CHAPTER II

LITERATURE REVIEW

The literature review will deals with the following aspects of vesico-vaginal Fistula:

- History Vesico Vaginal Fistula
- Types of Fistula
- Causes of vesico vaginal Fistula
- Signs and Symptoms of Vesico Vaginal Fistula
- Social Consequences of vesico vaginal Fistula
- Preventive measures for Vesico Vaginal Fistula
- Treatment of vesico vaginal Fistula
- Global situation of vesico vaginal Fistula
- Situation of Fistula in Nigeria

2.1 History of Vesico Vaginal Fistula

Vesico vagianal fistula or obstetric fistula has been identified to be a major issue or women of child bearing age since decades. In 1935 professor Derry from Cairo stated that, the remains of Queen Henhenit (2050 BC) were the oldest to discover fistula. Around 1845 james marion sims has improved the surgical techniques of fistula repair where he successfully repair VVF from a 3 female slaves in Montgonery Albana (Derry, 1935). While linking difficult labor to fistula, he advice on pregnancy prevention especially among teenagers where women are married very young. Later, in 1852 he established a VVF repair center where many affected patients from America and Europe came for surgery (Zacharin, 2000).

A discovery during 1550 BC in the ancient Egypt, Aveicenna was a famous Arabian physician to differentiate VVF and obstetric fistula (Derry, 1935). Another innovation came up in 1838 from Peter Mettnauer from Virginia who stated the relationship between obstructed labor and VVF. He has also been identified to be the first surgeon to close fistula in United State (Zacharin, 2000).

Study indicates that, during the 19th Century, women with fistula in United State and Europe were caused by dystocia (Russell). In the early 20th century, more experiments and techniques came up to improve the quality of VVF repair. Again, in 1942 Latzko published a new procedure in repairing post -hysterectomy of VVF which recorded 95-100% success (VVF MedScape, 2003). Many historical innovations and advanced technique by surgeons has been recorded while, more researches and experiment are still ongoing for the improvement and better solution towards VVF.

2.2 Types of Fistula

Many surgeons have described fistula according to their experience during repair. However, each author describes his own classification based on the anatomical features of the injury or the stage of the fistula (Wall et al., 2003).

In 1852 Sims stated the following classification of vaginal fistula by its location on the vagina: 1) urethra-vaginal fistula the anomaly was restricted to the urethra 2) Fistulas located ''at the bladder neck or root of the urethra, usually destroy the trigon''. 3) Fistulas which affect both the body and the floor of the bladder 4) utero-vasical fistulas is an abnormal opening that communicated with the uterine cavity or cervical canal (Wall et al., 2003)

However, other authors have also classified fistulas in various ways. Categories of fistulas are made according to their etiology (Moir, 1967). The following types are adopted as: obstetric injury, operative injury, ulceration from infection, radiation injury and congenital abnormality. The above types can be referred to as physical determinants due to their direct consequences to the victims. Bello, (2006) indicate the followings as the physical factors which influences the incidence of vesico vaginal fistula: obstructed labor, accidental surgical injury that related to pregnancy and attempts during induced abortion.

According to (Cater et al., 1952) stated that, it is difficult to describe the reported cases of fistula but, the standard method is to identify it during the actual operation and the result.

2.3 Causes of Fistula

Many publications and journals have their different versions on the causes of vesico vaginal fistula. This study will look at the problems related to physical and socio-cultural aspect. The physical causes can be related to the direct cause, while the socio-cultural causes refer to the contributing factor to the problem of vesico vaginal fistula.

2.3.1 Physical causes

In this situation, a young woman is directly exposed to the scourge of vesico vaginal fistula. The main cause of VVF is prolonged and difficult labor which sometimes takes for many days before a woman get medical attention. According to WHO (2006) report, if labor is obstructed, the pressure of the baby's head against the pelvis will reduce the flow of blood to the soft tissues within the bladder, vagina and rectum. This sometimes leaves the pelvic tissues with injury or damage, thus making an abnormal opening or a fistula between the bladder and the urethra.

However, Moir, (1967) stated that, obstetric fistula is caused by pressure necrosis due to a prolong labor. This situation may not be noticed till many days after a woman delivers her child. Other type of fistula occurs due to use of improper obstetric instruments. This can be accidental injury to the bladder during obstetric operation at the hospital.

Most of the VVF cases in the developing countries are caused by obstetric complication due to prolonged and obstructed labor. Usually this can be due to inadequate or absent of obstetric care in some countries. According to WHO (2006) report indicate that, physical causes of VVF can be from the following: Inaccessibility to basic obstetric care and lack of knowledge about facilities for fistula repair.

Majority of the pregnant women in the developing countries lack access to basic obstetric care. Many women based in the rural areas have their child birth at home. Since women in this situation lack access to adequate obstetric care before, during and after delivery, it could also lead to recording of high infant and maternal mortality rates.

UNFPA (2005) reports that, when mothers are at risk of maternal death or illness, their children could also be at risk. Other direct factor that causes the

incidence of VVF is complication of unsafe abortion (Hilton, 2003). Majority of the unsafe abortions are carried out by untrained individuals who seem to be knowledgeable.

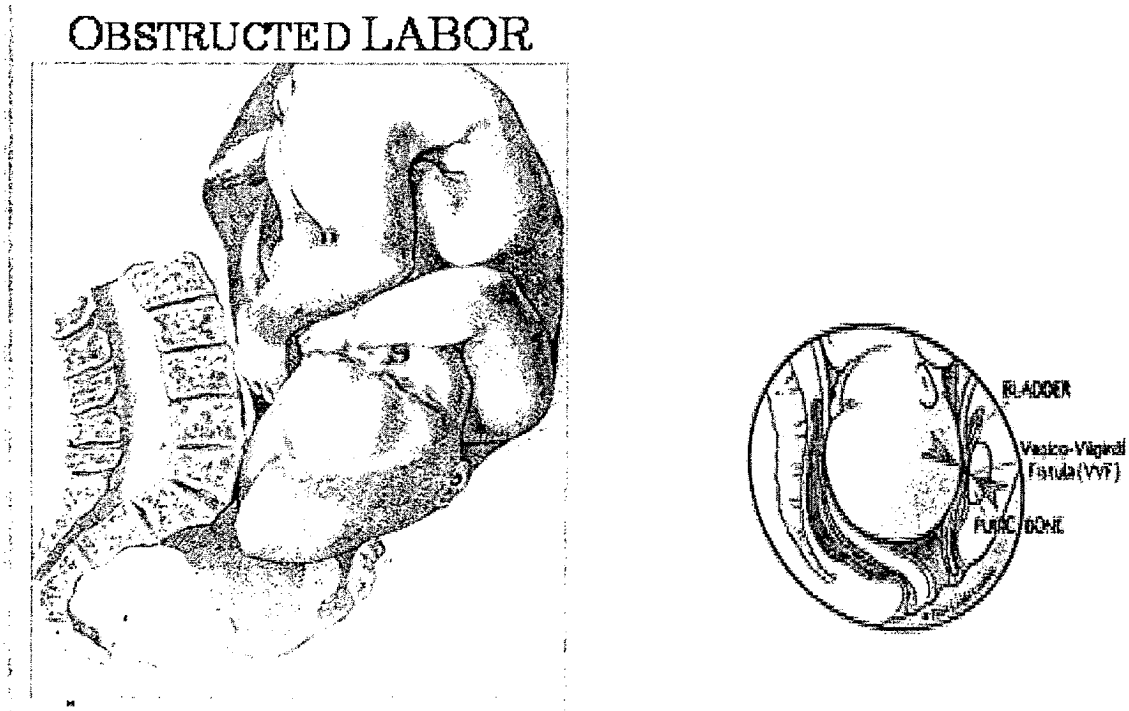

Figure 3 Diagram showing obstructed labor

Source: *The Lancet 2006; 368: 1201-1209*

2.3.2 Socio-Cultural Causes

The socio-cultural causes in which Nigerian women find themselves into are basically due to their poor maternity situation. Most of these underlying socio-cultural causes in Nigeria are: - Early marriage; harmful traditional birth practices; poverty and illiteracy.

2.3.2.1 Early marriage

Most the northern Nigerian women are given out in marriage at the age of 12-16 years old in which they have a small and narrow pelvis. Introduction to sexual activities due to early marriage can lead to early pregnancy in which the growth of their pelvis is not complete; this can also causes cephalo-pelvic disproportion, a situation where the head or body of the baby is too big to pass through the mother's

pelvic (Ajuwon, 1997). Hence the birth canal is too small for the baby to pass through; it will then result to prolonged and obstructed labor. The injury sustain by the mother will damage her birth canal which can lead to vesico vaginal fistula (Ajuwan, 1997). According to WHO/UNICEF, the recommended age of marriage is 25 to 26 years.

Research from UNICEF publication center on early marriage of 2001 stated that, in some part of West African countries more than 44 percent of young girls between the ages of 20-24 years reported to have been married before their 15 years of age. Another publication by (UNICEF, 2001) also stated the guidelines on changing attitudes of families and societies towards child marriage.

Early marriage is still remains a global health issue especially in developing countries (UNFPA, 2005). It's cultural, social and economic factor that mostly occur due to poverty and gender inequality (UNFPA (2005)

Majority of these girls were either been forced into marriage or were married off at the age where they cannot have a decision to accept it as a normal process (UNICEF, 2001).

In another report from WHO (2006) indicate that; more than 25% of women with fistula from Ethiopia and Nigeria are pregnant before the age of 15years while over 80% of them also become pregnant at 18years of age. Early marriage among northern Nigerian women mostly affects pregnancy and labor complications which likely leads to VVF.

2.3.2.2 Harmful Traditional Practices (Female Genital Mutilation/Gishiri cut)

Among the causes of VVF in Nigeria are traditional birth practices. The common practices are the female genital mutilation or female circumcision. Gishiri cut is a popular traditional birth practice in northern part of Nigeria. A razor blade or knife is being used in incision of part of the vagina, cutting against the pubic bone injuring the bladder and urethra. These cuts are being carried out by traditional healers or traditional birth attendants in order to prevent certain conditions such as prolonged obstructed labor, vulva itching, dysuria, and infertility (Ajuwon, 1997). Other

conditions of prevention are social security for their daughter's future or premarital pregnancy (Moir, 1967).

Female genital mutilation is harmful traditional practice of female circumcision among Eastern part of Nigeria. A razor blade or a knife is used in cutting the clitoris where an herbal substance is used to stop the flow and reduce the pains. This practice is more dangerous to young girl especially when they become pregnant and about to deliver her baby. Female genital mutilation contributes to the problem of VVF in countries being practiced (Nnachi, 2007).

A report by (Tahzib, 1985) stated that, 80% of VVF cases in Nigeria are caused by obstructed labor and one-third of them had undergone harmful traditional birth practices. Female circumcision and insertion of herbal substances into the vagina may lead to the damage of the birth canal which mainly causes prolonged labor and fistula (Moir, 1967).

2.3.2.3 Poverty and illiteracy

Poverty plays a great role in the cause of VVF among women in Nigeria. This has to be connected with illiteracy, nutrition, good living condition, and access to obstetric care. Zacharin, (1988) indicates that, two-third of VVF cases caused by difficult labor is due to contracted pelvis which resulted from poor nutrition and frequent infections. Because of poverty most of the people from the rural areas are facing difficulties in affording good nutrition diets that will help them in having full body growth. Most of the VVF cases have poor nutritional status resulted to abnormal growth of the pelvic bones.

In some part of Nigeria, male children are considering to be highly valued in getting more quantity food than girls. Pregnant women sometimes are denied or prevented in eating high nutritious diet for body development. It is also a taboo to them to eat large quantity of food because of the fair in getting big baby. In some part of Nigeria, due to poverty some parents prefer to give out their female child in marriage rather than sending her to school because of high bride price (Balogun, 1995). Due to poverty and illiteracy, VVF victims find it more difficult in affording to seek for medical services.

Other causes that are caused by diseases (Secondary VVF) are:

- Sexual transmitted disease or history of previous pelvic inflammatory disease (PID).
- Bladder stones or retained foreign bodies within the vagina
- Diabetes
- Anatomic distortion of the pelvic area.

2.4 Signs and symptoms of Vesico Vaginal Fistula

The common symptoms of VVF are chronic continuous incontinence/ leaking of urine from the vagina. Others causes are:

- Irritation and itching of the vulva resulted to recurrent urinary tract infection.
- Painful perineum ulceration and wetness
- Hematuria or non-specific vaginal discharge
- Perinea excoriation and urinary stretch
- Uterine damage, amenorrhea followed by infertility
- Smell of urine due to persistence incontinence (Foul Odor)
- Damage of the perinea nerve causes paralysis or foot drop

(VVF is usually diagnose by a medical doctor)

2.5 Social consequences of VFF

Almost all report from the medical professional indicates the social consequences of women with VVF that bears. These attributed due to lack of support from the families and societies as a whole. Majority of these women faces great challenges in the society because of the odor from the incontinence of urine (Lewis, 2006).

According to WHO (2006) report, women with VVF are facing difficulties to manage the urinary incontinence that causes odor from urine. The report also highlighted that, due to injury to the vaginal wall many complications may arise even after obstetric repair of the VVF. These complications are narrowing of the vagina, secondary amenorrhea and inability to carry the child.

However, (Murphy, 1981; Harrison, 1983) stated that, the most traumatic aspect of VVF resulting to urinary incontinence and loss of child which sometime may lead to marital separation/divorce and also social excommunication.

In another report from WHO (2006), VVF patients are to be sympathized due to the lower social status of women in Nigeria. The most disheartening is that, they are being abandon by their husband and have limited role within the family (WHO, 2006).

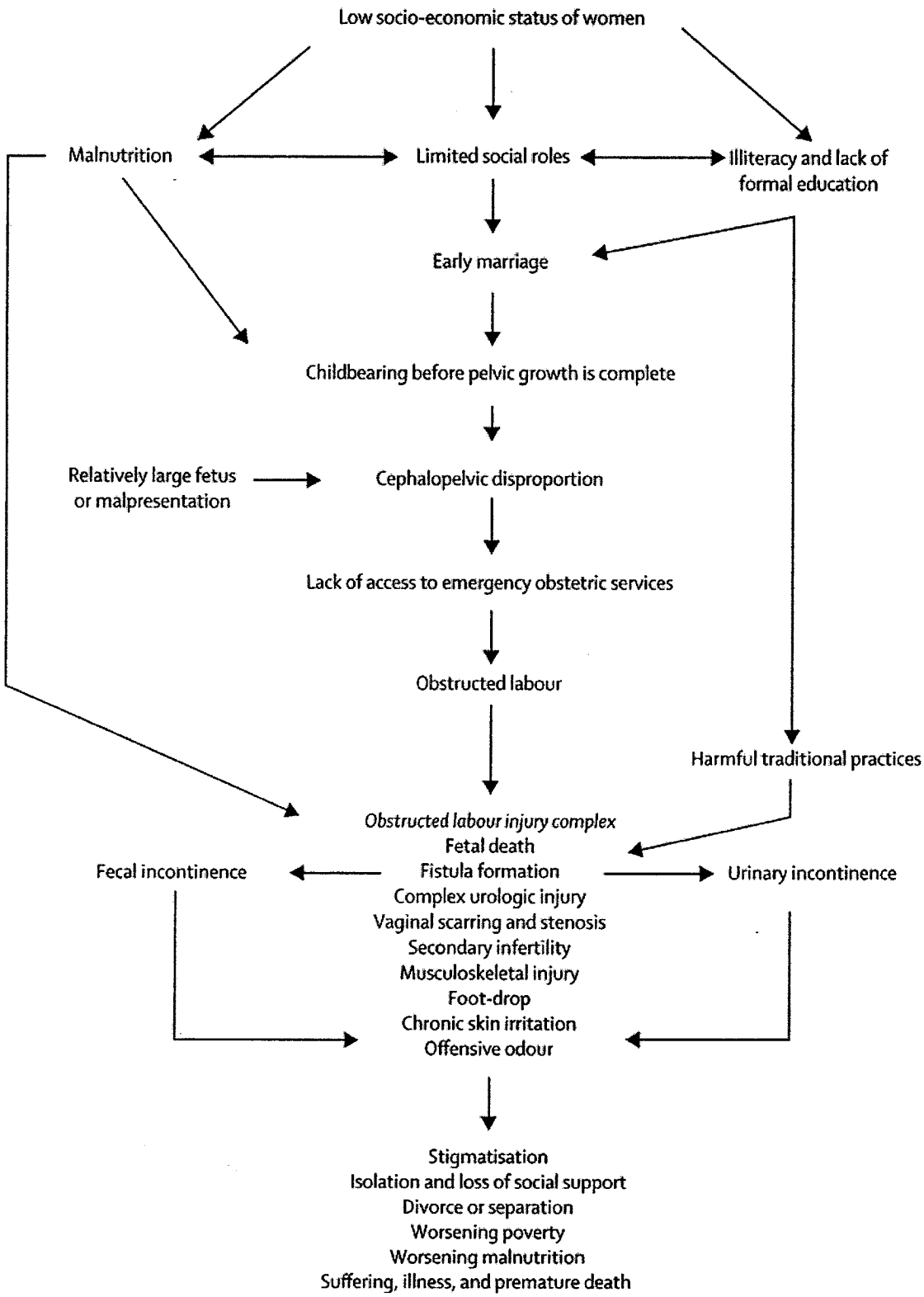

Figure 4 Diagram showing contributing factors towards VVF

2.6 Preventive measures for Vesico Vaginal Fistula

In 2003, UNFPA and other partners had launched the first campaign to end fistula with the aim to reduce the incidence. This include: Intervention to prevent fistula from occurring, treating the affected women and also review the hopes of those women that suffer the condition in order to reduce the stigma associated with it. This will also help them to return to full and productive lives (UNFPA, 2003). Other components could be:

- Direct prevention of fistula can be done during delivery when a skilled provider identify a woman at risk at the early stage and link her for quick intervention.
- Community programs can be used for social education
- Proper nutrition and especially nutritional needs for growing women can be provided.
- Improve antenatal screening procedures and care which include availability of skilled attendance at the time of delivery.
- Promoting basic education to the communities.
- Create public awareness on safe delivery and obstetric complications.

A statement from WHO Maternal Health and Safe Motherhood program indicate that, the endemic VVF area should focus prevention aspect through effective social changes that will improve the status of women.

2.7 Treatment

A woman with fistula faces a lot of challenges which most of the time find it difficult to disclose their situation. The only solution for their survivor is surgery and personal hygiene.

2.8 Global Situation of Vesico-Vaginal Fistula

Vesico Vaginal fistula (VVF) which is also called obstetric fistula is a devastating child birth injury that resulted to an abnormal opening between the urinary bladder and the vagina or between the vagina and the rectum (RVF).This is caused as a result of prolong labor where the child presses against the normal way

thereby developing the hole between the vagina and the urinary bladder (WHO definition).

Globally, 529,000 women were estimated to have died every year due to pregnancy and childbirth related complications. Almost 90 percent of these death are from Africa and Asia. Generally, 5 percent of these deaths are expected to have experience from obstructed labor (UNFPA/Nigeria, 2005).

Metro report in 2006 indicated that, VVF is not a new disease. it has been in existence for decades. He further highlighted that, in the third world countries mostly in the west 90% of VVF cases are caused by bladder trauma during hysterectomy surgery. Nowadays, advanced technologies from developed countries such as Europe and part of North America have eliminated the disease (VVF) in there region (Metro, 2006).

In the same report of metro 2006, he stated that, VVF is an uncomfortable disease the victims should be more serious towards their personal hygiene. Another report from (WHO, 2006) stated that, about 2 million women are living with untreated VVF, while 50,000 to 100,000 new cases are reported every year (WHO, 2006).The increase on figures could be due to stigma that associated with the situation. However, WHO study on global burden of disease stated that, if 2% of the obstructed labor is caused by VVF, then 130,000 women are going to be affected with the condition (WHO, 1998). Another report from Nigeria revealed that, out of 377 cases of VVF 369 cases are caused by childbirth (Lawson, 1989).

2.9 Situation of vesico-vaginal fistula in Nigeria

The millennium Development Goals (MDGs) targeted at reducing the proportion of women dying in childbirth by three quarter by 2015 become unrealistic in Nigeria. The reason behind it is that, the country has made less progress in reducing maternal and mortality than any other sub-Saharan African countries (WHO,UNCEF and UNFPA, 2000). The maternal mortality rate in Nigeria estimated as 545 per 100,000 live births (NDHS, 2008).

The northern part of the country has generally worse indicators with an estimated maternal mortality rate of 1,500/100,000 live birth. The high maternal mortality rate affects the basic health services in the country (NDHS, 2008).

In Nigeria, almost 80% of VVF cases are caused by obstructed labour during delivery, and most of these cases are directly related to early marriage (Ojanuga & Ekwempu, 1999). Many Nigerian women living with vesico vaginal fistula said to be estimated at 2.11 per 1000 birth (Tsui et al, 2007). This is to say that, the estimated rate in Nigeria is 100,000 to 1,000,000 women in Nigeria are suffering from the disease (Wall, 1998). A study by (Kelly and Kwast, 1993) revealed that, prolong labour is among the leading causes of maternal mortality in Nigeria that accounts almost 8% of the global maternal deaths.

In spite of the above situation, studies show that, vesico vaginal fistula is more prevalent in the northern part of Nigeria (Orji et al, 2007). It is also a major public health issue hence, an estimates of 50,000 – 100,000 new cases occur annually in Nigeria (Muleta M, 2006). Many of the VVF victims from the northern part of Nigeria are teenagers this has to be connected to early marriage and pregnancy which has been a contributing factor to development of VVF since the era of Avicenna in 950 AD.

A studies by (Ijaiya et al, 2010) shows that, the most contributing factors of VVF among the northern Nigerian women is early marriage/pregnancy, poverty,

Illiteracy, ignorance, restriction of women's movement and nationwide are unskilled birth attendance and late reporting to health facility. The study further indicate that, most of the pregnancy outcome among the VVF victims is still birth with an estimated rate at 87%-91.7% followed by stigmatization, divorce and social separation which are the most common complication (Ijiaya MA et al, 2010).

Ibrahim et al., 2000 reported that most of the VVF cases are caused by obstructed labour 28% are due to delay in seeking care which include non permission from husband/family to seek for emergency obstetric care, lack of accessible transportation (25%) and 7.4% attempted for traditional remedies. Kabir et al., 2000 also stated that, girls or young women are being forced to beg for their livelihood

becomes inevitable and destitution follows. In Nigeria divorce rate was as high as 55% among women with VVF and almost 21.1% of the women were separated (Wall et al., 2004). Majority of these women suffered from psychological depression and societal negative reaction (Kabir et al, 2004).

Report by Kabir et al, 2004) revealed that, the average age group of occurrence of VVF in Nigeria is between 10-18 years. Report on the meeting for VVF prevention and treatment (UNFPA, 2001) stated that, in less developed countries, almost one third of the pregnant women do not visit health facility and 60% of all deliveries take place outside the health facility. The report further indicate that in Nigeria, only 35% of women have been giving birth through trained health personnel, unlike in other developed countries where almost 99% of deliveries were conducted by trained skilled birth attendant.

Majority of Nigerian VVF victims had home deliveries conducted by untrained birth attendant and if when attempted to deliver at health facility it should be late when labour had already been obstructed for a long period of time (Shittu et al., 2009). Most of the contributing factors that hinders for seeking medical care at early stage could be due to socio-cultural factors, lack of knowledge on the warning signs of difficult labour and poverty.

Traditional birth attendants (TBA) are more prominent and affordable to women in the rural communities. In northern Nigeria women's movement is strictly under husband control and financing for their health care is being shouldered by their husband. This can be the most common cause of her delay in seeking medical attention at early stage when obstructed labour occur (Wall et al,. 2004).

In 2002, a multi-sectorial committee was setup by the Federal Ministry of Health to find the solution to the problem. At the same time the committee identifies Engender Health along with UNFPA/Nigeria to conduct a nationwide needs assessment in order to develop a framework and action plan for the elimination of fistula in Nigeria..

Education for Nigerian women is below average with 36% of women age 15-49 years with no formal and in the Northwest zone only 9% attain more than

secondary education. Fertility rate varies by region, women in the south west region has 4.5 unlike in the Northwest region has 7.3 (NDHS, 2008). Median age at first marriage is 18.3 for women age 25-49 yrs.

Although Nigeria has been taking measures to address the problems of reproductive health and maternal health but, the implementation of the interventions have not reach optimum coverage to obtain the desired impact (NDHS, 2008).