

Full length research paper

Birth and sorrow: The psycho-social and medical consequences of Obstetric fistula

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This study examined the Psycho-social and Medical consequences of obstetric fistula among VVF patients in three VVF Centers (Katsina, Kano & Zaria) in North Western Nigeria. Enumeration of respondents in each hospital was based on availability according to size of hospital. A total of 436 patients within the age groups 10 to 25 years and above, across the three hospitals, were interviewed. The sample size was considered adequate due to the homogeneous nature of the population and also, the total respondents in the three hospitals did not add up to 500 patients. Individual hypothesis was tested using Pearson's Product Moment Correlation (PPMC). Pearson's r was used to test for the degree of association between variables. The study finds significant correlation between both psycho-social & medical consequences and obstetric fistula $r .780$ and $r .726$, respectively. It has, thus, been established that the impact of psycho-social consequences of obstetric fistula is more on sufferers than medical consequences. Recommendations were made to government, non-governmental agencies and the communities for the provision of more support towards the reduction of the incidence of obstetric fistula, as well as rehabilitation, social re-integration, care and support to current sufferers.

Key Words: Psycho-social, medical, consequences, obstetric fistula, VVF patients.

INTRODUCTION

Socio-anthropological and ethnographic studies have indicated that in almost all human societies, there exist by definition, regularized procedures by which societal goals are achieved and communal solidarity, survival, and continuity are maintained. Most societies have arrangements through which reproductive mechanisms and sexual behaviors of their members are codified for the common good of all. Normative codes and systems of social control exist which reflect those basic institutional arrangements that may have implications for the totality of the social norms of such societies. One such mechanism is the regulation of sexual and reproductive behavior of members of such societies through the observance of certain socio-cultural practices. However, proponents of the sociology of health and illness, and other social and medical scientists have acknowledged that the prevalence of such socio-cultural practices in those societies are some of the fundamental causes of female reproductive morbidity (such as Female Genital Mutilation (Lesthaghe (ed) 1981). Reproductive morbidity has been defined by WHO (1991), as "any condition or

dysfunction of the reproductive tract, or any diseased condition which is a consequence of the reproductive behavior, including pregnancy, abortion, childbirth, or sexual behavior". WHO (1989) states that maternal morbidity is the morbidity in a woman who has been pregnant, regardless of the site or duration of pregnancy, occurring from any cause related to or aggravated by the pregnancy or its management but not from accidental or incidental causes and classified maternal morbidity into direct, residual, indirect, and psychological obstetric morbidity and concluded that obstetric fistula is a residual condition of direct maternal morbidity.

Obstetric Fistula is a maternal morbidity that occurs from prolonged and obstructed labor. Obstructed labor causes obstetric fistula when a prolonged labor especially due to cephalo-pelvic disproportion causes an obstruction without timely intervention of a trained physician (for a caesarian section) to relieve the obstruction. The obstruction usually occurs because the pelvis is too narrow or small to allow for the passage of the head of the baby during labor. The resultant effect is that the baby's

head compresses against the bladder and the pelvic bone anteriorly or against the rectum and the pelvic bone posteriorly. Tissue necrosis thus, occurs if the pressure is not relieved in time. Incontinence arises when the dead tissue slough off, usually between 4th and 14th day postpartum and the patient, who survives, ends up either with a vesico-vaginal fistula or recto-vaginal fistula (Arrow smith, 1994; Hamlin 1969; Tahzib, 1983; Waaldjik, 1994; WHO, 2001).

The diagrams above (Figure 1) shows the anatomical structure of the female (human). This study is only interested in showing the PELVIC REGION that houses the Uterus, Bladder, Rectum and Vagina in order to illustrate the definition or description of the processes of fistula formation presented above. The first anatomical structure (Figure 1A) shows the uterus (womb) free of pregnancy with wide gap between the rectum and the pelvic bone and between the rectum and the vagina on the posterior side. On the anterior side, there is wide gap between the bladder and the symphysis. However, the second structure (Figure 1B) shows 28 months pregnancy with the fetus lying between the bladder and the rectum. The gaps observed in Figure 1A are narrowed here due to the presence and size of the fetus (especially for young girls below the age of 18 years). As the fetus grows in size, the narrowing of gap increases. Thus, if complications occur at the time of labor either due to an abnormal position of the fetus or compound presentation or malfunction due to sepsis or hydrocephalous, and is not relieved in time by a trained physician, necrosis of the tissue occurs where the part of the fetus lie; either on the bladder (vesicovaginal fistula) or on the rectum (recto vaginal fistula) or both. The patient begins leaking urine or faeces between the 4th and 14th day postpartum (if she survives). This is the situation of patients under this study. There are psycho-social, other medical and gynaecological determinants of obstetric fistula apart from obstructed labour such as, age, poverty, education, culture and religion, nutrition and health system inadequacies which are equally considered in this study. However, others include; radiation therapies, cesarean section, hysterectomy, infection, uterine prolapse which were not considered for this study.

Psycho-social consequences of obstetric fistula is defined in this study as the psychological and social feelings impacting on women suffering from obstetric fistula; consequent upon which the study found that the patients are stigmatized, rejected, and socially isolated by the society in which they live. They are ostracized by their communities, divorced or separated by their husbands or sexual partners, cry for the loss of their babies, have offensive odour (due to urine or/and stool leakage), and experience loss of sexual libido and orgasm. Other associated psycho-social factors found to be experienced by obstetric fistula patients include; depression, low self-esteem, feeling of embarrassment, lack of sexual

pleasure or satisfaction. These factors were similarly found by other studies including those of Browning (2004); Islam and Begun (1992); Kabir (2003); Ojanuga(1991). Wall (1996), in his study puts it that women who suffer the condition of obstetric fistula are “the most dispossessed, outcast, powerless group of women in the world”; while, Sadiq (In UNFPA, 2001), concluded that “if anyone had seen the sad eyes of these young girls, really children, embarrassed and ashamed of themselves, they will never forget the torment and despair. It is disability from pregnancy that is disgraceful, unacceptable, and a denial of our claim to being a caring and compassionate society...”

The medical consequences of obstetric fistula is defined in this study as the medical effect of obstetric fistula impacting on women suffering from the condition measured in terms of incontinence of urine and/or faeces, foot drop, chronic skin irritation, bladder stone, vaginal stenosis, secondary infertility. In Nigeria, studies on obstetric fistula indicates abnormalities such as bone fractures, bone spurs, obliteration of the symphysis and symphyseal separation, foot drop resulting from excessive compression of the sacral nerve plexus due to size of the baby's head, bladder dysfunction or the obstruction, vulvar excoriation and ammonical dermatitis (Cockshott,1973; Waaldjik and Elkins; 1994)

The afflicted patients are being divorced by their husbands and rejected by families and relations (Sambo, 1994) with no education and means of livelihood, end up either begging or employed in casual work

OBJECTIVES OF THE STUDY

The study principally examined the psycho-social & medical consequences of obstetric fistula among patients with obstetric fistula in three VVF centres of Kano, Katsina, and Zaria in North-Western Nigeria.

Specifically the Study

|| Examined the impact of psycho-social & medical consequences of obstetric fistula, such as rejection by husband, friends and other family members; divorce and loss of baby; stigmatization; social isolation; offensive odour; frustration; incontinence of urine and/or faeces, foot drop, chronic skin irritation, bladder stone, vaginal stenosis, secondary infertility; experienced by women suffering from the condition; and

|| Identified and recommended strategies (locally suited) for obstetric fistula prevention and control in the study areas.

Theoretical Framework

A number of sociological, psychological, medical, and demographic frameworks or theories are looked at under

Figure 1. Human Anatomy (Female).
Figure 1a. No Pregnancy.

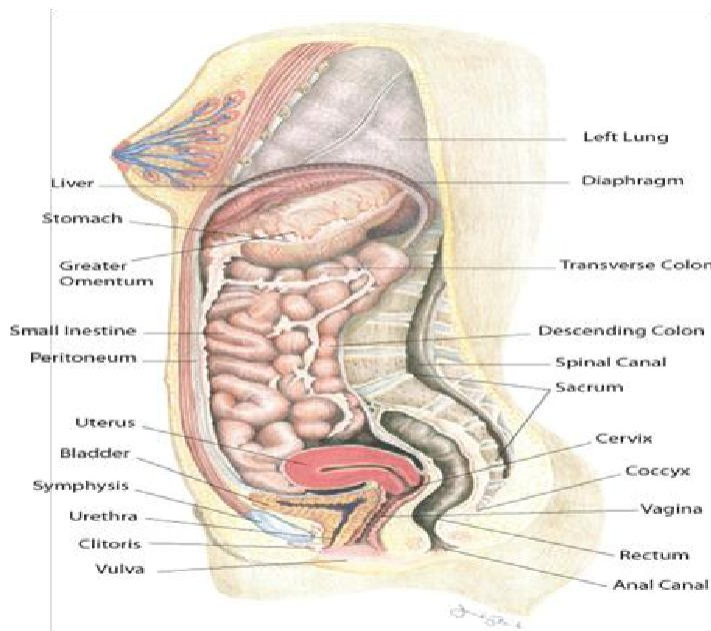
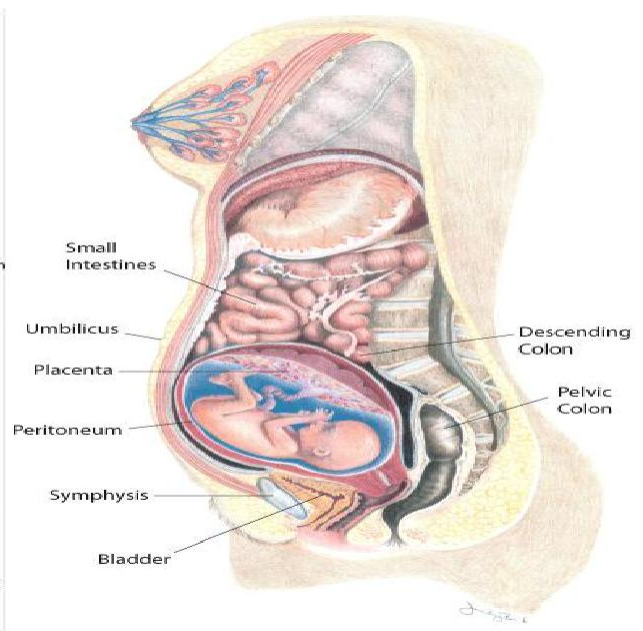


Figure 1b. 28 Weeks Pregnancy.



Source. The Growing Uterus Charts: Childbirth Connection, 2006.

this study in an attempt to provide explanations on the relationship between individual patient's behavior and her immediate environment or society. Attempt has been made to classify these theories into two broad categories: (a) sociological & psycho-social traditions, and (b) medical & demographic traditions.

The sociological and psycho-social traditions analyze social phenomena at different levels and from different perspectives, from specific interpretations to generalizations of society and social behavior. For instance, how people view illness and how this affects their behavior or the behavior of others or their behavior towards others. Thus, their analysis encompasses micro level of analysis of small social patterns to macro level of analysis of large social patterns. These schools of thought employ theoretical perspectives such as the symbolic interactionist perspective, the health belief model, the medical model, the sick role model, the social role valorization theory, the labeling theory, the social constructionist theory. Each perspective uniquely conceptualizes society, social forces, and human behavior within the domains of the sociology of health and illness. The symbolic interactionism and the social construction of illness school such as Mead (1964), Cooley (1987), assert that individuals act according to their interpretation of the meaning of their world. They attach meanings to symbols, and act according to their

subjective interpretation of these symbols. For them, identity is created through interaction with others. These theories show that image building is a direct reflection of the impressions people gain from others or ascribe meaning to what others think, do, say, in terms of appearance, speech, actions, mannerisms hence, project the interpretations of such meanings unto themselves. Thus, "the thing that moves us to pride or shame is not the mere mechanical reflection of ourselves, but an imputed sentiment, the imagined effect of this reflection upon another's mind." These theories are manifestations of the ostracizing, stigmatization, social isolation of fistula patients even among their families, friends, neighbors and community people. The illness, in this case fistula, to which the label is attached, may even be interpreted as a sign of personal weakness or culpability of the patient. The general perception is that urine leaking is a shameful act with its cornucopia, offensive odour. The fistula patients feel degraded, rejected and dehumanized. This has negative social and psychological impact on them.

Social role valorization (Wolfensberger, 1972), is "the application of the enablement, establishment, enhancement, maintenance, and/or defense of valued social roles for people. The theory holds that only people with valued social roles in society are respected and have the best things in life. According to this theory, there are

only two persons in society; those who are already societally devalued, and those who are at heightened risk of becoming devalued. That those devalued in society are far more likely to be treated badly and to be subjected to negative experiences. The good things in life include: home and family; friendship; being accorded dignity, respect, acceptance; a sense of belonging; an education, and the development and exercise of one's capacities; a voice in the affairs of one's community and society; opportunities to participate; a decent material standard of living; and at least normative place to live; and opportunities for work and self-support. This theory directly depicts the psychological and social consequences associated with obstetric fistula. It describes some of the dehumanizing experiences women subjected to the condition of fistula face within their communities, among families, friends, and immediate neighborhood. Unfortunately, the good things in life are usually not being accorded to them because they are devalued in society. For them, the good things of life are beyond their reach, are being denied them, are withheld, and are hard to obtain; consequently, they resort to begging. This is the typical life of a fistula patient in the areas under this study.

The Medical Perspective or bio-medical model holds the belief that health and illness are biological descriptions of the state of our bodies. According to this model, illness is something external and independent of human behavior, as Senior (1998) puts it that it is not the result of an evil spirit or curse (as people in many of our communities have this perception about the cause of obstetric fistula) but by bacteria, virus, congenital malformation, or accident. The believe that certain diseases are caused by evil spirits or witchcraft such as obstetric fistula no longer hold to be true as traditional medicine do not have cure for such illness. Most fistula patients undergo clinical surgeries for treatment or at best, early catheter treatment.

The Demographic - Health Models looks at the preventive aspect of health in terms of individual health seeking and those factors governing his behavior. According to these theories, if a woman is not exposed to the risk of pregnancy and does not become pregnant, the consequences of pregnancy outcomes or delivery would not arise. Thus, all efforts should be made to avert conception that will lead to chronic morbidity hence maternal mortality. Maine (1992) in the conceptual framework for analyzing the cultural, social, economic, behavioural, and biological factors that influence maternal mortality and "chronic morbidity" concluded that determinants of maternal mortality (and chronic morbidity) and all efforts directed at reducing such mortality (and chronic morbidity) "must operate through a sequence of only three intermediate outcomes". Either efforts should be directed to: (i) reduce the likelihood that a woman becomes pregnant; (ii) reduce the likelihood

that a pregnant woman will experience a serious complications of pregnancy or childbirth; or (iii) improve the outcomes for women with complications. They suggested the following three possible areas of intervention; viz;(a)family planning to prevent the occurrence of pregnancies; (b) safe abortion services to reduce the incidence of complications; and (c)improvement in labour and delivery services to increase the survival of women who experience complications (emphasis mine). Main (1992) asserted that chronic morbidity "include chronic urinary tract infection, uterine prolapse, and vaginal fistulae," each of which is a serious, chronic condition that can have a considerable impact on the physical and social well-being of women (emphasis mine).

METHODOLOGY

The Study Areas

Three VVF centres: the VVF Unit, Babbar-ruga Hospital, Katsina; the Laure Fistula Centre of Murtala Mohammed General Hospital, Kano; and the HauwaSawaba VVF Centre, Zaria in North-Western Nigeria, are the sites chosen for the study.

(a) **The VVF Unit, Babbar-Ruga Hospital, Katsina:** is the biggest VVF hospital in North-Western Nigeria. It is located at Babbar-ruga village, about 3km outside Katsina metropolis along Batsari road. The hospital houses five separate sections:- a) the VVFSection, b) the Leprosy Section, c) the Tuberculosis Section, d) an Out Patient Department(OPD), and e) an Administration Section.

The VVF section consists of a 40-bed pre-operative ward linked to an operating theatre and a 40-bed post-operative ward. There are 3 blocks of hostels that houses 150 VVF patients of 50 per hostel awaiting surgery. The hospital also has a mini adult education and handicraft classes. A new ultra-modern skills acquisition and rehabilitation centre (named after Dr WaaldijkKees) stands about 50 metres opposite the entrance to the main hospital and houses 60 patients. Thus, about 290 patients are accommodated at the Babbar -Ruga VVF Centre and Dr Kees rehabilitation centre all times throughout the year. The hospital serves as a VVF referral centre to six (6) neighboring states including; Jigawa, Kano, part of Kaduna (Zaria), Kebbi, Sokoto, and Zamfara as well as, across the borders to Niger Republic. There is a Chief Consultant Surgeon on VVF repairs, Dr. WaaldijkKees, that tours all the VVF centres in the eight (8) areas listed above every week as a routine along with his support staff and trainee doctors. He goes to Maradi and Zinder in Niger Republic once a month, as well. He usually resides in Katsina. A minimum of 500 VVF patients are treated annually with a bed capacity of 150 pa-

tients awaiting surgery. This hospital provides both international and local training to doctors and nurses/midwives interested in VVF repairs and management.

(b)**Laure Fistula Hospital Kano:** is located within the premises of Murtala Mohammed Specialist Hospital, Kano. It serves as a referral, as well as, a training centre on VVF repairs. Doctors and nurses/midwives are locally being trained on VVF repairs and management. It extends its services to some states in Northern Nigeria including; Bauchi, Borno, Gombe, Jigawa and Adamawa. The hospital has a 40-bed capacity and a minimum of 300 patients are being treated, annually. There is a 50 bed hostel that houses patients at Kwalli. Thus, a total of 90 VVF patients are available under the management of the Laure Fistula Hospital, Kano all times throughout the year.

(c)**Gambo Sawaba VVF Centre, Zaria:** is located at KofarGayan in Zaria. This centre is smaller relative to the two described above. It serves mainly cases within Kaduna State. The centre has a bed capacity of 36 patients with a hostel that accommodates 20 patients at a time. Thus, about 56 patients are available all the time in this hospital. A minimum of 200 patients are being treated, annually

The Study Population

The study population is homogenous group of women with VVF/RVF who predominantly speak one common language (Hausa) and who presented themselves at the three centres in Katsina, Kano, and Zaria for treatment at the time of this study. A total of 436 women with obstetric fistula are available all the time in the three VVF centers, spread according to the size of each hospital and were subjected to this study. All patients interviewed were considered as obstetric fistula patients for this study.

Sampling Design

Availability according to size of hospital was used in selecting cases based on purposive sampling methodology. A total of 436 patients were in the three centers' and all patients were eligible for the study. A complete enumeration of all cases in each hospital was done in considering the fact that the total sample is not large enough to call for robust sampling technique. Thus, all cases in each hospital, and according to who was present at the time of interview, either resident (in hostels awaiting treatment), or on post-operative bed in wards, or in rehabilitation hostels (within or around the centers') were covered. The respondents per each setting are as follows: (a) Katsina - a total of 290 patients, (b) Kano - a total of 90 patients, and (c) Zaria - a total of 56 patients.

The choice of the three hospitals for the study allowed for reliable analysis of cross-tabulations; provided desired levels of accuracy in estimating proportions; and enabled test for significance of differences between proportions.

Data Collection Procedure

A method of "triangulation" (mixed method) was adopted for data collection where relevant information for the conduct of the field research for the study was collected. The mixed method involved both quantitative method (using structured questionnaire) and qualitative method (using key informants interview and focus group discussion). A total sample of 436 women with obstetric fistula was enumerated according to the size of cases available in each hospital. A question schedule designed contained both closed and open ended questions. The question schedule was pre-tested to determine the validity and reliability of the questions, clarity of terminology, time schedule, and the securing and ordering of the questions. Field enumerators were recruited as interviewers and each had a minimum of a university qualification, its equivalent or currently performing a national service (NYSC) and who had possessed the following: familiarity with the prevailing cultural setting, able to speak Hausa language fluently, able to bear working in such an environment and accommodating among the study group, and had commitment to the research work. Each site had interviewers according to the size of the sample available. A total of 9 interviewers were recruited and trained in a suitable site in Kano which was considered as centrally located. The training involved interpretation and detailed explanation of every question with clear understanding by all interviewers. The training included translations or interpretation of the questions into Hausa (the major local language) for better clarity and for avoidance of ambiguity. A mock exercise (pre-test of the questionnaire) in an identified setting near the training ground enabled uniform interpretation of questions in the question schedule, as well as, better understanding of the questions before the field work. The survey was conducted in March, 2010 and each interviewer completed about 15 sets of question schedule per day in each hospital. The distribution of interviewers and question schedule during field work was according to the size of samples in each hospital as follows: Katsina, 290 had 4 interviewers (5 days); Kano with 90 had 3 interviewers (2 days), and Zaria with 56 had 2 interviewers (2 days). The investigator and an identified experienced field worker (recruited from Sociology Department, Bayero University, Kano) conducted the training and supervised the field exercise for correctness and completeness of each completed question schedule. The question schedule contains both closed and open en-

ded questions which allowed further probing. It also contained skip patterns and broadly divided into 5 sections from 'A' to 'E' as follows: Socio-Demographic status, marital history, reproductive status, and the section on psycho-social consequences of obstetric fistula.

Qualitative methods using key informants and focus group discussion was employed in supplementing the quantitative method which permitted further probing. Key informants in each hospital setting which included; Doctors, Nurses, Attendants, were interviewed in respect to their knowledge and perception of patient's attitudes and behavior towards others and among themselves, their relationship with other people and immediate communities, response to treatment, sources of livelihood, etc. A total of 15 informants, 5 per each hospital were interviewed using interview guide. Each respondent was asked the same set of questions using the guide in at least 10-15 minutes session. Two investigators (a male and a female) were employed all with not less than a university qualification. A tape recorder was used to avoid missing some important information while jotting notes during the interview process. The consent of the interviewee was sought.

Focus group discussion was also employed as another method that complemented the quantitative research. Focus group sessions were conducted in each hospital setting with selected patients' relations. The purpose was to collect more information about their perceptions of the patient's and the patient's reaction to members of the community and family, how the community view the patients, etc. Respondents were categorized in 2 groups of 8 or 10 respondents depending on availability in each center consisting of separate males and separate females. A total of six (6) focus group sessions were conducted, two (2) in each hospital setting. The homogeneity of the groups' permitted flexibility and freedom of expression within each group as the Hausa/Fulani cultural settings does not allow the co-presence of males and females irrespective of age. The investigators for the focus groups sessions were experienced researchers consisting of a male investigator and a female note taker for all sessions in the three centers. Considering the socio-cultural environment, Hausa was used as the common language during the group's sessions. The conversations were recorded on tapes which were transcribed and translated into English and compared with the notes taking during the sessions. Materials for the focus groups sessions were; a discussion guide, a note pad for note taking, note taker, a tape recorder, set of tapes, a conducive environment, and availability of respondents. Data collection processes were completed March, 2010.

DATA ANALYSIS TECHNIQUES

Spot-checking of interviewer's work for consistency, under-

standing and accuracy of recording in the field was carried out. The data collected were analyzed using SPSS Version 15 computer software package. Three stages of data analysis were done which helped in examining the relationship between the independent and the dependent variable, or how the independent variables accounted for the variation in the dependent variable. The first stage involved the use of frequencies and percentages for the major variables in the questionnaire which helped to describe the general patterns, the distributions and the representativeness of the questionnaire in the survey. This was further assisted in computing and selecting the major variables used essentially in the later stages of the analysis. Cross tabulations were done in the second stage to show relationships between variables. In estimating proportions and test for significance of differences between proportions, a correlation matrix through Pearson's Product Moment Correlation (PPMC) was used. Pearson's r was used to test for the degree of association between variables and the sets of hypotheses for the study. An empirical model was constructed to show linkages between the variables contained in the hypotheses.

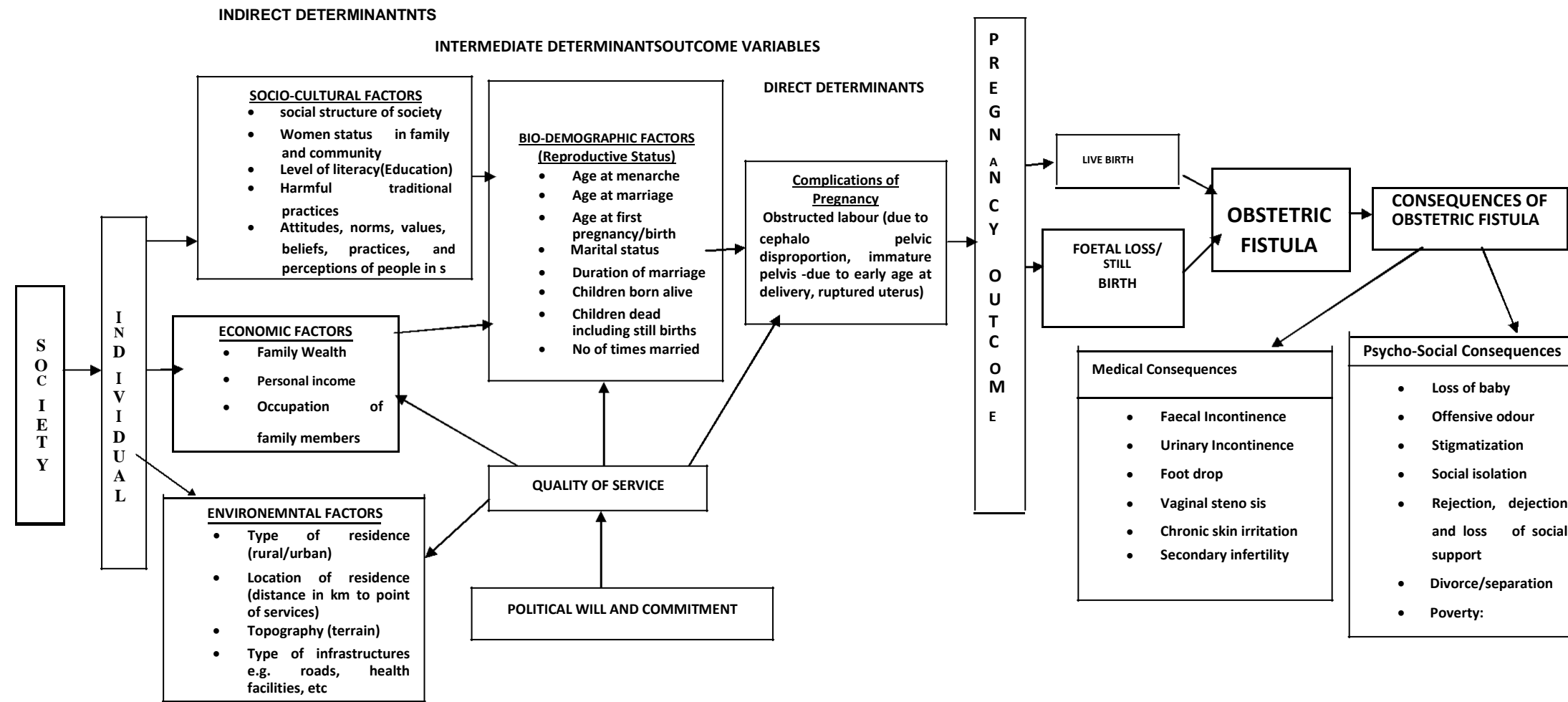
RESULTS AND DISCUSSIONS

This study considers that the consequences of obstetric fistula cannot operate in a vacuum but in relation to some fundamental factors that causes obstetric fistula which must, as well, operate through certain intervening variables. An empirical model is constructed to show the linkages between some independent variables and obstetric fistula as presented below:

The model shows five (5) stages or sets of intervening variables leading to the formation of obstetric fistula. They are comprised of indirect determinants, intermediate determinants, direct determinants and the outcomes of pregnancy. An outcome of pregnancy either live birth or still birth can lead to obstetric fistula through the influence of any of the intervening variables shown in figure 1 below. The linkages are linear from the indirect through the intermediate to the direct and to the outcome of pregnancy and its consequences. The indirect determinants are governed by socio-cultural factors or social structures of society impacting upon the individual decision maker. These are examined from the perspectives of the individual, household, and community on one side, the health system and related government policies and actions on the other side. The indirect determinants include environment, education, occupation, and other socio-cultural variables. Figure 1 below shows the linkages presented in the theoretical model.

The empirical model above has been further discussed in

Figure 1. An empirical model for analysing the determinants of obstetric fistula.



Source:
 Constructed for this Study to Demonstrate
 Linkages between the Independent Variables &
 the Dependent Variable (obstetric fistula), November 2010.

Table 1. correlation matrix showing degree of association between variables used for the study and obstetric Fistula.

Variables	AR	ADF	DWF O	DSM C	QSA	MS	DM	LOR	AH F	EDH	ED R	SES H	SES R	DO L	MC	PSC	DF	OF
Age of Respondents (AR)	1																	
Age at Delivery of First Child (ADF)	.490*	1																
Decision to Seek Medical Care (DSMC)	.038	.085	.046	1														
Quality of Service (QSA)	.471*	.478*	.305**	.181*	1													
Marital Status (MS)	.084	.021	.091	.022	.147*	1												
Duration of Marriage (DM)	.205*	.166*	.135**	-.031	.148*	.025	1											
Location of Residence (LOR)	.304*	.186*	.129**	.021	.289*	.029	.014	1										
Access to Health Facility (AHF)	.158*	.103*	-.020	.032	.204*	.062	-.014	.119*	1									
Education of Husband (EDH)	.181*	.101*	.353**	-.043	-.058	-.049	.225*	-.108	-.036	1								
Education of Respondents (EDR)	-.161	-.200	-.190	-.120	-.475	-.043	-.076	-.083	-.022	-.016	1							
Socio-Econ Status of Husband (SESH)	.331*	.282*	.143**	.073	.297*	.028	.028	.060	.006	.062	-.073	1						
Socio-Econ Status of Respondents (SESR)	.331*	.355*	.012	.100*	.350*	.083	.083	.262*	.010	-.195	-.039	.231*	1					
Duration of Labour (DOL)	-.111	-.085	-.033	-.105	-.150	-.040	-.040	-.161	.018	.101*	.106	-.097	-.073	1				
Medical Consequences (MC)	-.200	-.094	-.181	-.024	-.197	-.102	-.102*	-.101	-.021	-.012	.044	-.022	-.084	.001	1			
Psychosocial Consequences (PSC)	-.054	-.013	-.189	-.012	-.072	-.016	-.016	.006	-.015	.024	.018	-.046	.002	.001	.187*	1		
Duration of Fistula (DF)	.449*	.257*	.351**	-.029	.263*	.106	.106*	.035	.089	.380*	-.134	.109*	.120	.005	-.323	-.108	1	
Obstetric Fistula (OF)	-.144	-.071	-.0215	-.078	-.170	-.057	.029	-.047	-.010	.021	.053	-.046	-.046	.010	.726*	.780**	-.066	1

relation to the findings of this study using Pearson's r 2 tail test. Age of respondent and age at delivery of first

child as intermediate variables, show significant positive correlation with obstetric fistula r .490 (0.05). The result fur-

Table 2. Respondents by Location of Residence and Psychosocial Consequences.

Location of Residence	Psychosocial Consequences					Total
	Loss of baby	Offensive odour	Stigmatization	Social isolation	Divorce/separation	
Rural	(72) 24.4%	(52) 17.6%	(25) 8.5%	(23) 7.8%	(123) 41.7%	(295) 100.0%
Urban	(31) 22.0%	(23) 16.3%	(19) 13.5%	(13) 9.2%	(55) 39.0%	(141) 100.0%
Total	(103) 23.6%	(75) 17.2%	(44) 10.1%	(36) 8.3%	(178) 40.8%	(436) 100.0%

Source. Study Findings, March 2010.

ther shows that about 82 percent respondents gave birth to their first child at the ages of between 10-20 years. Marriage, conception, and birth at early ages are found to be common among the respondents as 86.3percent are married between the early ages of 10 and 20 years. Tahzib (1983) in a study in Zaria showed ages between 13 and 30 years and concluded that most fistula sufferers are below 13 years. Waaldjk (1993) found that 50-60 percent of patients he treated (in areas of this study) developed obstetric fistula at their first pregnancy and like Tahzib, he concluded that most patients are primigravidae. The Nigeria Demographic survey (1999, 2003 and 2008) further supported these findings and indicated that early marriage is common in Northern Nigeria and most women are married between ages 17, 16, and 15, respectively. Many other studies had found similar age patterns like the findings of Lister (1960), who noted that due to early exposure to child bearing, the shallow pelvic configuration of African women predispose them to obstructed labour, the result of which lead to obstetric fistula. They further asserted that adolescent girls are more susceptible to obstructed labour because their pelvises are not fully developed due to premature age. Discussions during FGD and KII for this study further support the positive relationship between age of respondents and obstetric fistula as follows:

A KII respondent in Zaria (during data collection in May, 2010) indicates that

“you see some of these girls as young as 12-13 years come here for treatment without any help, and they cry for the loss of their babies “Another KII respondent narrated that “three years ago, a woman came with her

daughter who was given in marriage when she was only 10 years old. The husband insisted to have sex with her but the girl refused. He threatened divorce and the girl ran back to her parents but the father sent her back. Six months later, she disappeared to a neighboring village. After 3years she returned home and to her husband. A year later, she came here with a fistula....”

Below is a correlation matrix showing level of significance or degree of association across variables. Pearson-r value was used to test for significance or degree of association: As indicated in the table above, significant positive correlation is found between location of residence of respondents and access to health care services in a health facility irrespective of whether a respondent comes from rural or urban residence.119 (0.05). When the two variables were crossed tabulated, it is found that seven out of every ten respondents from rural areas had used quite a number of transports to access services in health facilities. Similarly, about six out of every ten respondents from urban areas have used more than one type of transport to access services. In terms of cost of transport, 29.8 percent of respondents from urban areas indicated that the cost of transport is not favorable as against 17.3 percent respondents from rural areas. The distribution of health facilities in the study areas shows clear inequalities between rural and urban settings which confounded the difficulties experienced in terms of transportation coupled with availability and quality of services. This finding is supported by the findings of Wall (1998) in a study in Northern Nigeria by which he asserted that delay in reaching a health care facility is influenced by the cost and time of travel, the dis-

Table 3. Respondents by Psychosocial and Medical Consequences of Obstetric Fistula.

Psychosocial Consequences	Medical consequences					Total
	chronic skin irritation	Foot drop	Secondary infertility	Virginal stenosis	Incontinence of urine/faeces	
Loss of baby	(8) 7.8%	(40) 38.8%	(5) 4.9%	(7) 6.8%	(43) 41.7%	(103)100.0%
Offensive odour	(13) 17.3%	(34) 45.3%	(8) 10.7%	(1) 1.3%	(19) 25.3%	(75) 100.0%
Stigmatization	(4) 9.1%	(15) 34.1%	(9) 20.5%	(5) 11.4%	(11) 25.0%	(44) 100.0%
Social isolation	(3) 8.3%	(8) 22.2%	(3) 8.3%	(3) 8.3%	(19) 52.8%	(36) 100.0%
Divorce/separation	(19) 10.7%	(27) 15.2%	(23) 12.9%	(13) 7.3%	(96) 53.9%	(178) 100.0%
Total	(47) 10.8%	(124) 28.4%	(48) 11.0%	(29) 6.7%	(188) 43.1%	1(436) 00.0%

Source. Study Findings, March 2010.

tribution of hospitals and dispensaries and unreliability of Nigerian vehicles which, according to him, are bad. Similarly, Sundari (1992) reported that between the month of July and October, Northern Nigeria have similar difficulties due to rain which paralyzes transportation as a result of mud. The result of this proportionally increased cases of hemorrhage by 3.5 times. Nahar and Castello (1998) and Khan (2005) concluded that raising money among patients involves borrowing or selling property or crops to afford health care services.

Weak positive correlation is found between location of residence and psycho-social consequences of obstetric fistula $r = .006$ Pearson's r 2-tail test. Result of cross tabulation of the two variables (Table 2 below) shows that across respondents from rural areas, loss of baby with 24.4 percent and divorce/separation with 41.7 percent are reported to be the most traumatic of all psychosocial consequences. Similarly, from urban areas, loss of baby (22.0 percent) and divorce/separation (39.0 percent) are reported as the most felt psychosocial consequences of obstetric fistula across respondents. Comparison across variables between rural and urban areas also points loss of baby and divorce/separation as the two most traumatic of all psychosocial consequences of obstetric fistula as reported by respondents. The corresponding correlations therefore, do not point to any strong association across all variables, meaning that irrespective of location of residence, whether rural or urban, the most traumatic of all psychosocial consequences among sufferers of obstetric fistula according to this study finding, are loss of baby and divorce/separation. These two are found to be reported by other studies found in literature such as those

of Murphy (1981), Lendon (2001), Kabir et al., (2003), Arrow smith (1996).

However, when psycho-social and medical consequences are cross tabulated, the outcome are that relationship across all variables shows that foot drop and incontinence of urine/faeces as medical consequences have greater association with the psychosocial consequences of obstetric fistula (see Table 3 below).

The correlation matrix displayed in Table 1 above, shows that psycho-social consequences and obstetric fistula are found to have very strong and positive correlation $r = .780$ (0.05) level of significance; while medical consequences have very strong and positive correlation with obstetric fistula at $r = .726$ (0.05) level of significance; indicating that the impact of psycho-social consequences of obstetric fistula is more on sufferers than that of medical consequences. This study has, thus, established that the psycho-social feelings of patients of obstetric fistula which include variables such as divorce/separation by husband, loss of child, offensive odor, stigmatization, ostracism and rejection by community, family and friends brought about by continuous urine/faeces leakage has more impact among sufferers than those of medical consequences including among others; foot drop, secondary infertility, virginal stenosis and chronic skin irritation which are likely to go un noticed by community and friends and thus do not create social stigmatization.

CONCLUSION

The empirical model of this study (Figure 1 above) shows

that if individual pregnant women in families can overcome certain socio-cultural, economic and environmental factors that are hindrance to access to health care services, the complications that may arise such as obstructed labor leading to obstetric fistula can be avoided and vice versa. Also, a higher social status of a woman in community or family associated with her chances of education, personal income, reduced level of poverty have lower vulnerability to having obstetric fistula. Equally, a woman's chances of education, personal income or being poor, do not reduce vulnerability to obstetric fistula and its psycho-social and medical consequences, if she does not have early access to health care services which is dependent on government political will and the commitment of her communities or individual family.

RECOMMENDATIONS

The condition of fistula is complex and only a combination of approaches and policies would end the phenomenon. This requires well-coordinated, comprehensive, and responsive approaches involving the government, non-governmental organizations (NGOs), Community Service Organizations (CSOs), the communities, and the private sector to embark on the following drives:

- || Massive awareness campaign at different levels
- || Determine needs and embark on massive treatment, rehabilitation, and social re-integration of patients back into their communities after successful treatment.
- || Strong political will and commitment at all levels.

Scope and Limitations of the Study

This research work was based on women with obstetric fistula within hospital settings only and rehabilitation homes (within hospital environment). There are cases that are not reported to those specialized hospitals. Women seeking care may look for treatment from herbal homes and spiritual healing providers. Also, there are women within communities who are either not aware that obstetric fistula is curable, or do not know where to go for treatment. As a result, a lot of fistula patients live in communities and are not yet explored.

Suggestion for further research

(a) population based studies in communities would better provide more generalization of the prevalence, incidence and consequences of obstetric fistula among women of reproductive age, (b) comparative studies among sub-

populations of fistula patients and non-sufferers of similar sub-groups (E.g pregnant women or women of reproductive age) and (c) do further analysis of the outcomes of the findings of this study.

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