

OBSTRUCTED LABOUR: THE MAIN CAUSE OF VESICO-VAGINAL FISTULA – REVIEW OF LITERATURE

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ABSTRACT

This paper examined obstructed labour as a major aetiological factor causing vesico-vaginal fistula among women. Research has shown that the main cause of fistula among women is prolonged and unrelieved pressure on the woman's pelvic wall which hitherto causes a puncture in the bladder; this has led to so many shattered homes, lives, and hopes. It has turned so many women homeless and into beggars and destitutes. However, the study also carried out a detailed comparative review of other aetiological factors leading to Fistula.

Keywords: Obstructed labour, vesico-vaginal fistula.

INTRODUCTION

According to the Foundation for Women's Health, Research and Development (FORWARD) 2003, 80% of VVF cases reported in Nigerian were due to unrelieved obstructed labour during childbirth. Corroborating this view is Bello (1996) who through her study reported that obstructed labour, accidental surgical injury related to pregnancy, and crude attempt at induced abortion influence the incidence of vesico vaginal fistula. She continued that "obstructed labour leads to VVF when prolonged and unrelieved pressure on the woman's pelvic wall causes a puncture in the bladder".

Research has shown that surgical procedures leading to VVF are of two types. The first is the injury caused to the bladder during obstetric operations which is normally performed within a hospital setting. Such procedures include caesarean section and difficult delivery (Bello, 1996) in a related study carried out by Mustafa and Ruhwan (1979), a review of 122 cases of fistula treated in Khartoum Teaching Hospital, Sudan over a period of three years lend credence to the fact that the major cause of VVF is a prolonged, obstructed labour which was revealed in ninety- one (75%) of the women studied over the period, 25 (21%) from instrumental delivery which is mainly forceps, and 6 (5%) from gynecological operations. Tahzib also confirmed in his study of 1,443 patients with Vesico vaginal fistulae who were operated on at the Ahmadu Bello University Hospital in Zaria, northern Nigeria between 1969 and 1980- that VVF resulted mainly from prolonged obstructed labour. Tahzib showed this in a table titled.

AETIOLOGICAL FACTORS LEADING TO FISTULA

TABLE 1

A ETIOLOGICAL FACTORS	NO. OF PATIENT	%
Prolonged labour	1209	83.8
Surgical trauma	14	1.0
Infection^a	10	0.7
Gishiri cut^b	188	13.0
Others^c	22	1.5
Total	1443	100

- a. Including lymphogranuloma Venerum, diphtheria, measles and severely infected insect bite in vagina.
- b. Traditional practice of cutting the vagina with sharp instrument.
- c. Including congenital, penetrating vaginal wound with a stick, insertion of caustic materials into vagina, coitus and fractured pelvis.

Source: Tahzib, F (1983). *Epidemiological determinants of vesico vaginal fistulas. British Journal of Obstetrics and Gynaecology.* 90 387–391.

Kelly (1979) corroborated that VVF majorly resulted from prolonged obstructed, and operative delivery labour in a table prepared for a comparative report on the study of 161 patients in Africa, particularly Ethiopia, and in Britain.

**Table 2 –
MAIN CAUSE OF FISTULAE**

CAUSE	AFRICA	BRITAIN	TOTAL
Obstetric	121	7	128
Pressure necrosis	121	3	124
Caesarean section	0	2	2
Caesarean hysterectomy	0	2	2
Surgical	2	26	28
Abdominal hysterectomy	2	15	17
Vaginal hysterectomy and or repair	0	10	10
Aldridge sling	0	1	1
Other	5	0	5
Total	128	33	161

Source: Kelly J (1979) *Vesico Vaginal Fistulae. British Journal of Urology* 51 208 –210.

It can be seen from this table that twenty-six (79%) of the cases out of the thirty three reported in Britain were caused through obstetric or gynaecological surgery, while 121 cases (95%) out of 128 in Africa were caused by pressure necrosis from obstructed labour. This finding is substantiated by another study carried out by Kelly (1992) on 716 patients with Vesico –Vaginal and/or recto- vaginal fistulae. According to him, fistulae of obstetric origin are common in sub- Saharan Africa. A high prevalence has been reported most especially from Nigeria, Chad, Sudan as well as Ethiopia. He continued that in Northern Nigeria, there are about 1,000 patients awaiting treatment at any one time, and that the main cause of such fistulae in the developing world is pressure necrosis from obstructed labour while in the developed world the aetiology is surgery, malignancy, radiotherapy or a combination of these. Out of all 716 patients he managed, 578 of them were from Africa while 138 were from various parts of Britain. The aetiology is presented in the table below.

**TABLE 3
AETIOLOGY OF FISTULAE**

	AFRICA	BRITAIN	TOTAL
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Obstetric	559	7	566
Surgery	2	99	101
Malignancy	0	25	25
Other	17	7	24

Source: Kelly J (1992): Vesico- vaginal and recto-vaginal fistulae. Journal of the Royal society of Medicine, volume 83, 257-258.

Considering the gap between the first study Kelly (1979) carried on the fistula patients and Kelly (1992) carried on another VVF patients, obstructed labour seems to be an established cause of vesico- vaginal fistula.

Laying credence to the above authors, Abbo and Mukhtar (1975), in an analysis of seventy cases of urinary fistulae treated from April to December 1974, sixty-two of the fistulae were caused by prolonged labour, and eight by hysterectomy. In another development, Ahmed (1989) reported that out of the 58 cases he managed between 1984 and 1986, 43 cases had obstructed labour which was mostly due to contracted pelvis and a few to cephalo – pelvic disproportion. Akhtar (1989) added his voice in an analysis of 20 cases of obstetric fistulae admitted to the Abbassi – Shaheed Hospital in Karachi, Pakistan, from 1981- 1988, that their fistulae were the result of prolonged, obstructed labour, and also reported that three cases of recto –vaginal fistulae were due to badly applied forceps in obstructed labour which was carried out in a small maternity home. This calls to question the efficiency, effectiveness, and the ability of the trained health workers who are supposed to be safeguarding the people’s health.

In another review, Amr (1979) in a study of 72 cases of urinary fistulae treated in the maternity departments of Bashir and Jordan University Hospitals, Amman, between (1970 – 78), reported that 72% of the fistula patients (52 cases) were due to obstetric causes – operative or traumatic deliveries, with 17 due to prolonged labour with pressure necrosis.

In another study of 152 unselected cases of urinary vaginal fistulae over a period of seven years at the Baptist Medical Center, Northern Ghana, by Ashworth (1973), all the cases with the exception of one were of obstetric origin. Also, Begum (1989) reported in a study of one hundred women with Vesico –Vaginal Fistula admitted to Dhaka medical college and Mymensingh medical college Hospitals in Dhaka, and Bangladesh respectively between January 1987 and December 1988, that all the fistulae were of obstetric origin. Bhasker (1975) further lent his voice in his study of 302 women with urinary fistulae in Madurai, India between 1960- 1973, that the vast majority of the cases were due to prolonged and neglected labour.

The main cause of vesico-vaginal fistula according to Harrison (2001) is an advanced obstructed labour. This came about from the records of 22, 774 consecutive hospital births between January 1976 to 1979 in the Ahmadu Bello University Teaching Hospital, Zaria, Northern Nigeria. Murphy (1981) in an earlier study of 100 fistula patients attending the gynaecology clinic of Professor Leister for the first time between October 1976 and June 1978 reported that vesico-vaginal fistula, an injury that normal occurs during childbirth comes as a result of **unrelieved** obstructed labour. Harrison (2001) gave an insight into this obstructed labour, and I quote;

“The fault is with the bony pelvic cavity. It is too small to permit easy passage of the baby during labour. Labour gets prolonged and difficult. Failure to relieve the obstruction early, results in serious pelvic damage. Where the urinary bladder and the contiguous parts of the vaginal are injured, a false passage is created between the two, so that urine leaks through the vaginal continuously and uncontrollably, wetting the woman’s clothing, her buttocks, thighs and feet. Where the injury involves the rectum and anus; faecal incontinence results. Injury to the sacral nerves as they traverse the bony pelvic results in obstetric palsy causing difficulty in walking, and eventually gross deformities of the foot and leg muscles in neglected cases”. It can be seen from this analysis by Harrison that Vesicovaginal fistula is a serious form of maternal morbidity.

Vesico – vaginal fistula is majorly linked with obstructed labour in the developing countries. This ailment has led to so many shattered homes, lives, and hopes. It has turned so many women homeless and into beggars. The enormity of VVF can be seen in an interview Kelly (1989) had with a blind woman, I quote:

“On a recent working visit to the Addis Ababa fistula hospital, I suggested to a woman with VVF who was also blind that we might first do something about her eyes. But she pleaded, “cure my fistula first; if I am blind, people will sit with me and talk to me, but no one will come near me because I’ m wet and I smell”. Some people will rather die than to be blind but the reverse is the case with some VVF patients. This is to show how dangerous and deadly VVF can be.

In another review of literature, Lawson (1989) in an analysis of 543 cases treated in Nigeria and in the United Kingdom, reported that Vesico- vaginal fistula was as a result of difficult labour mostly in the developing countries. He further said this used to be the case in Britain (a now developed country) until the development of modern maternity care in the 20th century. Why this is happening in the developing countries according to him is that “cephalopelvic disproportion is common in environments unfavorable to childhood and adolescence”. *His aetiology of Vesico- vaginal fistulae, and obstetric fistulae are presented in tables 4 and 5 below:*

TABLE 4

AETIOLOGY OF VESICO –VAGINAL FISTULAE		
	Ibadan (1953- 1969)	United Kingdom (1970- 1988)
Obstetric	369	21
Surgical	7	116
Radiotherapy	0	19
Miscellaneous	1 ^a	10 ^b
TOTAL	377	166

a-Perforation by stick

b-Foreign body in vaginal, catheter injury, hypospadias, coital injury.

TABLE 5

AETIOLOGY OF OBSTETRIC FISTULAE

	IBADAN (1953- 1969)	UNITED KINGDOM (1970- 1988)
Obstructed labour	343	(4) *
Operative trauma during vaginal delivery	4	5
Caesarean section		
Operative trauma	15	8
Ruptured scar	7	4
Total	369	21

* Referred from developing countries.

Source: Lawson, J. (1989): Vesico – vaginal fistula – a tropical disease. Transactions of the Royal society of Tropical Medicine and Hygiene. Volume 83, Issue 4, 454-456.

The tables above are clear evident that obstructed labour is the commonest cause of vesico-vaginal fistula in the developing countries while the cause of VVF in the developed countries especially Britain is purely surgical.

In an analysis of twenty-five patients managed at St. Gaspar Hospital, Tanzania between February 1993 and March 1994 by Majinge (1995) prolonged or difficult labour was reported to be the cause of vesico vaginal fistula in 96% of the patients studied. He continued that, “our patients usually suffer from prolonged obstructed labour or prolonged **wrongly** applied delivery instruments, such as the vacuum extractor, causing large areas of necrosis on the interior vaginal wall”. This is a mismanagement of labour by those who are trained to help rather they destroy.

All the literature that have been reviewed so far have reported that the main cause of VVF is obstructed labour. It should be noted that the literature are so much particular about the developing countries especially northern Nigeria where VVF is on the increase.

Also, in Indian, Buckshee (1989) reported that VVF resulted from neglected and prolonged labour between 14 and 20 cases treated each year. Corroborating this view is Dhall (1989), in a retrospective analysis of the records of the postgraduate institute of Medical Education and Research in Chandigarh, India, from January 1984 to December 1988, reported that 23 (70%) of the 34 cases of vesico- vaginal and recto- vaginal fistulae treated were due to prolonged labour. Also, in the same Indian, Mukerji (1989) lend credence to the two works above when he reported that between January 1984 to December of 1988, 26 cases of genital fistulae were treated at the M.G.M. Medical college, Indore, India, and 23 (88%) of them were found to be from obstetric causes.

In another analysis of urinary fistulae from teaching institution in Madurai, South India between 1978 –1980 by Logambai and Poongodi (1989), 59 cases of urinary fistulae were reported, and prolonged, obstructed labour was reported to be the cause in 55 (93%) of the cases. Using a questionnaire and the clinical records into the condition of 18 obstetric fistula patients that came for treatment at the Gondar Hospital, Ethiopia, between December 1979 and February 1981, Halle (1983) found out that prolonged obstructed labour was the cause of vesico vaginal fistula of the six women that delivered in the hospital. Also, Hussain (1986)

reported that 96% of a total number of 80 women admitted with VVF were obstetrically caused.

Further confirming that obstructed labour was the main cause of vesico- vaginal and urethro- vaginal fistulae from the various studies carried out are: Massoudnia (1972), Gunaratne and Mati (1982), Perquis (1971), Samad (1989), Schol Z, and Norkyei (1989), Setna (1989), Docquier and Sako (1983), and Haule (1990).

In a data reported in 1990 during the workshop on causes and prevention of vesico- vaginal fistula in Nigeria, there were about 3,000 victims of VVF while 2,800 were awaiting repair and most of these cases (90%) were attributed to obstructed labour among young women (Sambo, 1990). In another study of 71 Nigerian women with VVF repaired at the Lagos University Teaching Hospital between 1978- 1982, 94% of the cases were as result of undue prolonged obstructed labour, 70% from pressure necrosis, 17% from uterine rupture, and 6% from caesarean section (Nnatu, 1986).

According to wall (1998), the physiological process that propels a full- term foetus from the womb into the outside world should under normal situation and circumstances be completed within ten to twelve hours once it has begun and when labour goes beyond this point, and unduly prolonged, it then becomes abnormal. It can therefore be seen from all the various studies mentioned in the review that any woman who develops an abnormally prolonged labour has a more serious risk of sustaining serious complications from childbirth, and one of the complications is vesico- vaginal fistula. However Abdul (1989) reported that between 1986- 1988 obstetric services were good in Kuala Lumpur, and there were no cases of VVF due to obstructed labour but rather due to malignancies, radiotherapy and difficult surgery. The number reported was very few- 11 VVF cases out of 8,532 gynaecology admissions in 1986, 11 out of 9,058 cases in 1987, and only 2 out of 9,360 admissions in 1988. This discovery will therefore lead to the establishment of other causes of VVF, but the conclusion is that majorly obstructed labour is the cause of vesico vaginal Fistula.

REFERENCES

- Abbo, A.H. & Mukhtar, M. (1975) New trends in the operative management of urinary fistulae. *Sudan Medical Journal*;13 (4) 126-136.
- Abdul Malek (1989); in WHO report on Obstetric fistula (WHO/MCH/MSM/91.5).
- Ahmed A.M. (1989) in WHO Report on Obstetric fistula. (WHO/MCH/MSM/91.5)
- Akhtar, A.Z (1989) in WHO report on obstetric fistula (WHO/MCH/MSM/91.5)
- Amr (1979): Genito – urinary fistula in Jordan. *Journal of the Kuwait Medical Association*; 13:175-180.
- Ashworth, F.L. (1973): Urinary vaginal fistulae: a series of 152 patients treated in a small hospital in Ghana. *West African Medical Journal*; 22 (2): 39-43.
- Begum, A. (1989): vesico-vaginal fistula: surgical management of 100 cases. *Journal of Bangladesh College of Physicians and Surgeons*, 6 (2): 29 – 32.
- Bello K. (1996): vesico-vaginal fistula (VVF): only to a Woman Accursed. *The female client and the Health Care Provider*, Ottawa: (pp.19-41). IDRC.
- Bhasker Rao, K. (1975): Genital fistulae. *Journal of obstetric and Gynaecology of India*; 25: 58-65.
- Buckshee, K. (1989). New Deltric in WHO report on obstetric fistula. (WHO/MCH/MSH/91.5).
- Dhall, K. (1989) in WHO report on obstetric fistula. (WHO/MCH/MSM/91.5)

- Docquier, J. and Sako. A. (1983): fistulas recto – vaginales d' origine obstetricale. *Medecine d' Afrique Noire*; 30 (5); 213-215.
- Foundation for women' Health, Research and Development. *Bulletin (newsletter)* 2003.
- Haile, A. (1983) – fistula – a socio – medical problem. *Ethiopian Medical Journal*: 21(2): 71 – 78.
- Harrison K.A. (2000). Maternal Morbidity and social conditions with particular reference to illiteracy and poverty. *Sexual Health Matters*, Middlesbrough, U.K. Express print works
- Haule, S.C. (1990). In WHO report on obstetric fistula. (WHO/MCH/MSM/91.5)
- Hussain, M.A. (1986): vesico – vaginal fistula: a review. *Bangladesh Journal of obstetrics and Gynaecology*. (1): 21-32.
- Kelly.J. (1979): Vesico vaginal fistulae. *British Journal of Urology*, 51, 208-210.
- Kelly J. (1989): Vesico – vaginal fistula. *The Lancet*, July 8, 109.
- Kelly, J. (1999) – Vesico – vagina and recto – vaginal fistulae: *Journal of the Royal Society of Medicine*, volume 85,257 – 258.
- Lawson, J. (1989): Tropical obstetrics and gynaecology: Vesico-vaginal fistula – a disease. *Transactions of the Royal Society of Tropical Medicine and Hygiene*. Vol. 83, issue 4, 454 – 456.
- Logambai, A & Poongodi, R. (1989) Urinary fistulae in Government Rajaji Hospital, Madurai (unpublished paper).
- Majinge C.R. (1995). Successful management of vesicovaginal fistulae at St. Gaspar Hospital, Itigi, Singida, Tanzania. A preliminary report. *East African Medical Journal*, Vol. 72 No 2.
- Massoundnia, N. (1972). Welblische Genitalfisein Im Iran. *Geburtshilfe and frauenheilkunde*: 32: 903 – 907.
- Mukerji, A (1989). Indore, India in WHO Report on obstetric fistula.
- Murphy, M., and Baba Tukur (1981): Rural dweller and healthcare in northern Nigeria. *Social science and Medicine*, 15A, 265 – 271.
- Mustafa, A.Z and Rushwan, H.M.E (1979). Acquired genitourinary fistulae in the Sudan, *Journal of obstetrics and Gynaecology*, 78, 1039-1043.
- Nnatu, S. (1986). Profile of obstetric fistula in a Sub-Saharan centre. *Journal of obstetrics and Gynaecology of Eastern and central Africa*; 5:13-15.
- Perqui, P. (1971). Fistules vesicovaginaies obstetricaies en Afrique Noire. *Medecine Tropicale*; 31 (5): 1-9.
- Samad, N. (1989). In WHO report on obstetric fistula. (WHO/MCH/MSM/ 91.5).
- Sambo, A.E. (1990). Cases and prevention of vesico-vaginal fistula in Nigeria. A national workshop organized by the National council of Women societies of Nigeria, Kano State Branch.
- Schoiz, S. and Norkyei, K. (1988). A review of 10 cases of urinary fistula treated at Patan Hospital. (Unpublished).
- Setna, F. (1989) in WHO report on obstetric fistula. (WHO/MCH/MSM/91.5).
- Wall, L.L. (1998): Dead mothers and injured wives: the social context of maternal morbidity and mortality among the Hausa of northern Nigeria. *Dec.*, 29 (4): 341-59).