

Iatrogenic Genito- Urinary fistula Increasing Alarmingly

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ABSTRACT

Background: The prevalence of fistula is highest in underdeveloped nations due to increased obstetric complications. Conversely, 90% of vesicovaginal fistulae (VVF) in wealthy nations are brought on by gynaecological surgery.

Objectives: The aim of the study was to assess the scenario of iatrogenic genito-urinary fistula in a Maternity care Hospital.

Methods: This cross-section observational study was carried out in the Department of Obstetrics & Gynaecology, OGSB Hospital and Institute of Reproductive & Child Health, Dhaka, Bangladesh. The duration of the period from July 2022 to July 2023. A total of 62 patients were participate in the study. A Face to face interview was done to collect data with a semi-structured questionnaire. Waaldijk's fistula classification was followed for categorizing the size of iatrogenic fistula. After collection, the data were checked and cleaned, followed by editing, compiling, coding and categorizing according to the objectives and variable to detect errors and to maintain consistency, relevancy and quality control. Statistical evaluation of the results used to be obtained via the use of a window-based computer software program devised with Statistical Packages for Social Sciences (SPSS-24).

Results: Maximum (42%) patients were within the age group of 30-40 years. Only 4.84% had more than 60 years of age. Mean (\pm SD) age was 32 ± 11.6 . Here we see, 0-3 live birth was by 69% patients, 3-6 by 21% patients and 6-9 by 10% patients. The causal duration of labour was around 5 to 12 hours in 33% patients, >12 hours in 44% patients, 2 days in 16% patients, 3 days in 3% patients and 4 days in 4% patients. According to Waaldijk Classification of Fistula size, 39.1% had Small (<2cm), 34.8% had Medium (2cm-3cm), 23.9% had Large (4cm-5cm) and 2.2% had Extensive (>6cm) fistula size. Regarding complications 82% patients had no complications. Result of Dye test at Discharge was negative in 81.3% patients and Result of Cough test at Discharge was negative in 22.4% patients and Cough test at Discharge was not performed in 75.5% patients. Here, in case of 87% patients fistula was closed and in case of 13% patients fistula was not closed. **Conclusion:** Healthcare professionals should adhere to caesarean decision-making and labour management recommendations that are supported by evidence, while also being aware of the circumstances that necessitate caesarean delivery alternatives. Iatrogenic fistula can be avoided by avoiding needless procedures, which will lessen pain in the most vulnerable.

Keywords: Iatrogenic, Genito-Urinary Fistula, complication,

I. INTRODUCTION

A urogenital fistula is an abnormal communication between the urinary tract and genital tract. Vesicovaginal fistula is the most prevalent form. The urinary and genital organs' anatomical closeness and close development throughout embryogenesis predispose patients to urinary tract injuries during female pelvic surgery [1]. The most common operation, accounting for 75% of fistulae, is hysterectomy. Injuries typically arise from rushed surgery performed by a surgeon who lacks experience and expertise, performs the treatment improperly in complex circumstances. After a hysterectomy, the majority of fistulas are found to be high in the vaginal vault, above the inter-ureteric ridge and aligned with the scar from the vaginal apex [2].

Obstetric difficulties including prolonged, obstructed labour can be stopped from happening through by labour monitoring and emergency obstetric care. In low and middle-income nations, access to surgery is expanding quickly, but manpower and infrastructure may not be adequate, especially in rural places. There may

be shortages of trained personnel, inadequate equipment and supplies, and lax accountability [3]. Obstacles can result in foetal and maternal death, pressure necrosis of the bladder, and the development of fistulas if labor progress is not closely monitored and emergency obstetric care is not provided [4]. Genitourinary fistulas can be roughly classified as congenital or acquired in their aetiology. A congenital fistula is incredibly uncommon. The categories for acquired fistulas are foreign body, chemical burn, post-radiation, obstetrical, surgical, and accidents. The availability and quality of obstetric care and the kind of prior pelvic surgery a woman underwent all influence the aetiology of urogenital fistula. Socioeconomic factors such as poverty, illiteracy, premature childbearing, and a lack of access to healthcare are the other causes for fistula [5].

Worldwide statistics and Bangladeshi Scenario:

Approximately 3.5 million women worldwide suffer from the debilitating illness known as genitourinary fistula. A vesicovaginal fistula affects 1.9% of women in Bangladesh [6]. According to reports of Ethiopia, surgery for obstetric problems, such as a caesarean section, uterine rupture repair, or hysterectomy, results in between 77 and 80.2% of iatrogenic fistulas [7]. Iatrogenic damage accounted for 18% of fistulas when the surgeon noticed an etiology, according to EngenderHealth's multi-country Fistula Care+ Project, which was funded by the United States Agency for International Development (USAID) [8]. In Niger, 624 fistula (9.9%) had iatrogenic causes [9]. According to a research of 2593 fistula patients in Ethiopia, 24.6% of them had "(predominantly after surgery)" [10]. In Malawi, vesico-vaginal fistulas accounted for 26.3% (119/452) of all cases, with "likely due to operative injury rather than obstructed labour" [11]. Iatrogenic injuries were present in 24.0% of the 229 women in the D.R. Congo who developed fistula after cesarean birth [12]. Overall, iatrogenic fistula prevalence appears to be increasing in low- and middle-income nations [13]. In comparison to a global decline of 23% per year, Bangladesh had extraordinary progress in reducing the maternal mortality ratio by 47% per year between 1990 and 2015 [14]. However, there are still roughly 195 women who pass away from pregnancy-related problems for every 100,000 live births in the nation [15]. According to Annual Report on Obstetric Fistula in Bangladesh frequency of obstetric fistula is partly due to the fact that 34.9% of all births still take place at home. As a result of poor data quality, it is difficult to pinpoint the precise number of patients in Bangladesh who have fistulas. According to the Bangladesh Maternal Morbidity Validation Survey 2016, the national prevalence rate of obstetric fistula in Bangladesh is 0.42 per 1,000 women with at least one birth. The survey also estimates that around 20,000 women are living with obstetric fistula, and approximately a thousand new cases are added each year. While the number of birth-related fistulas has decreased in recent decades, the incidence of iatrogenic fistulas has seen an increase in Bangladesh. Despite the progress made since the International Conference on Population and Development (ICPD) in 1994, there are still thousands of marginalized and stigmatized women and girls suffering from fistula who have not benefited from the promises of the ICPD. To fulfill the unfinished business of the ICPD commitments, Bangladesh is determined to achieve zero obstetric fistula by 2030. The country's health system is focusing on identifying existing cases, providing comprehensive support for reintegration and rehabilitation, and ensuring a better quality of life for fistula survivors. Identifying gaps and challenges in this process is crucial for developing proactive and effective solutions. Thus, the aim of the study was to assess the scenario of iatrogenic genitourinary fistula in a Maternity care Hospital and find out its proper solution of prevention

II. METHODOLOGY

This cross-section observational study was carried out in the Department of Obstetrics & Gynaecology, Obstetrics & Gynaecology Society of Bangladesh Maternity Hospital (OGSB & IRCH- Institute of reproductive and child health), Dhaka, Bangladesh. The duration of the period from July 2022 to July 2023. A total of 62 patients were participate in the study. All medically diagnosed patients of Iatrogenic Genito-Urinary Fistula and gave consent to be included in the study. Patients who were not physically and mentally fit for interview and were not willing to give consent were excluded from the study. A Face to face interview was done to collect data with a semi-structured questionnaire. Waaldijk's fistula classification was followed for categorizing the size of iatrogenic fistula. After collection, the data were checked and cleaned, followed by editing, compiling, coding and categorizing according to the objectives and variable to detect errors and to maintain consistency, relevancy and quality control. Statistical evaluation of the results used to be obtained via the use of a window-based computer software program devised with Statistical Packages for Social Sciences (SPSS-24).

III. RESULT

Table-1: Distribution of the patients by age group

Age group	N=62	%
20-30	15	24.0
30-40	26	42.0

40-50	12	20.0
50-60	6	10.0
More than 60	3	4.84
Mean (±SD) age	32 ± 11.6	

Maximum (42%) patients were within the age group of 30-40 years. Only 4.84% had more than 60 years of age. Mean (±SD) age was 32 ± 11.6.

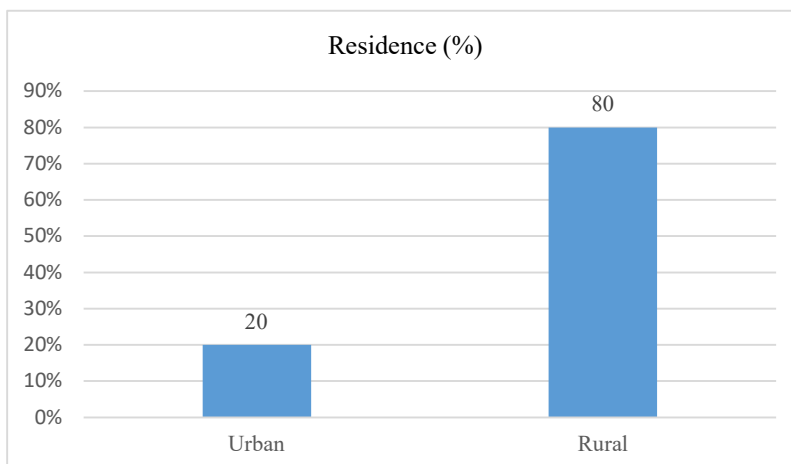


Figure-1: Distribution of the patients by residence

Regarding residence, 80% of the patients were from rural area and 20% were from urban area.

Table-2: Distribution of the patients by marital status, age of marriage and age at first pregnancy

Marital Status	n=62	%
Married	57	92.0
Divorced	1	2.0
Widowed	4	6.0
Age of Marriage		
Less than 13	8	12.2
13-18	48	77.6
18-25	6	10.2
Age at first pregnancy		
Less than 13	3	4.8
13-18	33	54.0
18-25	26	42.0

About 92% of the patients were married, 2% were divorced and 6% were widowed. Regarding age of marriage maximum (77.6%) of the patients' age of marriage was 13-18 years. About 54% of the patient's age at first pregnancy was within 13-18 years, 42% was within 18-25 years and 4.8% was less than 13 years.

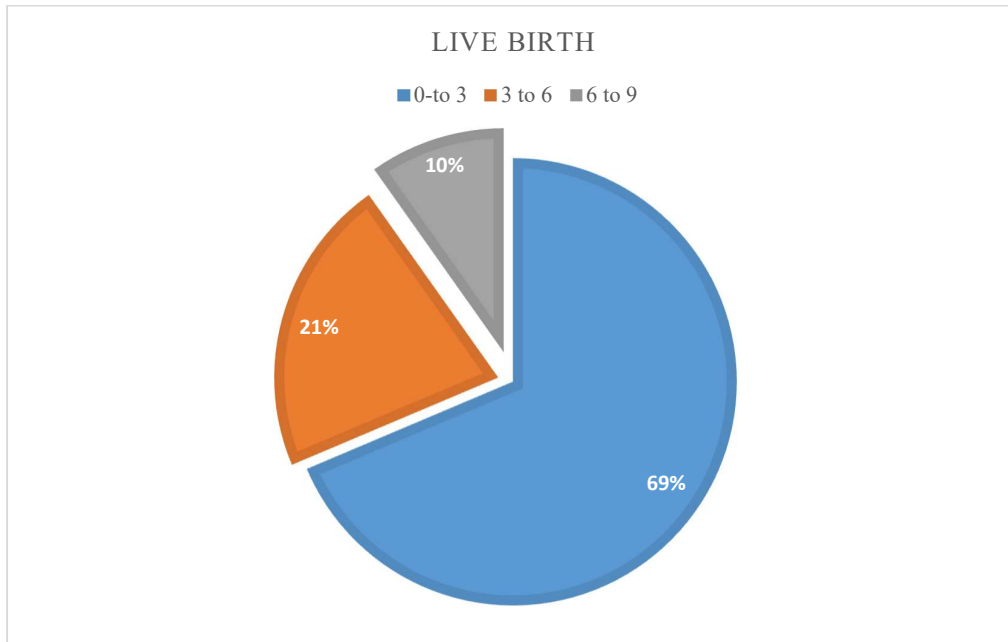


Figure-2: Distribution of the patients by live birth

Here we see, 0-3 live birth was by 69% patients, 3-6 by 21% patients and 6 9 by 10% patients.

Table-3: Distribution of the patients by First urinary leakage starting year

First leaking Starting year	N=62	%
0-1 year (0-12months) ago	35	56
1-5 year (12-60 months) ago	12	20
5-10 year (60-120 months) ago	0	0
10-15 year (120- 180 months) ago	1	2
>15year (> 180months) ago	2	3
Unknown	12	20

About 56% of the patients had a history of leakage 0-1 year ago, 20% had a history of leakage 1-5 years ago and also had an unknown leakage history respectively.3% had > 15 years leakage history and 2% had 10-15 years leakage history.

Table-4: Distribution of the patients by Causal labour duration

Causal labour duration	N=62	%
Around 5 to 12 hours	20	33
>12 hours	27	44
2 days	10	16
3 days	2	3
4 days	3	4

The causal duration of labour was around 5 to 12 hours in 33% patients, >12 hours in 44% patients, 2 days in 16% patients, 3 days in 3% patients and 4 days in 4% patients.

Table-5: Distribution of the patients by Fistula Size

Fistula size	N=62	%
0.5-1.5 cm	44	71.6
1.5-2.5 cm	6	9.1
2.5-3.5 cm	4	6.0
> 3.5cm	8	13.3
Waldijk Classification of Fistula size		
Small (<2cm)	24	39.1

Medium (2cm-3cm)	22	34.8
Large (4cm-5cm)	15	23.9
Extensive (>6cm)	1	2.2

Fistula size was within 0.5-1.5 cm in 71.6% patients, 1.5-2.5 cm in 9.1% patients, 2.5-3.5 cm in 6^ patients and > 3.5cm in 13.3% patients. According to Waaldijk Classification of Fistula size, 39.1% had Small (<2cm), 34.8% had Medium (2cm-3cm), 23.9% had Large (4cm-5cm) and 2.2% had Extensive (>6cm) fistula size.

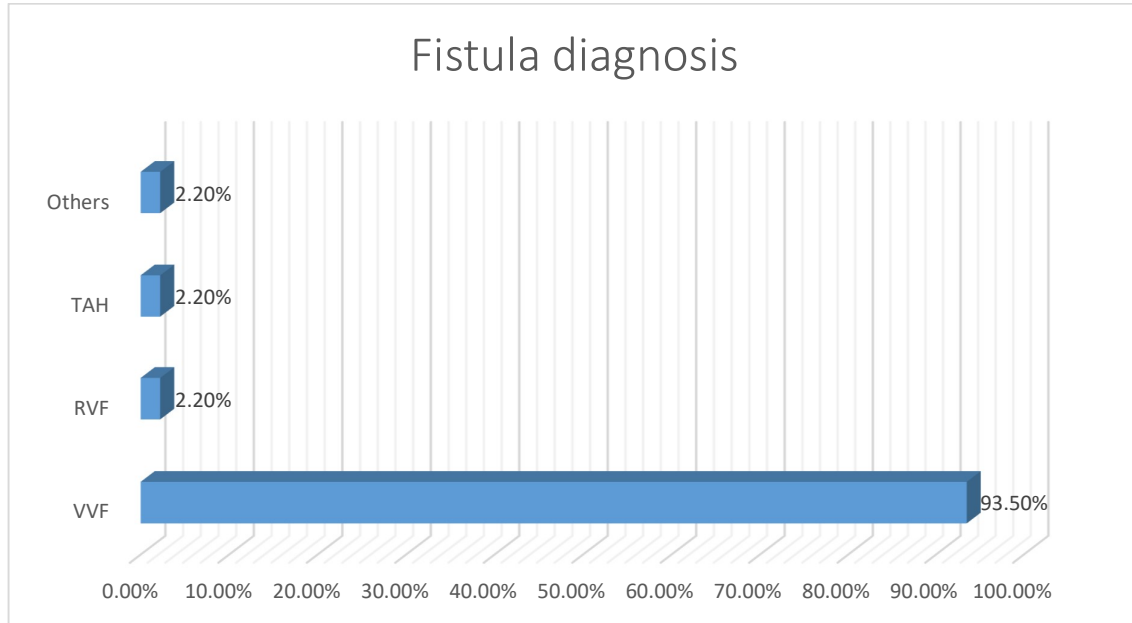


Figure-3: Distribution of the patients by fistula diagnosis

Regarding fistula diagnosis 93.50% had VVF and 2.2% had R VF, TAH and others respectively.

Table-6: Distribution of the patients by fibrosis around fistula

Fibrosis around Fistula	N=62	%
Small (<2cm)	23	37.0
Medium (2cm-3cm)	23	37.0
Large (4cm-5cm)	15	23.9
Extensive (>6cm)	1	2.2

About, 37% of the patients had Small (<2cm) and Medium (2cm-3cm) fibrosis around fistula respectively, 23.9% of the patients had Large (4cm-5cm) fibrosis around fistula and 2.2% had Extensive (>6cm) fibrosis around fistula.

Table-7: Distribution of the patients by duration of hospital stay

Duration of hospital stay (days)	n=62	%
7-14	4	6
14-28	52	84
28-32	6	10

About 6% of the patients had a duration of hospital stay of 7-14 days, 84% had 14-28 days, 10% had 28-32 days.

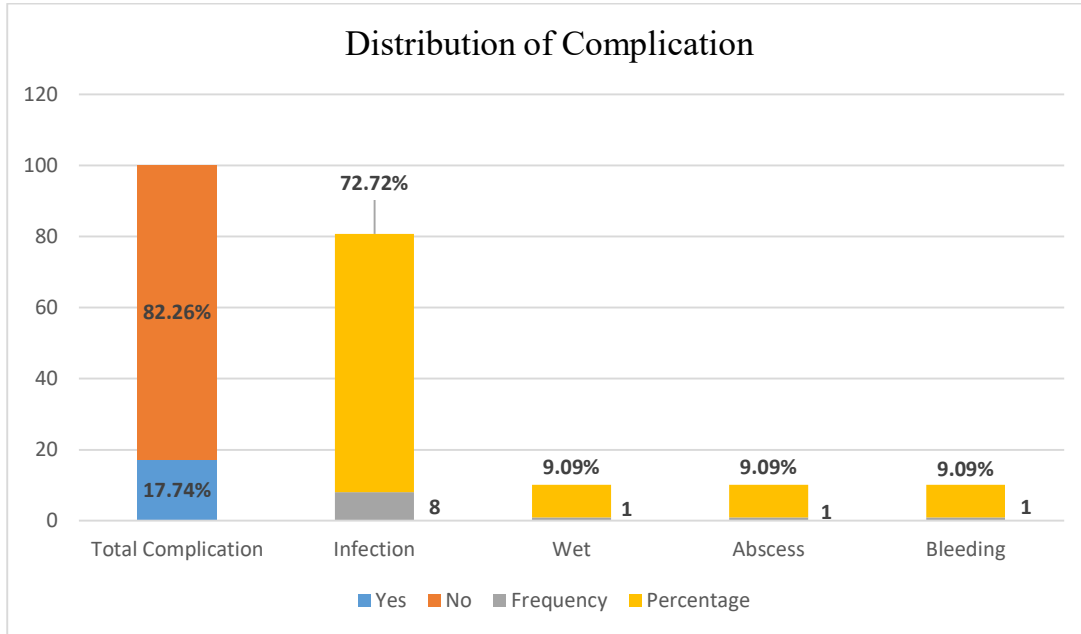


Figure-4: Distribution of the patients by Complication (n=62)
Regarding complications 82.26% patients had no complications.

Tabe-8: Distribution of the patients by test results

Test results	N=62	%
Result of Dye test at Discharge		
Negative	50	81.3
Positive	12	18.8
Result of Cough test at Discharge		
Negative	14	22.4
Positive	1	2.0
No Performed	47	75.5

Result of Dye test at Discharge was negative in 81.3% patients and Result of Cough test at Discharge was negative in 22.4% patients and Cough test at Discharge was not performed in 75.5% patients.

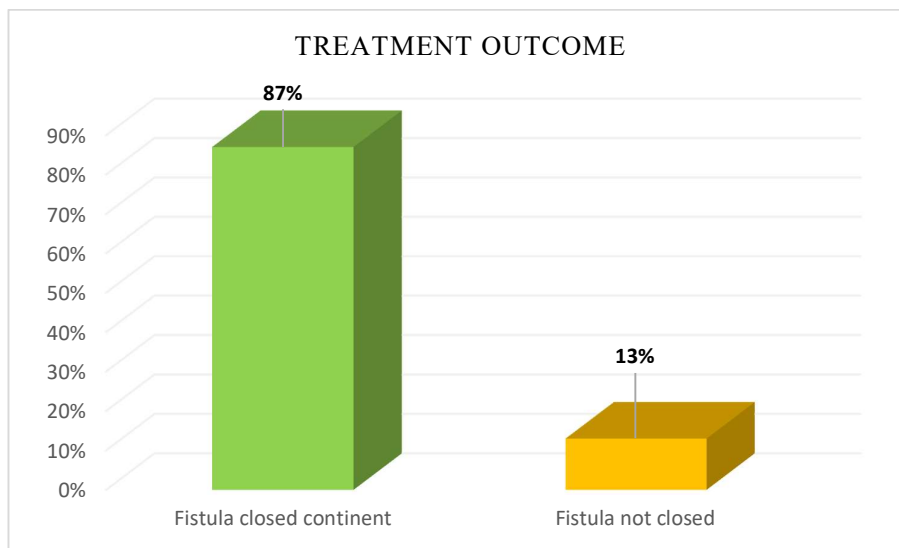


Figure-5: Distribution of the patients by treatment outcome

Here, in case of 87% patient's fistula was closed and in case of 13% patient's fistula was not closed.

IV. DISCUSSION

This cross-section observational study was carried out in the OGSB Hospital, Dhaka. The duration of the period from July 2022 to July 2023. A total of 62 patients were participate in the study. In this study, Maximum (42%) patients were within the age group of 30-40 years. Only 4.84% had more than 60 years of age. Mean (\pm SD) age was 32 ± 11.6 . A previous study showed that, the mean age of patients was 31.6 ± 10.26 years (range, 15–70 years) [17]. In this study Regarding residence, 80% of the patients were from rural area and 20% were from urban area. About 92% of the patients were married, 2% were divorced and 6% were widowed. Regarding age of marriage maximum (77.6%) of the patients' age of marriage was 13-18 years. About 54% of the patient's age at first pregnancy was within 13-18 years, 42% was within 18-25 years and 4.8% was less than 13 years. A previous study revealed that, Obstetric fistula is associated with age < twenty years, first pregnancy, labor greater than 24 h, delivery at home [18]. Here we see, 0-3 live birth was by 69% patients, 3-6 by 21% patients and 6-9 by 10% patients. About 56% of the patients had a history of leakage 0-1 year ago, 20% had a history of leakage 1-5 years ago and also had a unknown leakage history respectively. 3% had > 15 years leakage history and 2% had 10-15 years leakage history. Another study said that, Women who experience persistent urine leakage are typically the ones who complain about it, and a recurring fistula needs to be ruled out [19]. In this study, about 56% of the patients had a history of leakage 0-1 year ago, 20% had a history of leakage 1-5 years ago and also had a unknown leakage history respectively. 3% had > 15 years leakage history and 2% had 10-15 years leakage history. The causal duration of labour was around 5 to 12 hours in 33% patients, >12 hours in 44% patients, 2 days in 16% patients, 3 days in 3% patients and 4 days in 4% patients. Fistula size was within 0.5-1.5 cm in 71.6% patients, 1.5-2.5 cm in 9.1% patients, 2.5-3.5 cm in 6^ patients and > 3.5cm in 13.3% patients. According to Waaldijk Classification of Fistula size, 39.1% had Small (<2cm), 34.8% had Medium (2cm-3cm), 23.9% had Large (4cm-5cm) and 2.2% had Extensive (>6cm) fistula size. Regarding fistula diagnosis 93.50% had VVF and 2.2% had RVF, TAH and others respectively. A previous study showed that, most fistulas were vesicovaginal in nature [20]. In our study, about, 37% of the patients had Small (<2cm) and Medium (2cm-3cm) fibrosis around fistula respectively, 23.9% of the patients had Large (4cm-5cm) fibrosis around fistula and 2.2% had Extensive (>6cm) fibrosis around fistula. Another study showed that, 12.5% of patients had perifistula fibrosis [20]. In this study, about 6% of the patients had a duration of hospital stay of 7-14 days, 84% had 14-28 days, 10% had 28-32 days. Regarding complications 82% patients had no complications. Here, in case of 87% patient's fistula was closed and in case of 13% patients fistula was not closed. A previous study showed that, During or after the repair, no complications were discovered. After the repair, there was no need for further operation.

V. CONCLUSION

Iatrogenic fistula can be prevented in the future with surgical training, sufficient supervision, and case auditing to draw lessons. Iatrogenic fistulas do happen, thus high-level facilities that provide fistula repair are urged to treat them as sentinel events. Raising awareness and inspiring local quality improvement actions will be accomplished through documentation and follow-up with pertinent facilities. Healthcare professionals should adhere to caesarean decision-making and labour management recommendations that are supported by evidence, while also being aware of the circumstances that necessitate caesarean delivery alternatives. Iatrogenic fistula can be avoided by avoiding needless procedures, which will lessen pain in the most vulnerable.

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