair was failed. (Table 1) 32(21.33%) patients were unaware about the curable nature of problem while 78(52%) patients have no knowledge about the treating centers.(figure: 1)

**DISCUSSION:**

In the past decade there has been increasing awareness about public health problems and obstetric vesicovaginal fistula (VVF) is one of them. With the help of many charitable, professional and non-governmental organizations, the concern regarding VVF prevention and management has been increased. [14]

One of the study documented that formation of obstetric fistulas are highly correlated with first delivery. [15] While other studies showed that young age, early marriage, teenagers and primiparas are affected most than the other age group females. [16,17] Our study also documented the similar findings that majority of women who presented with VVF belongs to age of less than 20 years.

One of the study compare the cause of VVF following surgical procedures and documented that hysterectomy is more common cause than lower segment cesarean section (LSCS). [18] Another study conducted in Germany showed the same results that is abdominal hysterectomy being the most common cause of VVF. Other causes, in descending order of frequency, were abdominal radical hysterectomy, endometriosis surgery, total laparoscopic hysterectomy, vaginal hysterectomy, surgical treatment for ovarian cancer, radiotherapy, supracervical laparoscopic hysterectomy, surgery for genital malformation, cesarean section and forceps delivery. [19] One of the study conducted in Lithuania showed that the most common etiology in adolescents age group was foreign body. [20] Another study showed that urogenital fistula is correlated with the type of the hysterectomy and indication for carrying it. [7] Other study showed that obstructed and prolong labour being the most common cause of VVF. [16] Same results were documented by the different studies conducted in Pakistan. [17] Our study showed that the commonest causative element in our country is obstructed labour and accounts for 72% of the presented cases while in 14% of cases cause is abdominal hysterectomy. This indicates deficient condition of maternity services in our country.

The study conducted to evaluate the time period after which most of the affected women (around 55.66%) seek medical attention regarding VVF was

observed to be 6 years..<sup>21</sup> In our study most of the women seek medical advice after 6 to 8 years of developing VVF. There are several reasons for delay in seeking medical advice for VVF. In one of the research conducted document that in most of the affected women this time lag is because of being unaware about treating centers. [21] While another study conducted in hospital of rural area in West Pokot, documented that delay in seeking advice after formation of fistula was due to the lack of awareness regarding availability of treatment facilities. [22] While in our study lack of knowledge about treating centers being the most common cause and being unaware regarding curable nature of disease is the second commonest cause. Many of the studies conducted to compare the frequency of different surgical procedures and routes being used for repairing VVF. Vaginal approach was preferred route than abdominal approach for repairing it. [12,13] Our study also showed the same result that majority of patients about 82(54.6%) fistulas were repaired by vaginal approach while 56(37.33%) fistulas were repaired by abdominal route.

The qualitative approach of our study has assured that we have samples extensive range of patients presented with vesicovaginal fistula. However the study might not be immune from observer and selection bias. Considering the observations of our study and to what range the features and awareness of the disease is improved would be revealing to reduce the disease burden.

#### **CONCLUSION:**

Our study predicted that the commonest cause of vesicovaginal fistula was obstructed labor. Majority of patients were unaware about the curable nature of problem and the place where these types of patients are managed. Success rate of surgery was high in our setup. There is need to prevent the development of fistula by improving the awareness of the problem.

Table 1: Demographic and other variable of the patient suffering from vesicovaginal fistula

VARIABLES		Frequency	Percentages
Age (years)	<20	66	44
	20-29	44	29.33
	30-39	22	14.66
	>39	18	12
Education	Illiterate	90	60
	Primary	30	20
	Middle	24	16
	Graduate	6	4
Socio economic status	Poor	106	70.66
	Middle	38	25.33
	Upper	6	4
Cause of fistula	Obstructed labor	108	72
	LSCS	10	6.66
	Abdominal hysterectomy	22	14.66
	Forceps delivery	6	4
	Vaginal hysterectomy	4	2.66
Time lapse between formation and management of fistula (Years)	<1	12	8
	1-4	22	14.66
	4-6	28	18.66
	6-8	82	54.66
	>8	6	4

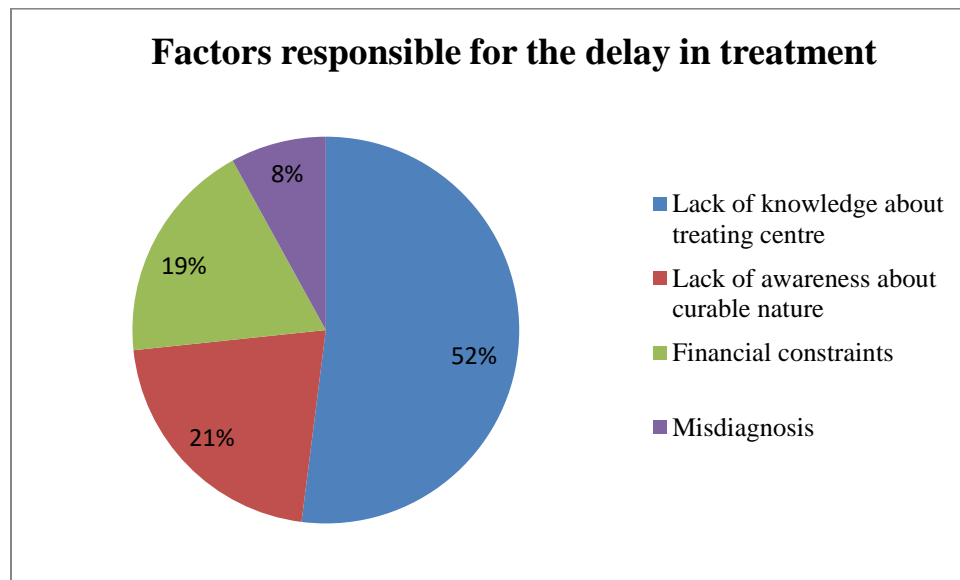


Figure 1: demonstrating the percentages of factors responsible for the delay in treatment

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