

Risk factors for vesicovaginal and rectovaginal fistulae in women treated at Juba Teaching Hospital in 2020-2021: A retrospective study

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ABSTRACT

Introduction: Vesicovaginal fistulae (VVF) and rectovaginal fistulae (RVF) are major public health concerns especially in sub-Saharan Africa. Our hypothesis was that prolonged obstructed labour, teenage marriages, inadequate emergency obstetric care and poverty are responsible for a high prevalence of VVF and RVF in South Sudan.

Objective: The objective of the study is to determine the risk factors for vesicovaginal and rectovaginal fistulae in women treated at Juba Teaching Hospital in South Sudan.

Method: Data were obtained from the files of all the 40 women who were operated on for VVF and RVF in Juba Teaching Hospital (JTH) during the 2020 and 2021 fistula campaigns; three women were interviewed.

Results: Thirty-six women had VVF, two had RVF and two had both. The main cause was obstructed labour. Spontaneous vaginal delivery accounted for 22 cases, Caesarean Section for 13 while five had a forceps delivery. Four women were aged under 18 years; the age of marriage was below 18 years for 22 women and between 18-25 years for 18 women. Of these 40 women 21 were para 1 & 2, 14 were para 3 to 5 and five were para 6 and above; 17 had delivered at home and 23 in hospital; 18 had been attended by midwives / doctor and 22 by Traditional Birth Attendants (TBAs) in the villages; 22 were in labour for more than three days. Thirty-two deliveries had resulted in stillbirths. Most women had not been to school, and all were classified as 'poor'. Almost all (38) had not attended an ante-natal clinic (ANC) during the pregnancy in which they developed fistula. Ten women were operated on more than three times, 10 twice and 20 once. Nine women were divorced after developing fistula and 13 were abandoned. The psychosocial consequences included childlessness, stigmatization, depression, divorce, and abandonment.

Conclusion: The main risk factor for developing obstetric fistula was prolonged obstructed labour. Secondary risk factors were delivering at home, lack of obstetric care facilities, deliveries attended by unskilled health workers and TBAs, poor ANC attendance during pregnancy, cultural factors that encourage early marriage, low socioeconomic status, and lack of education.

Keywords: Vesicovaginal fistula, rectovaginal fistula, risk factors, fistula campaigns, South Sudan.

INTRODUCTION

Vesicovaginal fistulae (VVF) and rectovaginal fistulae (RVF) are major public health concerns globally and especially in sub-Saharan Africa.

Obstetric complications are the leading cause of fistulae in sub-Saharan Africa in a review of articles published from 1987-2008.^[1] The high rates of VVF and /or RVF or both in the region reflects the poor quality and the level of perinatal care provided by the local health systems.^[2]

Approximately 50-80 women/ year attend fistula campaigns in South Sudan with around half having a fistula and receiving a repair.^[3] It was estimated in 2013 that at least 30 women out of 100,000 deliveries have obstetric fistulae either VVF or RVF or both despite the efforts being made by both health partners and the Ministry of Health.^[3]

These fistulae are a serious health burden on the women of South Sudan which has the highest maternal mortality rate in the world at 2,054 per 100,000 live births,^[4] 90% of deliveries occur in rural areas with only 10% attended by skilled midwives.^[5]

In South Sudan obstetric fistulae are treated at the Teaching Hospitals in Juba (the main referral hospital where most obstetric fistulae are treated in the Dr Festo Fistula Centre) and in Wau and Malakal.

The objective of the study is to determine the risk factors for vesicovaginal and rectovaginal fistulae in women treated at Juba Teaching Hospital in South Sudan.^[6]

METHOD

Data from the files of all 40 women and girls of reproductive age (12-49 years) who were operated on for VVF and RVF in the 2020 and 2021 fistula campaigns in JTH were analysed. The collected variables included cause of fistula; age at marriage; psychosocial consequences; accessibility to treatment and maternal health care and coping mechanisms. Interviews (after obtaining informed consent) were conducted with three of these women who were still in the ward. Both qualitative and quantitative methods were used to analyse the data. Frequency tables are used to present the data here.

RESULTS

Forty women were treated at JTH during the fistula campaigns of December 2020 and July 2021: 29 in 2020 and 11 in 2021. Over the two campaigns 36 women had VVF, 2 had RVF and 2 had both.

Table 1 shows the patient characteristics in terms of age, age of marriage, education, and parity.

Sixteen women came from Central Equatoria State, followed by 11 from Eastern Equatorial State, four from Western Bahr El Ghazal State, three each from Warrap State and Jonglei State, two from Lakes State and one from Upper Nile State; there were no cases from Western Equatorial, Northern Bahr El Ghazal and Unity States.

The characteristics of the women according to the mode and place of delivery, attendant at delivery, and foetal outcome are shown in table 2.

Of the 40 women who were operated on, 10 had been

Table 1. Characteristics: age, age of marriage, education and parity (N = 40)

Variable	n (%)	
Age (years)	<15	0
	15-18	4 (10.0)
	19-25	17 (42.5)
	>25	19 (47.5)
Age of marriage (years)	<18	22 (55.0)
	18-25	18 (45.0)
	>25	0
	Total	40 (100.0)
Education level	P1-P4	1 (2.5)
	P5-P8	5 (12.5)
	None	34 (85.0)
Parity when fistula developed	Nulliparous	10 (25.0)
	Para 1-2	11 (27.5)
	Para 3-5	14 (35.0)
	Para 6 and above	5 (12.5)

Table 2. Mode and place of delivery, attendant at delivery, and foetal outcome (N=40)

Variable	n (%)	
Mode of delivery	SVD	22 (55.0)
	Assisted by vacuum or forceps	5 (12.5)
	Caesarean Section	13 (32.5)
Place of delivery	Home	17 (42.5)
	Hospital	23 (57.5)
	PHCC	0 (0.0)
	Total	40 (100)
Delivery attended by	TBA	18 (45.0)
	MCH worker	0 (0)
	Skilled midwife/ doctor	22 (55.0)
Foetal outcome	Still birth	32 (80.0)
	Live	8 (20.0)
	Para 3-5	14 (35.0)
	Para 6 and above	5 (12.5)

Table 3. Marital status after fistula, social relationships, age first fistula, age first delivery (N=40)

Variable		n (%)
Marital status after fistula	Married	31 (77.5)
	Divorced	9 (22.5)
Social Relationship	Abandoned by husband/friends	13 (32.5)
	Not abandoned by husband/friends	27 (67.5)
Developed fistula at first delivery	Yes	27 (67.5)
	No	13 (32.5)
Age at first delivery (years)	12-17	17 (42.5)
	18-25	22(55.0)
	>25	1 (2.5)
	Skilled midwife/doctor	22 (55.0)
Fetal outcome	Still birth	32 (80.0)
	Live	8 (20.0)
	Para 6 and above	5 (12.5)

previously operated on 3 or more times, 10 twice and 20 once. Most women (34) were referred directly to JTH, 26 during 2020 and 8 during 2021. Wau and Malakal teaching hospitals referred 5 cases and a state hospital referred one case over the two campaigns.

More than half of the women (22) had developed a fistula after a labour that had lasted three or more days, 10 developed one after two days and 8 on the first day of labour.

Table 3 shows the marital status after fistula, social relationships, age first fistula, age first delivery

Twenty-three women had children and 17 were childless. None of the women had undergone FGM, which is not usually widely practiced in South Sudan.

Stories from the women interviewed

Here we summarise three quotes from the interviews with the women operated on at JTH:

“I have lived with this satanic disease for more than ten years now. Before, I used to work hard in my farm and grow sorghum, sesame, groundnut but now, am just in miserable life of washing my beddings and once I have finished the bed sheet that I have been washing, the urine has already flown in the other one, I cannot manage to get food by my toil and my husband and relatives have already forgotten me, I beg to live”.

“I hate myself with this disease, I don’t know why God has made me this way, many friends, and relatives have now abandoned me, I stay alone, I am better treated here now in the hospital than when am staying at home”

“I feel being well cared and happier and comfortable when I am in the church and in the hospital like this, but at home, am not well treated but my people have hated me due to smell of urine for all these years”

DISCUSSION

The most significant risk factor for the development of obstetric fistula in this study was prolonged obstructed labour as has been found elsewhere.^[7] More than half the women had developed a fistula after a labour that had lasted three or more days. About half our women had delivered at home and half had been delivered by a TBA. None had attended ANCs.

These data, and the fact that ten women had been operated on for their fistulae three or more times, together with the ‘stories’ of the women interviewed suggest that lack of skilled obstetric care, untrained health workers, and cultural restrictions on women attending ANCs contributed to women in our study developing obstetric fistulae.

Gynaecological procedures and radiotherapy accounted for no cases in our study. This does not mean that there were no cases but may be due to poor recording, or inaccessibility or unaffordability of transport to Juba.

Most of those (34/85%) who developed fistula had had no schooling. Educated girls are more likely to know the risks associated with early pregnancy, and the importance of healthy behaviours. Education raises the status of women and enhances their confidence making it more likely they attend health services. We do not know why most of the women in our study did not attend school but a literature review^[6] suggests that it may be related to cultural influences, lack of schools, and money to pay fees for school.^[8] There is need to increase access to free universal primary education and, more especially, empowerment of girl child education in the far-to-reach areas of South Sudan.

Over half the girls in our study had been married, and nearly half had had their first delivery before the age of 18 years. Early marriage is common in some communities in South Sudan which look at girls as a source of wealth when they are married with dowries. Thus, increasing the risk that a girl becomes pregnant before the pelvis is adequately matured.

A consequence of developing an obstetric fistula is a stillbirth and most of the deliveries in our study resulted in a stillbirth. South Sudan has the highest neonatal mortality rate in Africa and there appears to be still no

increase in deliveries conducted in hospital by skilled birth attendants.^[4] Only two of the women had attended focussed ANC. Many deliveries were at home, and nearly half by a TBA.

Other effects are abandonment, stigmatization, loss of employment and social support, psychological pain and infertility, worsening of pre-existing psychological, psychiatric (including suicidal thoughts), and medical illnesses. All three women who were interviewed said that they would commit suicide if they did not heal soon. The psychosocial consequences were found to be consistent with the previous studies in South Sudan and other countries such as Nigeria and Ethiopia.^[8,9,10]

The rate of divorce and abandonment for the women in this study was low compared to other studies, for example in Nigeria.^[10] The majority remained in marriage after developing a fistula and few were rejected by the community and relatives. We postulate that this is probably because South Sudanese have specific cultural and customary traditions and attitudes that frown on divorce, whatever the reason. More studies need to be done to understand.

CONCLUSION

The main risk factor for developing obstetric fistula was prolonged obstructed labour. Secondary risk factors were delivering at home, lack of obstetric care facilities, deliveries attended by unskilled health workers and TBAs, poor ANC attendance during pregnancy, cultural practices that encourage early marriage, low socioeconomic status, and lack of education.

Recommendations

We recommend that development of the health system in South Sudan must include improved training and motivation of midwives and doctors and focussed ANC services, and the establishment of fistula centres. Provision of free basic education, especially for girls in the far-to-reach areas and discouraging early marriage, should also be among the top priorities of government.

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