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AVOIDABLE MATERNAL DEATHS IN SAINT LUKE'S HOSPITAL ANUA, UYO, AKWA IBOM STATE, NIGERIA.

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Summary

This study examines the causes of maternal mortality in Saint Luke's Hospital, Anua, Uyo, Akwa Ibom State of Nigeria. Data used in the study were obtained from patients' folders. Qualitative information was also obtained from some nurses and midwives engaged in high-risk prenatal care in the hospital through face-to-face interview. The data and information only include direct obstetric-related deaths. Deaths related directly and indirectly to pregnancy, delivery and puerperium in the hospital were avoidable. These deaths were high for women from rural areas. They were also high for women in the age bracket of 15 – 24 and for those aged 40 years and above. Deaths were high for women with five or more children. Investigation of maternal mortality in the hospital will lead to a more accurate account of the number of maternal deaths, better recognition of the causes of and improved means of prevention. The study concludes with recommendations to further reduce maternal deaths in the study area and Nigeria in general.

Introduction

An important purpose of public health programmes in countries of the third world in general and Nigeria in particular is to reduce maternal mortality. Action programmes to this end must be based on valid and reliable data.

According to the World Health Organisation (WHO), maternal mortality is "the death of any woman while pregnant or within 42 days of termination of pregnancy, irrespective of the duration and site of pregnancy from any cause related to or aggravated by the pregnancy or its management . . . . " (WHO, 1977).

It is commendable that the infant mortality rate in Nigeria has been remarkably reduced in the past 10 years. However, this cannot be said of maternal mortality, which has been grossly overlooked by all sectors of health (Ransome-Kuti, 1990). In Nigeria, the figure of 15 maternal deaths per 1,000 live births is quite distressing. It is worse still when it is considered that this rate is derived only from public hospital records and does not take into account the unreported deaths from private hospitals, prayer houses, and traditional birth attendants as well as healing homes. This rate also lies significantly outside the range of estimates for other developing countries like Sri Lanka, which has a maternal mortality rates of 0.8% per 1,000 live births. The maternal

mortality rates collected from hospital records from various other countries reveal that Nigeria has the highest. There has not been much progress in maternal health status in the past decade (WHO, 1986 and Ransom-Kuti, 1990).

A review of data from hospital-based studies of maternal mortality in Nigeria indicates that the causes of maternal deaths are either under reported or misclassified In Akwa Ibom State. Information on this demographic phenomenon, if available, is fragmented and sketchy and does not give real insight into the nature and causes of maternal mortality in the state.

Obstetric causes of maternal deaths in Nigeria are well documented (Etuk and Asuqwo, 2006), but little attention is paid to the contribution factors. In order to reach the Millennium Development Goal of reducing maternal mortality, these factors must be identified. This is necessary because information from an in-depth investigation of the causes and circumstances surrounding maternal deaths may be a key to policy change and action in reducing maternal mortality rates.

In view of the above situation, this study seeks to obtain valid and reliable data on maternal mortality, which can reveal critical areas in terms of causes, evaluation and prevention of maternal mortality due to pregnancy with abortive outcome and complications related to pregnancy and delivery in the hospitals in particular and in Akwa Ibom in general.

DATA SOURCES:

The Study was conducted in St. Luke's Hospital Anua in Uyo, the capital of Akwa Ibom State, Nigeria. The Hospital, which started providing healthcare services in 1947, is

recognized as one of the best hospitals in the south-south geographical zone of Nigeria, in the areas of Obstetrics and Gynecology. Based on this, it was given approval for postgraduate training in Obstetrics and Gynecology (M. R. O. G. 11) by the Royal College of Obstetrics and Gynecology, London in 1974. It is a very important Hospital in Nigeria where specialists in the treatment of Vesico Vaginal Fistula (V. V. F) work and help in treating V. V. F. patients at Mbribit Itam V. V. F. Centre in the state.

The data used in the study were obtained in various case folders/ report books from antenatal, maternity and labour wards in the hospital. It is important to mention that the data pertaining to many of the patients, demographic characteristics such as age, religion, occupation, education, etc. were not indicated in their folders or charts. There was also misclassification of causes of death. Despite these lapses, much can be learned from the data about the important causes of maternal deaths in the hospital.

In using data presented here, caution must be exercised as they are not computer generated. This not withstanding, the data, provides basic information for the realization of the objective of the study. Data collected covered a period of sixteen years (1990-2006).

Also, face to-face interviews were conducted with some health care providers engaged in high risk prenatal care. The health workers composed of 4 senior physicians (gynecologists) 17 Senior Nurses and Midwives. These have worked in prenatal, labour and maternity wards for the past 14 years in the hospital.

With the help of female field assistants recruited from the Department of Sociology and Anthropology of the University of Uyo, we carried out the interviews in English

Language. Those interviewed gave verbal consent to the recording of the interviews and were guaranteed the confidentiality of the reports. They also allowed the field assistants and the principal researcher access to documents relevant to the study in their various wards.

Interviews with the providers focused primarily on obtaining their perspectives on the incidence of maternal mortality in the hospital. The semi structured interview schedule contained items addressing the following: some socio-demographic characteristics of women who experienced maternal mortality in the hospital, causes of deaths and places of referral (if any). Others were notions of risks associated with pregnant women's obtaining health care service from places of referral, ability of the place of referral to manage critical obstetric cases, state of medical facilities and supplies in the hospital for emergency obstetric cases and quality of medical personnel for obstetric cases.

It was mentioned earlier that service statistics concerning maternal deaths in the hospital are scanty and grossly inadequate to rely on when drawing conclusion in a research of this nature. Thus it was appropriate to also use interview which provided the researcher the opportunity of obtaining reliable information on retrospective and real time data on the incidence and causes of maternal mortality in the hospital.

BACKGROUND

Despite efforts to reduce the incidence of maternal deaths the world over, many countries especially those of the third world are still faced with the crises of high incidence of maternal mortality. It is estimated that about 99% of the 515,000 world annual maternal deaths occur in third world

countries thus making maternal mortality one of the sharpest indicators of the many disparities that occur between developed and developing countries. The chances of a woman dying from pregnancy and childbirth-related disorders in the developing countries is 1 in 10 births and in 2000 births in advanced countries. And for each woman who dies, about 30 more suffer injuries, infections and disabilities during pregnancy or childbirth and about 30 million women are currently suffering from these injuries, infections and disabilities (Izugbara and Ukwayi, 2003 : 178).

In Sub-Saharan Africa, maternal mortality commonly ranges between 300 and 1000 deaths per 100,000 live births. This contrasts sharply with developed countries, which record only 2 to 9 deaths per 100,000 live births. Thus the risk of a third-world woman dying from pregnancy and Childbirth-related complications is 50 to 100 times higher than her counterparts in developed countries.

Nigeria is the most populous country In Africa. The census figures (2006) show that the population of the country is about 140 million. It is also estimated that about half of this population are women who live in rural areas with little or no access to life-enhancing amenities. In these areas, modern health care facilities are scarce, and where they exist, they are under-funded, lacking basic essentials such as drugs, blood, sutures, gloves, etc. Only a small number of rural people have access to formal healthcare services.

Because of lack of facilities and dearth of skilled health care personnel in these areas, the use of formal healthcare services is low among the people. They patronize alternative sources such as traditional birth attendants, traditional healers, etc. A majority of the women deliver their children in these homes and Churches and are attended to by people with no formal

knowledge in obstetrics and gynecology and under unhygienic conditions. These homes also perform abortions clandestinely, using unsafe procedures, which often result in complications and fatalities (Ransom-Kuti, and Yinger, 2002).

The incidence of maternal mortality in Nigeria is estimated at 15 per 1,000 live births, making the country the second highest on the African continent (Ransome-Kuti, 1990). Most of these maternal deaths occur in the rural areas of the country.

It is estimated that only about 28% of rural Nigerian women who give birth are attended to by skilled health personnel (Harrison, 1996,UNICEF, 2001, Population Reference Bureau 2002). The risk of maternal mortality in rural Nigeria stands at 1 in 9 births. More of the rural woman die during childbirth, and more suffered injuries, disabilities, and life-threatening infections (Goliber, 1997:WHO, 2001). Two-thirds of all births in rural Nigeria take place outside formal health facilities and without the attention of skilled health workers. This perhaps accounts for the alarming risk of maternal deaths in these areas (Essien et al. 1997; Ransome-Kuti and Yinger, 2002, WHO, 2001 and Izugbara and Ukwayi, 2003).

Maternal mortality is the total number of deaths occurring as a result of pregnancy, childbirth and puerperium. Related to the issue of definition is classification of maternal deaths. The Federation of Gynecologists and Obstetricians (PIGO) classifies maternal death, as direct, indirect, and non-obstetric. According to the source, direct maternal deaths result from obstetric complications of the pregnancy labour, or puerperium, and from interventions or any of the above.

Indirect maternal deaths result from previously existing disease or a disease that develops during pregnancy, labour, or

the puerperium but which is aggravated by pregnancy (for example: Rheumatic heart or all heart related diseases). Non-obstetric maternal deaths result from accidental or incidental causes in no way related to pregnancy (for example death from homicide, fire and motor accident).

Rochat (1987) identifies 4 categories of maternal deaths. These are: deaths related to pregnancy with abortive outcome, to complications of pregnancy, to complication of delivery and to complications of puerperium. According to him, the chief causes of deaths from pregnancies with abortive outcome are induced abortion and ectopic pregnancy. The chief complication of delivery is haemorrhage due to premature separation of placenta, retained placenta, uterine rupture, or postpartum haemorrhage. The chief cause of death in the puerperal period according to Rochat (1987) is embolism - chiefly of amniotic fluid. Other important causes are sepsis, phlebitis, thrombosis, and cerebral haemorrhage.

Many factors have been identified as variables affecting maternal mortality the world over especially in third world countries, principally when one considers utilization of formal maternal healthcare facilities and services. Some of these factors include socio-economic status of women, use of prenatal care services and availability of health care facilities for child delivery, which increase with higher economic and educational status, (Begum etal, 2003:1 – 7; Mbaruku and Bergstrom, 1995 : 71 – 78; Sundari, 1992 : 513 – 528 and Thonneau etal, 2004 : 100 – 109).

The study by Begum etal (2003 : 1 – 7) reveals that the major contributory factor to high rates of maternal deaths in tertiary hospitals in developing countries is the tradition of deliveries in domiciliary settings in unsafe and unhygienic conditions by untrained or poorly trained births attendants.

According to World Bank (1989) estimated safe motherhood indicators in Pakistan reveal that antenatal care during pregnancy is available to 27% only, deliveries at health facilities 13% and skilled attendants at delivery is 18% cases.

Lack of and poor quality medical services in rural areas as well as means of transportation to reach urban areas where good facilities are available are some other factors (Cham etal, 2005). These cause the rural women to always defer their decisions to seek hospital care when they have health problems especially those related to pregnancy and childbirth. In Gambia, a patient with eclampsia had to wait for 8 hours before transport to the hospital could be found. The patient's condition deteriorated because of the delay (Cham etal; 2005).

Insufficient staff and ill-equipped facilities in hospitals also affect maternal mortality rate in developing countries. A study of maternal mortality at the Kalabo district hospital in Zambia, revealed that the most worrying finding was that an avoidable hospital factor was responsible in 52 percent of the cases (Roosmalen and Stekeienburg 2002). Hospital factor identified included poor intrapartum assessment, failure to correct anemia, missed diagnosis of ruptured ectopic pregnancy, and unavailability of the anesthetist. Also in Gambia, Hoestermann etal (1996 : 710 – 717), Walraven (2000 : 603 - 613) and Telfer etal (2002 : 74 – 83) identify shortage of medical supplies, lack of equipment, lack of trained personnel, poor provider attitude towards patients and incompetence of the available staff as major contributing factors to maternal deaths. In Tanzania, a large proportion of maternal deaths in the smaller hospitals was attributable to shortages in the blood supply. The lack of essential drugs was an avoidable factor in 20% of maternal deaths in the hospitals (Urassa etal 1997 : 50 – 57). In Ilorin University Teaching in

Nigeria, some patients were without any antibiotics until the third day after a caesarean – section, because their relatives were not able to buy the drugs immediately and these were not stock at the hospital pharmacy. Sepsis caused 82% of the deaths would have been prevented with a course of antibiotics (Thomas and Strahan, 1999).

The tendency to act or not in the presence of a complication is influenced by religious beliefs (Cham etal, 2005). Several studies carried out in Africa and elsewhere (Barnes etal, 1998 : 981 – 993; Sargent, 1984 : 497 – 501) have highlighted how religious influenced the care seeking process. A religiously based reassurance that "things most likely will go well" may cause a hesitation in recognizing early signs of complications and delay in seeking prompt medical attention (Jansen, 1973 and Cham etal, 2005).

Increasingly more people, especially women are flocking to one Pentecostal/charismatic church or the other in search for solutions for health problems. One why this health seeking behaviour Sackey (2002 : 5-11) maintains that the main problems of women are those concerning their stomach (meaning womb/child birth). Sackey (1995), Adu – Boahen (1999) and Etuk and Asuquo (2006) are of the views that women prefer those churches because they are always treated humanely and remedies are provided for their spiritual sicknesses most especially witchcraft based afflictions that affect the reproductive health which can not be cured by Western medicine. These view are related to those of Sackey (2002, 1999 : 65 – 91; 1991 : 32 – 49)and Appiah – Kubi (1981) who have also commented on why women seek faith healing during pregnancy and childbirth.

On the negative impact of religious beliefs on maternal mortality, Kaunitz etal (1997 : 279 – 281) observed that some

religious prohibit members from seeking and receiving medical care for any condition. Maine and Rosen (1999); Etuk and Asuquo (2006); Obioma (2001) and Sackey (1996) noted and decried the role spiritual churches play in maternal mortality. According to them maternal mortality is high in Africa due to religious convictions and life – threatening complications at childbirth. That too much emphasis on faith healing may and indeed, has resulted in maternal deaths during childbirth.

RESULTS

As can be seen from Table 1, between January 1990 and December 2006, there were 332 registered cases of maternal deaths in Saint Luke's General Hospital, Anua. The major causes of maternal death between January 1990 and December 2006 were septic abortion, eclampsia, haemorrhage, puerperal sepsis, ruptured ectopic pregnancy, anaemia, ruptured uterus and amniotic fluid embolism. They accounted for about 90.60% cases of maternal mortality in the hospital. Septicemia, heart failure hematoma, cardiac disease (grade 4), and breech extraction, were other causes of maternal deaths in the hospital.

TABLE I: PERCENTAGE DISTRIBUTION OF CAUSES OF MATERNAL MORTALITY IN SAINT LUKE'S HOSPITAL, ANUA, UYO, AKWA IBOM STATE, NIGERIA.

CAUSES OF DEATHS	YEARS																	DEATHS	
	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	TOTAL	PERCENT
Septic Abortion	15	10	9	11	6	8	6	5	2	3	1	2	1	2	1	3	1	86	25.90
Hemorrhage	10	8	6	4	2	1		1	1	2	3	2	1	1	2	1	1	46	13.86
Ruptured Uterus	4	8	6		5	4		4		1	4	1		1	1	1	2	42	12.65
Anaemia	10	6	5	7	4		1		1		1		1	2		1	1	40	12.05
Eclampsia	12	7	5	4	1		1		1		1	2	1	1		1	2	39	11.75
Puerperal Sepsis	10	7	3		2		1			2				1	1			27	8.13
Ruptured Ectopic Pregnancy	2	1		1		2		2		1		1		1		1		12	3.61
Amniotic Fluid Embolism	1	1	1				2		1				1		1			8	2.41
Others	9	7	4	1	3			1			2		1	1	1	1	1	32	9.64

Total Deaths	73	55	39	28	23	15	11	13	6	9	12	8	6	10	7	9	8	332	
Total Percent	21.99	16.57	11.75	8.43	6.93	4.52	3.31	3.92	1.81	2.71	3.61	2.41	1.81	3.01	2.11	2.71	2.41		100.00

Source: Medical Records Department, Saint Luke's Hospital Anua, Maternal Mortality Statistics Reports, 1990-2006

The incidence of maternal mortality, was high between 1990 and 1994. The low incidence between 1995 and 2006 could be attributed to other things as well as the programme called "Safe Motherhood Activities". This programme was mounted by the hospital in late 1994 and it was directed towards stemming the tide of deaths and injuries resulting from pregnancies among women in Uyo and its environs. The activities involve training and retraining of traditional births attendants (TBAs) in order to make them embrace modern methods of health care especially those related to pregnancy and child delivery. The hospital also provides care for all pregnant women with special attention to the most vulnerable groups who are most likely to develop complications especially those in age groups 15 – 19 and 40 and above.

In the antenatal clinic, women are educated on how to look after themselves during pregnancies, what to expect during labour/delivery, puerperum and also baby care. The clinic also provides the opportunity for monitoring the progress of the pregnancy so that any deviation from normalcy can be detected and treated at an early stage before serious complications occupation.

TABLE 2: NUMBER OF DEATHS ACCORDING TO YEAR BY RESIDENTIAL AREA, AGE GROUPS AND PARITY

	RESIDENTIAL AREA		AGE GROUP							PARITY							
	Urban	Rural	15-19	20-24	25-29	30-34	35-39	40-44	45-49	0	1	2	3	4	5	6	7
1990	18	35	10	13	6	6	13	18	16		1					1	2
1991	23	44	8	4	3	2	2	5	7	1		3	1			2	2
1992	18	31	9	6	1	1	4	7	4	3	3		1	2	1	1	
1993	9	18	11	2	3	4	6		3	2	3	1		1	3	1	2
1994	3	13	4	2		1	1	1	7								
1995	2	3		2	2		1			3			1		2	4	
1996	1	5	1							1					1		
1997	1	5	1		2	2		1		2	2	1	1	2	2	1	
1998		6		1											2		
1999	1	5		2	2	1	1								4	3	5

2000	2	7		2	2		1			4	2	1	1	1	2	3	4
2001	1	5	1		1	2				1	1	1	1		1	2	1
2002	1	1		2						1						1	2
2003	3	2	2	1	1					1	2				1	1	1
2004		3	1		1		1			1	2					1	
2005		1	2	1	2	1				2	1				1	1	
2006		1	1	2	1	1				1	1				1	1	1
Total	**80**	**186**	**51**	**41**	**27**	**21**	**30**	**32**	**37**	**23**	**18**	**7**	**6**	**7**	**21**	**23**	**20**
Percent	**30.1**	**69.9**	**21.3**	**11.3**	**8.8**	**12.6**	**13.4**	**15.5**	**18.4**	**18.4**	**14.4**	**5.6**	**4.8**	**5.6**	**16.8**	**18.4**	**16.0**

Source: Medical Records Department, Saint Luke's Hospital Anua. Maternal Mortality Statistics Reports, 1990-2006

It was mentioned earlier that some women who died as a result of complications resulting from pregnancy and delivery had no data concerning some of their demographic characteristics in their medical records. This is evident in Table 2 above.

Out of 332 women who died as a result of injuries resulting from pregnancy and delivery, 266 of them had information about their residential areas. Out of these 266 women, 69.9 percent were from rural areas while 30.1 percent were residents of urban areas. Clearly maternal deaths were higher among rural than urban women. There are several reasons why this is so: rural women may not have access to antenatal care providers, or they may not be aware of the importance of antenatal care, or they may not be able to pay for the care. Thus, in this situation, they patronize traditional birth attendants and healers who expose them to serious injuries that may lead to avoidable deaths. For urban women, their access to modern antenatal cares facilities: high income, status and educational attainment, enable them to avoid conditions that can lead to maternal death.

For the age-specific maternal mortality incidence, only 239 women who experienced maternal mortality in the hospital had information about their ages in their records (Table 2). Deaths were higher for women in the age groups 15 – 19 years, 21.3 percent; 20 – 24 years, 17.2 percent; 40 – 44 years 13.4 percent, and 45 – 49 years, 15.5 percent. The high number of deaths for women between the ages of 15 – 24

years could be attributed to complications resulting from adolescent pregnancy. It should be noted that pregnancies occurring before full reproductive maturity frequently result in demorphic anaemia, miscarriage, toxaemia, eclampsia, prolonged and obstructed labour with the aftermath of ruptured uterus, urinary and bowel fistula, all of which profoundly comprise the reproductive functions. From the hospital source, most of the deaths that come to women in this age range could be traced to septic abortions with serious complications. Also, from the hospital source, death to women aged 40 – 49 years were high because of complications resulting from pregnancies such as ante and partum haemorrhage and degenerative disease condition due to old age.

In terms of parity, only 125 who experienced maternal mortality in the hospital had information about their parity. Maternal deaths were high for women with no children and those with one child. They constitute about 32.8 percent of the women. Maternal deaths were also high for women with 5 – 7 children. These women constituted about 52.3 percent of the women who died in the hospital where parity is taken into consideration. Higher maternal mortality among women with one or no child could be attributed to the fact that the uterus is not well developed. This may lead to caesarian section which if not well managed leads to maternal death. For those with 5 or more children, mortality may be due to giving birth to many children which leads to post partum haemorrhage resulting from inability of the uterine muscles to contract and control bleeding.

Information obtained from hospital records and interviews with some staff in the maternity wards showed that the causes of maternal mortality in the hospital result from four main sources:

1. **Pregnancy with abortive outcome**: Under this we have causes such as ectopic pregnancy and all forms of abortion (especially induced abortion).

2. **Complications due to pregnancy**: Deaths related to pregnancy were attributed to toxaemic condition, genital infection and pre-eclampsia (hypertension with oedema and proteinurial).

3. **Complications relating to Delivery:** The chief complication of delivery is haemorrhage due to premature separation of placenta, retained placenta, uterine rupture, or postpartum haemorrhage.

4. **Complications of the Puerperium:** The chief cause of death in the puerperal period is embolism – chiefly of amniotic fluid; other important causes are sepsis, thrombosis and cerebral haemorrhage.

Saint Luke's Hospital, Anua is well staffed when compared with other government owned hospitals in Akwa Ibom State. Despite this, we still have high incidence of maternal mortality in the hospital. Various reasons have been advanced for this. Interviews and focus group discussions with staff show that it is from the referral cases that we have the highest incidence of maternal mortality in the hospital.

According to a senior gynaecologist and obstetrician in the hospital, one of the factors responsible for high incidence of maternal mortality in the hospital is the Church. She observed that reading through the histories of these cases, one marvels that so many women survived. Survival for many means a life of sadness and shame, a living death. Hundreds of women have been rendered infertile, amenorrhaegic or incontinent of urine and faeces.

> *"Our women are deeply religious but fearful and superstitious. Syncretistic mushroom churches spring up daily, with prophecies, visions and miracles. We can train and supervise the T. B. As, we can educate our mothers on the hazards of pregnancy, we can give good antenatal care, etc. but all these can be in vain when the women are wrongly advised or frightened by their prophets and pastors. More disturbing is the fact that many of the nurses have women deliver in the churches. They even do so themselves, with subsequent loss of live."* (Ward, 1993).

Another factor that could be used to explain the high incidence of maternal mortality is the refusal of healthcare personnel to accept rural postings as well as lack of drugs and equipment at primary referral health centres especially in the rural areas. According to one of the staff interviewed, histories of patients brought here from rural health posts reveal that about 60 percent of cases of injuries sustained by

women during and after pregnancy are caused by avoidable factors. Some of these factors are: poor intrapartum assessment, failure to correct anaemia, poor diagnosis of ruptured ectopic pregnancy and unavailability of anaesthetists and obstetricians, lack of essential drugs and blood bank.

In Saint Luke's Hospital, Anua, the situation is almost the same as what is obtainable in the primary referral centres/posts. Interviews with some senior staff revealed that many lives of women who die of injuries during and after pregnancy could have been saved through adequate blood transfusion. Racketeers who are dealers in blood donation plague the hospital. Blood is bought at a high price, making it impossible to have the services of a blood bank for emergencies. Essential and effective drugs and infusions are always out of stock and so are not available in emergency situations.

According to one of the staff interviewed, maternal mortality in the hospital could be attributed to the nature of our rural areas and the people. According to her, the delay in seeking care is due to poverty, lack of transportation facilities and health facilities. Most of the women who die in the hospital were peasant farmers from rural areas with no maternal health facilities. In rural areas where maternal health facilities are found, they are manned by health staff who are not well trained and are inexperienced to handle pregnancy associated problems. It was also noted that most of the women were essentially "too poor to live". Though family members recognize the seriousness of the obstetric emergencies, they

cannot act fast because they fear the cost of life saving care would be too great to bear.

Another staff confirmed the above observations. According to her the majority of maternal deaths in the hospital are referral cases from traditional birth attendants, which could not have occurred if timely and appropriate healthcare had been given. Induced septic abortion is one of the causes of maternal mortality in St. Luke's Hospital; infection is commonly associated with abortion, which has accounted for 79 deaths in the study. Methods of abortion, usually performed by traditional healers, commonly consist of various herbal drinks to induce contractions, rough massage of the uterus, or the insertion of objects into the vagina to puncture the membranes.

Another staff interviewed observed that many died because simple first aid was not given, as traditional birth attendants lack lifesaving skills. Furthermore, they see time as a potentially healing rather than a potentially threatening factor in case management.

The role of TBAS and churches as far as maternal mortality is concerned in Saint Luke's Hospital, Anua could be appreciated when the following documented cases are examined.

Most of the women who died during the period 1990 – February 2003 were those of traditional birth attendants/healers. In some of the cases, the women were referred to Anua hospital after prolonged obstructed labour.

Most cases of ruptured uterus took place before the women arrived the hospital. Some of them had been in labour for about 3 days at various TBAS homes and had been given different types of herbs. On admission they were dehydrated, dirty and in shock due to bleeding; they refused treatment in accordance with religious beliefs. Several examples appear below:

(i) In 1990, a mother aged 35 died because she had refused blood transfusion on religious grounds. She was a member of Jehovah's Witnesses.

(ii) A woman aged 35 years in 1991 was admitted with generalized oedema of face, abdomen and hands; she was also dyspoenic and anaemic. Her medical history indicated minimal antenatal care. Packed cell blood transfusion and duretics were given but the patient became more restless and her respiration ceased.

(iii) A woman aged 18 years, was referred with puerperal sepsis following delivery by traditional birth attendant (TBA) 3 weeks previously. In the TBA's house she was exposed to "suction and evacuation". When she was brought to the hospital, the young girl was very pale, febrile and restless. There was marked abdominal distension with tenderness. While the patient was being prepared for laboratory she suddenly collapsed and died. The cause of death was puerperal sepsis.

(iv) A patient aged 21 years was admitted with jaundice dyspnoae and abdominal pain for 3 weeks. Following 5 weeks

amenorrhoea, she had attended a herbalist doctor to induce an abortion she had been given herbs to drink and a metal rod had been introduced into her vagina. She developed gross hepatomegaly, offensive odour, scaring and excruciation of posterior fornix. The patient developed cardiac failure and died 10 days following admission for hepatitis/septicaemia resulting from septic abortion.

From the above examples one can conclude that maternal deaths in the hospital are avoidable deaths which would have been prevented if timely and appropriate medical attention had been sought.

Summary and Conclusion

In Saint Luke's Hospital, data on direct obstetric-related deaths and the total number of deaths related directly and indirectly to pregnancy are incomplete and scanty. However available data from the hospital show high incidence of maternal mortality. The leading causes are: illicit abortion, hemorrhage, ruptured uterus, anemia, eclampsia and caesarean operation. The majority of the maternal deaths are referral cases from TBA'S and Traditional healer's houses as well as from churches. They are mostly women of low socio-economic status who are mainly of the rural background, poor and disadvantaged.

As noted earlier, maternal deaths in the hospital are those that would have been avoided if TBA'S and other traditional healers had recognized obstetric complications, and taken to medical facility in time for treatment; and avoid harmful

practices, which help to develop complications. There is no doubt that TBA'S and other traditional healers cause some maternal mortality and even mortality through unsafe practices such as vaginal examinations, use of certain dangerous traditional drugs and herbs as well as damaging procedures especially during illicit abortion.

Apart from the TBA'S and Traditional healers who contribute to maternal mortality in the study area, the newly established Spiritual Churches characterized by "Visions, prophecies and miracles" have been identified as one of the most sinister causes. Some Pastors, Prophets and Evangelists in these churches encourage women to deliver in the church, which in most cases results in complications and loss of life. Many women with complications manage to reach a hospital only to die there for lack of adequate care both at the hospital and the referral centers or facilities.

To help solve the problem of maternal mortality in the study area, the following suggestions are made. It has been noted that illicit abortion is the leading cause of maternal mortality in the hospital, thus family planning should certainly be an important part of a programme to reduce maternal deaths in the study area. This is because without it, women will be repeatedly exposed to the risk of complications in the course of terminating pregnancies they do not want. Further more, they will also be exposed to the even greater risks of illicit abortion. Secondly, vehicles should be made available to rural health centres in order to make it easy for women with complications to be transferred to hospital in time. Thirdly,

governments (Local, State and National) should encourage the establishment of community maternities in the rural areas. These should be run by trained TBA'S or by midwives. One benefit of such maternities would be to facilitate the early recognition of complications and to organize transportation to medical facility for treatment. Fourthly maternity waiting home should be provided in rural areas. This is particularly necessary in areas where the health facilities are few and far between and transport facilities are too poor and health facilities are poor to accommodate pregnant mothers who are adjudged to be at risk for a week or two before delivery. They should be under the watchful eyes of the health staff and should be transferred to hospitals or good health centres as soon as labour starts. This waiting home should have a few simple supplies on hand, such as ergometrine to stop bleeding and antibiotics to use in cases of infection, etc.

Fifthly, interaction of other health staff with TBAS and other traditional healers should be improved. Frequent meetings should be held between them. These reassure them that they are accepted as part of the health team. They should be offered re-orientation courses on their role in pregnancy and labour especially training them on the recognition of complications and referring of women for treatment for these complications. In addition, they should be trained, supplied and supervised to treat or provide simple first aid on some complications.

Sixthly, health education campaign strategies aimed at encouraging women to use modern healthcare facilities during

pregnancy and childbirth should be developed by government at all levels. The strategies should also be directed toward encouraging people to ignore unhealthy religious injunctions and prophecies such as forbid adherents to seek or receive medical care under any conditions, including pregnancy. Besides, the spiritual churches that engage in maternity services should be made by government to employ the services of trained midwives to handle simple pregnancy related problems and help make referrals to health facilities in serious cases. Also, government at all levels should make husbands and others who deny pregnant women access to necessary medical care on religious grounds to face civil or criminal actions as appropriate.

Finally, one of the observations of this study is that Saint Luke's Hospital Anua is well staffed. Unfortunately, like other hospitals in the State, drugs and other supplies are always out of stock, thus making it difficult for women with pregnancy related complications to be treated urgently. This always results in loss of life. Based on this, there is the need for hospitals to be well equipped so that emergency situations can be handled without any delay.

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