FACTORS CONTRIBUTING TO DELAY IN SEEKING EMERGENCY OBSTETRIC CARE AT SENGEREMA DESIGNATED DISTRICT HOSPITAL, MWANZA REGION.

BY

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CERTICIFICATION

The undersigned certify that they have read and hereby recommended for acceptance by the university of Dar es Salaam a dissertation entitled: Factors Contributing to Delay in Seeking Emergency Obstetric Care at Sengerema Designated District Hospital in Tanzania, in partial fulfillment of the requirement for the degree of Master of Public Health.

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DECLARATION

I, Francis Kindeni Mwanisi, declare that this dissertation is my own original work and that it has not been presented and will not be presented to any other University for a similar or any other degree award.

Signature ----------

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DEDICATION

This dissertation is dedicated to my late father Boniface K Mwanisi whose wisdom and love I cherish and also to all pregnant women who are suffering from lack of emergency obstetric care facilities, without whom this study would not have been carried out.

ABSTRACT

A hospital-based, cross-sectional study was conducted in both urban and rural population of Sengerema district who received health care at the hospital between early May to the end of June 2000. The aim of this study was to determine factors contributing to delay in seeking emergency obstetric care among women who received care at Sengerema designated district hospital.

A total of 172 women aged between 16 to 48 years were interviewed. A convenient sampling technique was used and a person to person interview using questionnaire was used in quantitative method. Among these women, a purposeful sample of 10 women were selected, two from each of the five divisions in the district for in-depth interview.

The results showed that the overall proportion of women delayed to report to the emergency obstetric care was 54.1% (93/172). The results also showed that 61.6% of the decision makers on the place of delivery were men giving women little chance to decide for their own health; 72.1% of the economic power belonged to men; 77.9% of the respondents had no access to transport especially at night; 44.6% of women decided to seek care after eight hours of labour or disease; 31.2% of women who reported late to the hospital were as a result of waiting for labour to start and 10.8% due to financial problems.

In this cross-sectional study, age, parity, income, distance, travelling time, problems during pregnancy and waiting time were significantly associated with reporting time to the emergency obstetric care (E.O.C).

Delay in seeking health care during emergency obstetric care was found to be significant public health problem among the community of Sengerema women. Some of the factors contributing to delay in the district were scarce EOC facilities, transport to EOC were not readily available, long distance to the EOC and health workers in health facilities delay to make appropriate diagnosis and timely referral to the EOC. So the Ministry of Health has to design possible ways to improve the working condition and continue train its staff for capacity building. The district health management team has to design appropriate strategies on how best to conduct on job training to the whole district and locate areas with lack of qualified staff and advise the local government to give them chance to recruit competent health workers. To upgrade health centres into EOC the local government and the community has to contribute funds to be used even in maintenance of the centre. The community must also take role in encouraging these women to deliver in health facilities and mobilise transport during emergencies so as to reduce maternal mortality and morbidity in this country. It should focus mainly to people in the peripheral marginalised community which, lack referral infrastructure.

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ABBREVIATIONS AND ACRONYMS

DHMT= District Health Management Team

EOC = Emergency Obstetric Care

MUCHS Muhimbili University College of Health Science

PMM = Prevention of Maternal Mortality.

SARA Project = Support for Analysis and Research for Africa Project

SMI = Safe Motherhood Initiative.

SMTC = Safe Motherhood Technical Consultation

TDHS = Tanzania Demographic and Health Survey

TBAs = Traditional Birth Attendants

WDR = World Development Report

WHO = World Health Organisation

INTRODUCTION

World-wide, nearly 600,000 women between the ages of 15 and 49 die every year as a result of complications arising from pregnancy and childbirth (WHO, 1999).

Complications of pregnancy are found every where, but nearly 99 percent of all maternal deaths are in developing countries (WHO, 1985). In some developing countries one woman in 12 may die from a pregnant related complications compared to 1 in 4000 in industrialised settings (WHO, 1999). The majority (almost 90%) of deaths during pregnancy and childbirth occur in Asia and Sub- Saharan Africa; approximately another 10% occur in other regions in developing countries and less than 1% in the developed world.

In many developing countries between a quarter to one third of deaths of women in the reproductive age are a result of complications of pregnancy or childbirth (WHO, 1998). Maternal mortality in Sub- Saharan Africa is rising rather than falling as it has done in all other regions of the third world (Harrison, 1997). In Tanzania, the maternal mortality rate in 1996 was estimated to be 529 per 100,000 live births (TDHS, 1996).

In developing countries, for each maternal death, at least 13 women suffer from a less serious threat to health. In developed countries where emergency care is accessible fewer women die and over 3000 women may suffer ill health from pregnancy related causes for each maternal death (World population, 1997).

The proportion of pregnant women who have care during delivery is universally lower than those that receive antenatal care. Yet it is during labour, delivery, and immediate postpartum period that complications are most likely to arise and that care is most needed. Almost half of all postpartum deaths take place within one day of delivery, and 70% within the first week (Abou-Zahr, 1997). Poor, rural women in Sub- Saharan Africa and South Asia are the least likely to receive antenatal, delivery or postpartum care (Abou-Zahr, 1997). In this situation, many women are assisted during delivery by traditional birth attendants or only by relatives and many deliver alone. Only 53% of women in developing countries receive assistance from skilled health personnel (midwife or doctor), and 40% give birth in hospital or health centres (WHO, 1999).

In Tanzania only 47% of births were delivered in a health facility whereby much of the urban births were more likely to take place in health facilities than rural births. Trained health personnel during delivery assist only 39% of women. Regional differences in types of assistance at delivery are also prominent. In the Lake Zone in particularly, women are less likely to deliver in health facilities (TDHS, 1996).

In 1998, maternal mortality rate in Sengerema district was estimated to be 322 per 100,000 live births exceeding that of Mwanza region as a whole which was estimated to be 203 per 100,000 live births (Mwanza Regional Annual Report, 1998).

It is estimated that about 15% of pregnant women will experience life threatening complications that require emergence care (Chiwuzie, 1995), yet there are almost no

data on the proportion with access to such care. In as many as 40% of pregnancies it is likely that there will be a need for some form of special care (WHO, 1999). Providing skilled attendants able to prevent, detect, manage the major obstetric complications, together with the equipment, drugs and other essential supplies for effective management, is the single most important factor in preventing maternal deaths (WHO, 1999).

In many countries with high maternal mortality rates, facilities with emergency obstetric care are scarce (or non-existent) and costly. Even where the services are available, the proportion of women who use them is small. Risk screening has been used to identify women who are most likely to develop complications and ensure that emergency care is available at delivery (Freedman, *et al*, 1993).

However, some women categorised with high-risk pregnancy never develop complications. Nevertheless other women categorised with low risks do develop complications but are never told how to recognise or respond to them (Fortney, 1995; Freedman, *et al*, 1993; Kowalewski, 2000). Fortney, in his study reviewed the value of various risk factors in predicting obstetric complications. He viewed obstetric history as a far more accurate predictor of risk than demographic factors. The community characteristics (such as distance to emergency obstetric care, access to transport, availability of food, and work load) should also be considered as risk factors. Risk assessment must be revised throughout pregnancy as women develop new signs and symptoms.

In a study that was conducted in Zaire by the Kasongo Team (1984) it was found that all pregnant women who came to the clinic were evaluated for their risk of developing complications. Women with poor obstetric history were found to be ten times as likely as women without such a history to have obstructed labour. Nevertheless, it is documented that even those pregnant women diagnosed as low risk based on screening do develop complications. All pregnant women should have easy access to emergency obstetric care (Kasongo project team, 1984). This will provide timely interventions in case of any pregnant complication.

Women with pregnancy complications who are brought late to the hospital are documented to have high morbidity and mortality rates (Justeen, 1985). A study conducted at Ilala district in Dar-Es-Salaam found that one in five women did not reach medical care in time for treatment. This means that the health care system should have an opportunity to prevent at least some mortality cases (Urassa, *et al*, 1997).

PROBLEM STATEMENT

In Tanzania, the trend of maternal mortality rate is still high. In 1990 it was estimated to be 196 per 100,000 live births (MOH, 1991) while in 1996 was 529 per 100,000 live births (TDHS, 1996). The discrepancy in the reported data of maternal deaths in the two years was contributed by the poor reporting system that existed and data collected were just from few health facilities. In the later, indicates improved

reporting system whereby data were collected from the community and many health facilities. Maternal deaths accounted for 27% of all deaths of women aged 15-49 in the past ten years (TDHS, 1996). The worst thing still is that most maternal deaths that occur in the communities and health facilities are avoidable with timely medical care (TDHS, 1996).

Ndombi (1999) in his study found out that more than 200,000 Tanzanian women suffered from variety of disabilities due to delayed health-seeking care. This delay in health seeking care can lead to serious health consequences such as vesicle vaginal and rectal fistulae, prolapsed womb (Ndombi, 1999), infertility, renal failure in severe pregnant toxaemia, ruptured uterus, sciatic nerve damage, sepsis, excessive blood loss (Armon, 1979), also increased opportunity costs, loss of working days due to long admission days in the hospital and increased bed occupancy rates.

Few women in Tanzania deliver in the health facilities. Only about 47 percent of birth take place in health facility. Regional differences in type of assistance at delivery are also prominent. Lake Zone in particular has the least proportion of health facility deliveries. Trained health personnel during deliveries assist only 39% of women (TDHS, 1996). The un-booked emergencies constitute the main risk group that lead to the high proportion of maternal deaths in most hospitals (Harrison, 1997).

Outside the health system, these women are delivered by traditional birth attendants, traditional healers or experienced members of the community (WHO, 1999). Unfortunately these TBAs both trained and untrained have been seen to delay in

referring pregnant women to the health facilities (Smith, *et al*, 1997). Because they are given token of gifts and want to maintain status in their communities, they decide to conduct deliveries without enough skill of combating complications (Itiana, 1997). Traditional healers do start by giving them local medicine which may affect the outcome of pregnancy (Price, 1984).

Women have very little or no control over their use of modern services. They have no say on matters pertaining to their health. For instance, traditionally in the community men normally decide for them the place for delivery, and in the absence of that particular decision maker, the woman has to wait for him to come and make the decision (Urassa, 1997).

For women who come late, the question that is still unanswered is why these pregnant women delay to seek emergency obstetric care, lack say on their problems and do not attend antenatal care until they develop complications without which they deliver at home. This is done despite of the fact that there are still increasing maternal deaths and disabilities. This study will collect data that might be used to find some solutions to alleviate some of the problems that face pregnant women.

RATIONALE

All pregnant women are at risk of obstetric complications. Most life- threatening complications occur during labour and delivery, and these cannot all be predicted.

Prenatal screening does not identify all of the women who will develop complications. Women not identified as "high risk" can and do develop obstetric complications. Some obstetric complications occur among women with no risk factors. Therefore every pregnant woman need access to facilities with capabilities to provide emergency obstetric care. Neither effective prenatal care nor identifying risk alone will help women if emergency obstetric care is not available, or not utilised.

In Mwanza region and Lake Zone as a whole proportion of pregnant women who use health facilities for delivery is low (TDHS, 1996), findings of this survey will give light on the reasons behind delay to seek health care and non-use of services that make these women come with advanced complications making life serving to be very difficult. And data may elucidate factors amenable to appropriate and acceptable intervention and hence reduction of maternal mortality.

To date the focus of safe-motherhood programs in most countries has been on delivery of maternal services other than emergency obstetric care.

LITERATURE REVIEW

Million of women in developing countries lack access to adequate care during pregnancy. Only 65% of women in developing countries receive antenatal care at least once during pregnancy. The figures are 63% in Africa, 65% in Asia and 73% in Latin America and the Caribbean. In developed countries, 97% of women receive antenatal care, usually several visits during the course of each pregnancy (WHO, 1998).

Although 15 percent of pregnant women in developed countries experience complications, rapid intervention minimises maternal mortality up to 200 times lower than in developing countries (Chiwuzie, *et al*, 1995; WHO, 1999). The chance of surviving an obstetric complication even in developing countries is excellent if a woman receives medical care in time. For most complications, "in time" is a matter of hours or days, not minutes. While a serious haemorrhage can kill a woman in less than an hour, in many cases women arrive at hospitals alive after bleeding for much longer. And for other common complications such as infections, eclampsia, prolonged or obstructed labour usually may take several days between the time the condition becomes obvious and death ensues (Maine, *et al*, 1987).

While these are general estimates of time intervals, they illustrate extremely important points, that to save the lives of the vast majority of women who develop obstetric complications, we do not need to build a hospital in every village and insist that all women deliver there. We do, however, need to assist communities in

developing plans to ensure that, when a complication does develop, quick action can and will be taken to reach emergency obstetric care (Freedman, *et al*, 1993).

Obviously, every community has its own unique geographic and environmental obstacles, cultural conditions, women's status, administrative barriers and economic constraints, availability of facilities and distance (Fauveau, 1988; Juncture, *et al*, 1994; Dey, 1998).

At this juncture, it is useful to look separately into the three phases of delay that contribute to the calamities of deaths and disabilities to women. These are; delay in decision to seek care; delay in reaching a facility of obstetric capability and once at the facility, delay in receiving care (Thaddeus, *et al*, 1994). If all of these phases are controlled the women will get life saving treatment (Thaddeus, *et al*, 1994)

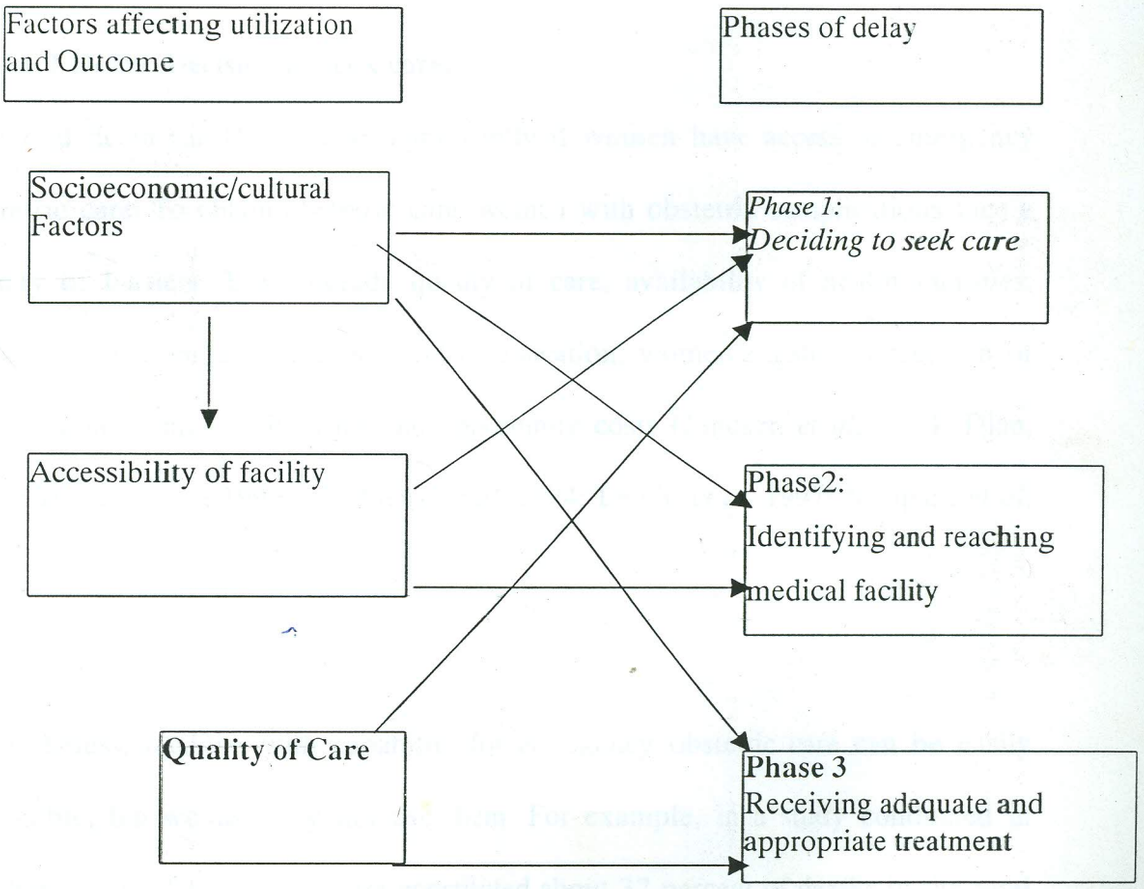
THE THREE MODEL OF DELAYS

THE CONCEPTUAL FRAMEWORK: THE THREE PHASES OF DELAYS

Globally, about 80% of all maternal deaths that occur result from direct obstetric causes Such causes are haemorrhage, sepsis, prolonged or obstructed labour, hypertensive disorders of pregnancy, anaemia, and unsafe abortions. Majority of these deaths could be prevented with timely medical care (WHO, 1999; Rahman, *et al*, 1991). Delay, therefore, emerges as the pertinent factor contributing to maternal

deaths. Hospital based investigators of maternal mortality have long bemoaned patient's delay in coming for care. Yet, to blame the patient for the delay will be simplistic because we have to look for the cause and remedies.

Figure 1: Three phases of delays



Thaddeus (1994)

All the three phases of delays to some extent may result into certain proportion of maternal mortality or other disability but any one phase can prove fatal. The three phases exist in a complex interplay; one phase is linked inextricably with another.

Anticipating concerns that universal models such as this show specific pathway in different places: for instance, maternal deaths in New York City where a woman may live next door to a high technology hospital but still may die because of poverty and its attendant impact on the decision to seek care. The model presented is universal insofar as both of these cases fit the framework.

Phase 1 Delay: Decision to seek care.

Maternal death can be avoided significantly if women have access to emergency obstetric care. To obtain obstetric care, women with obstetric complications face a variety of barriers. They include quality of care, availability of health facilities, distance, social cultural factors, level of education, women's status, perception of illnesses, economic, multiparity and opportunity costs (Juncker, *et al*, 1994; Djan, 1997; Becker, *et al*, 1993; Thaddeus, *et al*, 1994; Leigh, *et al*, 1997; Nirupan, *et al*, 1995).

Nevertheless, facilities with capability for emergency obstetric care can be easily accessible, but women may not use them. For example, in a study conducted in Zimbabwe, the delay to seek care constituted about 32 percent of deaths in the rural areas and 28 percent of those in the urban study area (Fawcus, *et al*, 1996).

Quality of care is an important consideration in the decision for seeking care. In areas where potential patients have access to more than one facility, their perception of quality of care offered at these facilities often take precedence over concerns about

distance (Iyun, 1983). In a study conducted in Guatemala islands, Annis found that the government health posts seemed to be conveniently located, but the proximity did not guarantee utilisation, probably because the facilities were understaffed, under-equipped (Annis, 1981) and arrogant staffs (Rosario, 1995) and thus unable to provide quality of care. Detailed on site inspection of 83% of the operating health posts by Annis showed that more than half were understaffed, under-equipped, or both. Annis thus stressed that "the current low utilisation of the ministry facilities reflect poor quality of services and certainly not physical access nor mysterious "cultural barriers " (Annis, 1981).

Similarly, in a study done by Mbaruku at Kigoma regional hospital in Tanzania where quality of maternity services suffered from shortage of blood, drugs, equipment, water as well as the indifference and poor skills of staff members was improved by training staffs, delegating more responsibility to nurses and midwives, repairing and maintaining equipment, storing essential drugs and recruiting blood donors. Utilisation of the hospital's maternity services increased, while maternal mortality ratio declined from 849 deaths per 100,000 live births in 1984-86 to 275 per 100,000 in 1987-91(Mbaruku, *et al*, 1995). In Sierra Leone's district hospital, the maternity admission was increased together with the number of caesarean sections and abortion related procedures after improving quality of care. At the same time, the number of maternal deaths declined from 32 percent to 4 percent, despite increases in the number of women with complications (Leigh, B., *et al*, 1997)

The role that quality of care plays in the decision to seek care is related to people's own assessment of service delivery, which largely depends on their own experiences with the health system and those of people they know. Patients talked about relatives and friends who had died in hospital, for example, "me mum went in there, she never came out". It might be that people are not taking seriously until it creates a terminal problem. They probably end up in hospital and die. Then it reinforces the myth (Gardner, 1999).

The two mechanisms through which quality of care affects the decision to seek care are satisfaction or dissatisfaction with the outcome (e.g.effectiveness of the treatment and remedies prescribed), and satisfaction or dissatisfaction with the service received (staff attitudes, hospital procedures, availability of supplies, efficiency) (Stock, 1983; Nnadi, *et al*, 1984; Mwabu, 1986). So when pregnant women are dissatisfied with the quality of services that you offer them, they go to the traditional birth attendants (TBAs) who are culturally accepted and respected in the community.

Many women describe providers in the formal health care system as unkind, rude, brusque, unsympathetic and uncaring. Like in Tanzania, a study found that 21% of the women delivered at home because of the ruddiness of health staff, even though they thought delivering in health facility was safer (Biego et al, 1995). Where workers are perceived to be hostile and unfriendly, many women rely instead on traditional healers and TBAs for antenatal, delivery and postnatal care. This can lead to fatal delays in seeking adequate care for pregnancy- related

complications (Biego, *et al*, 1995).

In the study conducted at semi- urban area of Nigeria, Itiana documented the little knowledge the TBAs had about the causes and problems commonly arising during pregnancy, labour or delivery. Many treated complications with herbal medications, prayers, fasting and sacrifices, thus delaying referral to medical facilities (Itiana, 1997). Smith, in his study disqualified the ideas that training TBAs would result into better outcome for mothers and new-borns. Furthermore, he concurred with the idea that trained TBAs, knew more about family planning than untrained ones; and were likely to have recommended its use to clients and were likely to provide contraceptives (Smith, *et al*, 1997). In order to improve maternal survival, we better post trained and well equipped midwives who have access to effective chain of referral into the villages (Fauveau, *et al*, 1991).

Distance:

The necessity of travelling long distances due to inequitable distribution of health facilities and lack of transport is the deterrents in deciding to seek care (SARA project, 1997). In developing countries most hospitals are located in towns (called disease palaces) while about 60% to 90% of the population lives in rural areas (Leingmei, *et al*, 1988; Lennox, *et al*, 1984). So people have to walk a long distance to emergency obstetric care and in so doing many women lose their lives. Distance therefore, exert a dual influence-long distance can be an actual obstacle to reach a health facility and then can act as a disincentive to every effort of trying to seek care.

In addition, the effects of distance become stronger when combined with lack of transport and poor roads. Potential patients have to walk or use cow or ride a mule over rugged terrain will take longer to reach emergency obstetric care. Distance therefore, will be a greater obstacle for them and act as a greater deterrent to effort to seek care than those who can travel by motorised on relatively good roads (Thaddeus, *et al*, 1994).

In Nigeria, Egunjobi conducted an interview study and found that the respondents said they had not sought care because the facility was too far, or alternatively, that their choice of facility was made as a function of distance (Egunjobi, 1983). And in the studies using records from health facilities indicated that the highest proportion of users are located close to the facility e.g. in a study conducted in Mtwara found that most obstetric care users were originated within a 10 km-radius around the hospital and this proportion declines sharply with distance from the hospital. The rate of caesarean sections remain stable beyond 10km; this implies that there is a core group of women and families who try, by all means, to reach the hospital in case of complications (Jahn, *et al,* 1998).

However, some researchers measured the relationship between distance and the severity of the condition in which patients arrive at the facility and proposed that those patients who had to travel further probably also waited until the illness became serious before deciding to seek care. Presumably they waited longer because distance was acting as disincentive to seek care earlier, thus delaying the decision (Rahaman,

et al, 1982). For example, a case- control study of meningitis among Navajo children in Mexico revealed that the total distances travelled by cases and controls were the same. Yet, the mean distance travelled on unpaved roads was 10 miles for cases, compared to 1-4 miles for controls. The author suggests that the distance travelled on unpaved roads acted as a disincentive and delayed the caretakers' decision to seek care until complications of the initial disease developed (Williams. 1987).

Some studies indicate that physical proximity does not necessarily increase utilisation (Annis, 1981). As one study in Kenya's Meru district shows that roads improvements significantly reduced travel distance and time to health centres in the district. However, admission rates and patterns at the two mission hospitals most affected by these changes did not show substantial improvement. The author concluded that road improvements alone do not guarantee increased utilisation, as institutional barriers, such as the financial cost of treatment at the fee charging mission hospitals, may limit the advantages of shorter distances (Airey, 1989).

The magnitude of the impact of distance on the decision to seek care appears to be shaped by other factors as well, such as the severity of the condition and the reputation of the provider. Stock's data from Nigeria showed an effect of distance on utilisation, yet he stresses that there are differences in the size of the effect according to illness and perceived effectiveness of the health care provider. Tuberculosis, for instance, is an illness for which respondents considered medical care essential. In such cases the nature of the illness and quality of care appeared to be more important

than distance and people did travel far to obtain care (Stock, 1983). To reduce the problem of distance, we can use maternity waiting homes, which have proved to be successful functioning in Ethiopia, Cuba, Colombia, Malawi, Nicaragua, and Brazil (Figa-Talamanca, 1996).

Women's status is composed of the educational, cultural, economic, legal and political position of the women in a given society. While women's status generally underlies and shape women's access to health services, there are specific ways in which it directly affects, and delays the decisions to seek care.

In many countries of the developing world such as Nigeria, Ethiopia, Tunisia, Bangladesh, India and Korea, many studies show that women's decisions making power is extremely limited in such a way that they do not decide on their own to seek care. The decisions about their health care belong to their mother's in law, husbands, or other family members (Kloos, *et al*, 1987). In Ghana, for instance, a study of women who died of pregnancy-related complications found that 64% of women had sought help from herbalist, soothsayer or other traditional provider before going to a health facility. Families cited costs and the belief that the woman's condition would improve or that the woman was not ill enough to justify the cost involved, as the main reasons for not taking her to hospital (Odoi-Agyarko, 1993). While in Nepal, mother in laws attended most deliveries, and additional care or help is sought only if, she decides that such care is needed. The study found that 75% of mothers in law did not believe that antenatal check up was necessary (Challenge for the Nineties, 1998).

Furthermore, women's mobility is restricted in many developing countries where permission must be given by the spouse or the mother in law for her to travel (Stock, 1983; Juncker, *et al*, 1994). Where women's mobility is severely limited because of such cultural prescription, effort to seek timely care may be dwindled. According to Juncker and Harrison in Bangladesh and Zaria in Nigeria respectively, "no matter how vividly their women need emergency obstetric care, they are refused to be referred to hospitals with such facilities because their husband was absent and those present are often not willing to accept the responsibilities or the husband do not give them permission for referral (Juncker, *et al*, 1994; Harrison, 1983). Most women realise the life danger for themselves or for their children, but the family members do not perceive such dangers (Juncker, *et al*, 1994). In Ethiopia women tend to use those primary care facilities within walking distance from their homes, because of "cultural restriction placed on their travel outside the community" (Kloos, *et al*, 1987).

For a woman with obstetric complications, access limited to the nearby primary care centres is not of much help.

These facilities are usually not equipped to deal with obstetric complication, and further delay can occur through staff errors and misdiagnosis. In addition to identifying the major factors generally shaping the decision to seek care which is mainly based on the women's denial from autonomy and economic power: not forgetting their fear of being secluded from their household. Costs and distance consideration are also inter-related with gender inequality. Furthermore, gender inequality in access to health care is reflected in women's unwillingness to go to

hospital to deliver because it will disrupt household organisation, there may be none to take care of older children or their husbands"(Okojie, 1994). These women have a saying that, "we always try to deliver at home," and "It is better to deliver at home, because, I can supervise the housework...."Beside, at the hospital, I need to spend money"(Juncker & Khanum, 1997).

So many women consider childbearing as their only means of gaining status. Thus, women often find themselves in a paradoxical situation: high fertility is their main channel to improve their status, but it increases their risk of maternal deaths. Even in some society where women are financially independent, they derive pride and prestige chiefly from their roles as mothers (Van, 1985). Sargent's study of the Bariba of Benin illustrates yet another way in which pregnancy and childbirth confer status on women. To the Bariba, birth represents a rare opportunity for a woman to demonstrate courage and brings honour to both her family and her husband by stoic demeanour during labour and delivery. The woman who manages to deliver without calling for assistance until the child is born is especially esteemed (Sargent, 1985).

In such situations, a woman's efforts to gain esteem and enhance her status have direct implications for the recognition of complications and delays in the decision to seek care if they do develop. In Benin, for instance, the government has put significant pressure on women to have institutional deliveries, including fines. Still many women continued to deliver at home, due to the honour brought to families if they were seen as "stoic" during labour and childbirth (Maine, 1996).

Therefore, women's lower status influences their health in many ways; for Instance reduced access to education and information. They are often poorly informed about their health'. This results in failure to recognise early symptoms of diseases, leading to chronic health problems. 'Women's lower status in the family, where decisions regarding mobility and expenditures for their health care are in the hands of men, it is not easy for them to seek health care. Also it is recognised that health care providers treat women in an inferior way and that's why they are hesitance to seek treatment (Vlassoff, 1994).

Costs involved:

Fees reduce women's maternal health services and keeps millions of women from having hospital- based deliveries, or from seeking care even when complications arise. Even when formal fees are low or non-existent, there may be informal or under the table fees, or other costs that pose significant barriers to women's use of services. These may include costs of transportation, drugs, and foods or lodging for the women or family members who help care for her in the hospital (SMTC, 1997). Cost and distance often go hand in hand as considerations in the decision making process as longer distances entail higher transportation costs (Young, 1981).

In Zaria, Nigeria a study found that the shift from free to fee-based services for obstetric care reduced admission overall but significantly increased emergency cases. The number of maternal deaths rose correspondingly. The hospital staff believed that

this rise in maternal deaths might be associated with increasing costs that act to delay the decision to use the hospital until the woman's condition is critical (Harrison, 1997; Ekwempu, 1990).

The other important factor is the opportunity cost of the time used to seek health services. Time spent getting to, waiting for and receiving health services is time lost to other more productive activities, such as farming, fetching water and wood for fuel, herding, trading, cooking and so on. As women carry out a large majority of these tasks, the value of their times and the computing demands made on it are important to consider (Thaddeus, *et al*, 1994).

In many parts of the developing world, prospective patients, especially women, do not travel alone to a health facility: They are accompanied by other adults and children who can not be left at home alone because caretakers are not available. All these additional people increase the cost of transport (Foster, 1977). Often family members accompanying patients must incur the cost of staying in a town where the health services are offered. Furthermore, the availability of others to help with household chores, to look after children or to accompany patients to the facility can be a factor in the decision to seek care (Habib, *et al*, 1986).

Perception of Illness:

Health-care-seeking behaviour is strongly influenced by the characteristics of the illness as perceived by the individuals (Thaddeus, *et al,* 1994). To begin with, prospective health care users must recognise that an abnormal condition exists. The perceived severity and the perceived aetiology of the disorder then shape the decision to seek care. One or more of these perception factors may play part about their role in the health-care-seeking process.

Formal health services can conflict with cultural norms surrounding childbirth, including preferences for privacy, modesty and female attendants. Among the Saraguro Indians in Ecuador, hospital-based deliveries are perceived to violate privacy, many health providers are men, which is unacceptable culturally, and birth positions preferred by providers are not those preferred by women in labour. As a result, affordable and accessible maternal health services are under-utilised (Leslie, *et al,* 1989). In Tanzania, women and family members often did not realise the seriousness of the illness. This lead to delay at home or search for suboptimal treatments so that valuable time was lost before the woman arrived at the appropriate health facility (Urassa, *et al*, 1997). However, in most studies reviewed non of them gave such situation in the country.

Pregnancy and delivery are rampant events. Although acknowledged as potentially risky, pregnancy and childbirth are considered natural, normal work for women. In other words, they are often not seen as illnesses for which medical expenses are justified and a hospital room booked (Peterson, 1985). Furthermore,

just as pregnancy considered a normal event, death during labour and delivery may sometimes be considered as normal or inevitable. Such fatalistic views can lead to perception that the condition is not amenable to treatment, and can thus act as effective barriers to a timely decision to seek care. Socio-cultural prescriptions and interpretations can also shape the recognition of a health condition. Among the Bariba of Benin, for example, labour that lasts up to a day is considered normal and thus is not recognised as dangerous (Sargent, 1982).

In parts of Africa, prolonged obstructed labour is taken to be a sign of women's infidelity (Peterson, 1985). Obstructed labour thus interpreted as punishment for adultery and not recognised as a medical problem. It is believed that a woman must confess her sins so that the delivery will progress smoothly, thus precluding the decision to seek medical care for the complication.

Severity. Utilisation of services appears to be influenced by recognition of symptoms and the assessment that the symptoms are serious enough to justify medical care (Young, 1981). This indicates that the perceived severity of the condition may as well be the overriding factor in the decision to seek for appropriate care. Furthermore, there is interaction between severity of illness and other factors involved in the decision. Specifically, there is a reluctance to incur costs when the disorder is perceived as non-threatening or self- limiting. However, the perception of these expenses as a barrier seems to decrease when the disorder is perceived as serious, debilitating or life threatening, and the perceived benefits of seeking care

seems to outweigh the constraints. As perceived severity increases, utilisation of services increases and the impact of distance and costs in decision-making decreases (Thaddeus, *et al*, 1994).

Once the decision to seek care is made by the perceived severity of the illness, a key factor in determining the type of care (self, traditional, modern, or combination of the three) that will be sought as the cause of illness is attributed by the patients and their families. The narrow focus on cultural barriers also obscures the role that institutional inadequacies and economic considerations play in the decision to seek care. Nonetheless, variation across the cultural groups and across health conditions remains great, and beliefs about illness causation do sometimes affect the decision to seek medical care (Young, 1981). As we have noted earlier, the belief that obstructed labour is caused by women's infidelity is widely held-for example, in Sierra Leone, Liberia, Ghana, and Zimbabwe (Peterson, 1985). In Tanzania no such findings are documented in all the literature reviewed.

Economic status of the country:

Most developing countries spend very little on their health care. That which is spent is concentrated in areas that do not make a significant impact upon the health of the majority of the people. Overcrowding of hospital facilities (Editorial Lancet, 1983), Understaffing (Crowther, 1986) and none availability of medications secondary to limited funds have to be assigned responsibility for maternal deaths. The poor of any country is also more likely to be illiterate, have had a deprived childhood, and marry early, conceive while still growing, and suffer malnutrition during pregnancy and

hence high chance of complications. They are more likely to be attended in labour by Traditional birth attendants and if complications arise, seek professional assistance too late if at all (Harrison, 1985).

Poverty in a developing country is featured by foreign debts (Greenwood, 1987), which strains its already dilapidated economy, thereby aggravating social inequity, and vicious cycle of poverty and starvation, both by decreasing the availability of government support for health and education.

Most studies reviewed indicate that economic status affect the use of health services. In general, these studies found that utilisation increases as the economic status Increases (Ronghman, 1979; Egunjobi, 1983, Okafor, 1983). In study conducted by Kwast et al, in Addis Ababa, Ethiopia economic income, house ownership and occupation measured status. The lowest level rates of prenatal attendance and highest level of home delivery were found among women from the lowest economic status groups (Kwast, *et al*, 1984; Kwast, 1985).

Education:

Studies conducted in Dar es Salaam, Tanzania and Zaria, Nigeria revealed that utilisation of medical services increases with increasing level of education (Urassa, *et al*, 1995; Harrison, 1989). The positive association repeatedly documented is that between mother's education and use of child health services and child survival

technologies (Cleland, 1988). The presence of a positive association between educational level and use of adult health services is not as consistent (Okafor, 1983). However, survey results from Ethiopia, Jordan and the Philippines indicate a significant positive association between the use of prenatal care services, and level of women's education (Kwast, *et al*, 1984 and Abbas, 1986).

The mechanism by which education would affect the decision to seek care is not well known. It is hypothesised that education affects individual by introducing them to a new modern culture (Caldwell, 1985); that increasing level of education increase knowledge and awareness by shaping thought pattern- for example, by acting as Medication against fatalist (Caldwell, 1979); and that education increases access to information. A related hypothesis states that education increases self- confidence and imparts respect and influence.

It is not always that high level of education guarantee high level of utilisation of health services (Egunjobi, 1983; Lasker,1981; Sharp,1983). Some studies suggest that with increasing education, individual depends more on self-medication and self prescribed medication and in so doing postpone visit to health facility until after methods fail to produce a cure. Yet, it may also be that the better educated is generally healthier, thus requiring less care than the less educated (Thaddeus, *et al,* 1994).

By contrast, there are occasions where neither strong national investment in education nor achievement of a higher literacy rate appeared to have any effect on that country's high mortality rate. Bullough has pointed out those countries with high under five mortality rates spend about three to five as much on education as on health. He further notes that Paraguay and Tanzania are examples of countries that manage to combine high literacy rates and high maternal mortality rates. Adult female literacy 85 and 370 per 100,000 live birth (Bullough, 1989). This showed that even if literacy rate was very high but still maternal mortality was still higher too.

Therefore, the decision to seek health care is a behavioural response to a perceived need created by an illness. The complexity of the real world, however, introduces the variability and constrains into the process. It is therefore simplistic to relate people under utilisation of services to their ignorance, poverty, laziness or superstition. Rather, under utilisation is often related to people's knowledge, based on previous experience, that facilities are far away and often to reach, that they may be closed, that needed drugs may be out of stock, and that staff are often less helpful and polite (Thaddeus, *et al,* 1994).

Phase 2 Delay: Reaching Facility.

Once decision has been made that a complication need medical intervention,

and easy accessibility to a facility with emergency obstetric care capabilities as well as transport, become factors of paramount importance as discussed below.

Distribution of facilities:

Most of the existing health care facilities in the developing countries are concentrated in and around urban areas (Thaddeus, *et al*, 1994). The Governments plan to have rural areas serviced by a network of regional and districts hospitals in large towns, primary health centres, health posts and dispensaries were in small towns. In many parts, however, this networking does not work as planned. The studies conducted by Urassa (1997), Thaddeus (1994), Kloos (1987) and Lasker, (1981) documented that inhabitants of urban areas have better access to health facilities than do Rural inhabitants. In southern- highlands of Tanzania, Price (1984) found that all government hospitals were in urbanised areas and contained 237 beds (or 17.3% of the total available Maternity beds).

A concern to equitable distribution seems to have guided the allocation of the health resources in few countries. According to Cardoso, the Cuban ministry of health has paid particular attention to the rural areas in establishing a network of hospital facilities that would be accessible to the entire population. Existing hospitals were enlarged and new hospitals were built in the rural areas (Cardoso, 1985). Unfortunately the Cuban model does not appear to be widespread. Cuba is a relatively small country, a factor that probably facilitates the implementation of such policies. Still, there are many small countries where distribution of resources is much less equitable. Most of the districts in Mwanza region have one hospital that provide EOC serves in the whole district except Magu and Kwimba districts where there are more than one hospital.

Travel Distances:

The uneven distribution of facilities has implication for travel distances between women and even the closest facility let alone a specialist referral hospital. The issue of access is therefore an acute problem for rural inhabitants in most developing countries (Thaddeus, *et al*, 1994). In most rural areas, one in three women lives more than five kilometres from the nearest health facility, and 80% of rural women live more than five kilometres from the nearest hospital (WDR, 1994). Travel distance can be measured as a straight line between two points e.g. the house and the hospital. But usually people do not follow straight line to reach a facility. The nature of the terrain and the condition of the roads often dictate that distance will be longer. Urassa in his study said that those women who lived far from the roads or had problems getting transport had an increased risk of maternal mortality. Moribund patients may often have to pass through areas without roads to reach a road and if they have to travel again to reach hospital then the risk is doubled. The time taken to reach to the hospital is an important risk factor (Urassa, 1996: Kloos, *et al*, 1987). In rural Tanzania, 84% of women who gave birth at home intended to deliver at a health facility, but did not due to distance, and lack of transportation (Biego, 1995). While the study conducted by Lule in Malawi found that 90% of women wanted to deliver in a health care facility, but only 25% of them did. The reason given by 53% of the women was that by the time they realised they were in labour, they did not have enough time to get to a health facility (Lule, 1996).

Transportation:

The scarcity of vehicles in developing countries, especially in remote areas is a harsh reality that can make it extremely difficulty for women to reach even relatively nearby facilities (WDR, 1994: Lasker, 1981). In Tanzania, "a woman with placenta praevia died just 20 miles from the consultant referral hospital because the land-rover assigned to her medical centre was being used by unauthorised person at the time and she bled to death at the road side waiting for the taxi" (Price, 1984).

Inhabitants of rural areas have to walk or improvise means of transportation to reach a health centre care (Bhatia, 1986). For example, in remote areas of Bangladesh, seriously ill patients were carried to the clinic on a chair because there were no vehicles available to transport them" (Rahaman, *et al*, 1982). In such circumstances, the condition of the patient can deteriorate with increasing delays in reaching a treating facility, making the condition more difficulty to treat once the facility is reached- that is, if the patient is still alive upon arrival.

Not all individuals who decide to seek care at the medical facility arrive there in time to be treated; some die while trying to get there. Deaths on the way may result from the joint effect of phase one and two delays: there might have been a delay in the decision to seek care, which was further, aggravated by long distances and/ or lack of transportation. But it is entirely possible that the decision to seek care was timely, yet the poor distribution of health facilities and the resulting

distances separating people from the services accounted for the delay and therefore caused death (Thaddeus, *et al*, 1994).

In addition, it must not be concluded that reaching a health facility is the end of the health care seeking journey. If the nearest facility is a peripheral health centre not equipped to treat the condition or even to administer essential first aid, seriously ill patients will have to go on to another better-equipped institution. By the time the patient reaches an adequate health facility; the delays will have further increased the risk of death on the route. For example, in Tanzania, "the ectopic pregnant death occurred on the operating table after the patient had collapsed in her village and after she had undergone a long land- rover journey without an intravenous infusion (none was available) (Price, 1984).

Data on such deaths are scarce. Hospital based studies are not helpful, since they include only deaths that occurred in the institutes. Community based data research is more relevant, but deaths on the way to seeking care are sometimes counted as deaths at home. Among all studies reviewed, literature on maternal mortality proved that the richest sources of data on deaths occurring on the way to seeking care (Caldwell, *et al*, 1985, Chen, 1985). For instance, a study conducted in Zimbabwe revealed that 28% of deaths in the rural areas occurred while waiting for transport to the hospital and 3% of those in the urban areas (Fawcus, *et al*, 1996). And in Addis Ababa, 13% of maternal deaths recorded over two-year period occurred on the way to the hospital (Kwast, *et al*, 1986).

Phase 3 Delay: Receiving adequate treatment.

Today, Mary, the lady who helps us in the house, came late to work, I told her off for being late and asked her the reason of coming late. She said that one of her townswomen... had died in the hospital while giving birth to a baby. This was her fifth delivery. She was not from a far off village but from Sokoto City itself. She had not gone too late to hospital but rather gone on time... By the time they found a vehicle to go to hospital, by the time they struggled to get her an admission card, by the time she was admitted, by the time her file was made up, by the time the midwife was called, by the time the midwife finished eating, by the time the midwife came, by the time the husband went and bought some gloves, by the time the gloves were brought to the hospital, by the time the midwife was called, by the time the midwife came, by the time the midwife examined the woman, by the time the bleeding started, ...by the time the doctor was called, by the time the doctor could be found, by the time the ambulance went to find the doctor, by the time the doctor came, by the time the husband went out to buy drugs, IV set, drip and bottle of ether, by the time the husband went round to look for blood bags all round town, by the time the husband found one and by the time the husband begged the pharmacist to reduce the prices since he had already spent all his money on swabs, dressings, drugs and fluids, by the time the haematologist was called, by the time the haematologist came and took blood from the poor tired husband, by the time the day and night nurses changed duty, by the time the day and night doctors changed duty, by the time the midwife came again, by the time the doctor was called , by the time the doctor could be found, by the time the doctor came, by the time the tests had been properly crossed and all the T's dotted

and then husband signed the consent form, the woman died. Today the husband wanted to sell the drugs and other things they never used to be able to carry the body of his wife back to their village but he could never trace (the body) again in the hospital (Thaddeus, *et al*, 1994).

This example, provide an obvious illustrations of phase 3 delays- those that occur at treatment facilities. Studies carried out at facilities providing comprehensive emergency obstetric care showed delays in treatment once women arrive at the facilities to be a major contributing factor to maternal mortality, with admission-to-treatment interval ranging from a mean time of 2.6 hours to 15.5 hours (PMM, 1995). Long admission-to-treatment intervals were attributed to shortage or lack of essential supplies and equipment, including drugs, gloves, sutures, and anaesthetic agents at the facilities, forcing the patients to wait while relatives try to acquire the required drugs and supplies in private pharmacies (Thaddeus, *et al*, 1994; Mbaruku, *et al,* 1995). In Senegal's Kaolak hospital for example, transfusion was not available for 80% of women referred in labour needing transfusion, nor was anaesthesia available for 64% of those who needed it (PMM, 1997).

Some hospital-based studies determine whether or not the deaths were avoidable. They found that while a small number of maternal deaths are unavoidable, the large majorities are either entirely or probably preventable. For example, 98% of institutional deaths studied in Tanzania (Mtimavalye, *et al*, 1984); 77.8% of

maternal deaths studied in Southern India (Bhatia, 1986); 94% of maternal deaths studied in Cali, Colombia were preventable (Rodriguez, 1985).

Insufficient and unqualified staff, clinical mismanagement of patients, unavailability of the blood, shortages of essential drugs and missing supplies and equipment's limit individuals' access to life saving procedures. According to a technical working group formed by WHO in 1986, these deficiencies "represent a failure on the part of the health services to seize the last chance to save a woman"(WHO, 1986). This technical working group also identified seven obstetric functions that are essential at the first referral level to save the life of emergency obstetric patients. Accordingly, district and sub-district hospitals should be able to perform caesarean sections, administer anaesthesia and blood transfusions, perform vacuum extraction, carry out suction curettage for incomplete abortion, insert intrauterine devices and perform tubal- ligation or vasectomy. The capacity to perform these essential obstetric functions provides a guideline against which to evaluate the quality of care.

OBJECTIVES OF THE STUDY

BROAD OBJECTIVE:

To determine factors that contribute to delay in seeking obstetric care among women of childbearing age at Sengerema hospital.

SPECIFIC OBJECTIVES:

1. To determine factors influencing pregnant women decision to seek hospital care under emergency conditions.
2. To determine factors that affect pregnant women to utilise facility with emergency obstetric care late once decision has been made.
3. To determine factors leading to delay in receiving care after arriving at the facility with emergency obstetric care capability.
4. To determine the perception of women towards emergency obstetric care services.

METHODOLOGY

Study Design:

A cross sectional study was conducted in Sengerema district from twenty-eighth May 2000 to twenty nine June 2000. This was basically focusing on factors contributing to delay in seeking emergency obstetric care among women of reproductive age (13 to 49 years). The study involved the three phases of delays, which are delay in decision to seek care, delay in reaching the facility capable of tackling emergency obstetric cases and delay in receiving care once they are at the facility.

Description of the study area:

Sengerema is one of the seven districts of Mwanza region that is located in the lake zone of Tanzania. It covers an area of 8817 square kilometres of which 3335 is dry land and the remaining 5482 is covered by water. It has 33 islands out of which 27 are habitable (District Annual Report, 1998). On the north, Mwanza urban borders the district, while on the south it is bordered by Geita district. On the eastern part it bordered by Misungwi and Kwimba districts of Mwanza region, while on the west is bordered by Lake Victoria.

Sengerema district experiences two main seasons; the rainy season is usually between November and May, while then dry season is between June and October (District Annual Report, 1998).

Access from the sparsely populated peripheral areas to the district headquarter where the hospital is situated is difficult. The dust roads together with some temporary roads that serve the settlement in most rural areas are poorly maintained, travelling is mainly by foot or bicycles and by public transport (buses, Land Rovers) which are normally crowded and not regularly available. In the islands, one has to use a boat to reach the mainland and then walk to reach the bus station where she/he can get transport to reach the district headquarter. Some of the roads during rainy season they become impassable.

Administratively, the district is divided into 7 divisions, 27 wards and 126 villages. According to the national 1988 census, there were 393936 people in the district. The annual growth rate was 2.6% per year. The district has a population density of 118 people per square kilometre with literacy rate of 62.5% (District Annual Report, 1998). The district has a tribal heterogeneity. The major tribes are Wasukuma, and Wazinza.

The main activities are subsistence farming, fishery and livestock rearing. A few residents are employed in government and private sectors, while others are engaged in petty businesses. Maize, rice, beans and potatoes are grown both as food and cash crops. Cotton and timber are grown mainly as cash crops. The main livestock reared in the district are cattle, sheep, goats and chicken. These animals are considered as index for prestige in some of the tribes. The per capita income ranges from 23,000 to 30,000 Tanzanian shillings per annum (District Annual Report, 1998).

The district has a well-established health care network with one hospital, seven health centres and forty-two dispensaries all of them depend on one hospital for emergency obstetric care. Among the heath centres, the government owns five, the church one and the remaining one is privately owned. The nearest health facility is five kilometres from the hospital while the furthest is 110 kilometres

Selection of study area:

Sengerema district was selected because of its higher maternal mortality ratio (322 per 100,000 live births) compared to that of Mwanza region as a whole (203 per 100,000 live births)(Mwanza Regional Annual Report, 1998). Also it has many hard to reach areas (33 islands) and it has both the rural and urban areas. Sengerema hospital was chosen because of it being the only hospital in the district that provides emergency obstetric care service. This could give high chance of capturing all complicated pregnant cases in the district to give reliable information or representative sample of women with complications who were attending its 38 antenatal clinics and those who were not attending antenatal clinics (District Annual Report, 1998).

Target population:

The entire population of women of childbearing age (13-49 years) in Sengerema district that are eligible for delivery and obstetric emergencies represented the target population.

Study population:

This comprised of 172 women who attended Sengerema hospital from eligible target population. This sample is comprised of women referred from all health facilities in the district due to obstetric emergencies, those who delivered or received service at the hospital without referrals and those who delivered at home and came to the hospital for registration or vaccination of their babies within the first week of delivery. All women who were found in obstetric wards post delivery and in gynaecological ward with obstetric emergencies (abortion and ectopic pregnancy) were also included. The outcomes of pregnancy that include still birth, live birth, abortions, prematurity, ectopic pregnancy, intrauterine death were studied to be able to assess the effect of delay in care seeking on pregnancy outcome.

Sample size determination:

Based on the estimated 50% of women who delivered in the hospital during the study period and maximum likely error of 9%, the sample size of 119 participants was calculated by using the formula of single proportions (Epi-info 6 programme).

$n = z^2pq/d^2$

Where n= estimated total sample size

z = the standard normal deviate, usually set at 1.96 which corresponds to 95% confidence interval

p = estimated proportion in the target population who deliver in the hospital

q = 1 - p

d = maximum likely error

$n = (1.96)^2 \times 0.50 \times 0.50/ (0.09)^2$

n = 119 participants

Sampling technique:

A convenient sampling technique was used in quantitative method. This included all women who were found in the obstetric ward post delivery and in the gynaecological wards with gynaecological emergencies (abortions and ectopic pregnancies) together with those that delivered at home and came to the antenatal clinic for registration and vaccination of their babies within one week post delivery were enrolled into the study. Also all women who delivered in labour wards or gynaecological emergency attended in the gynaecological wards during the time of the study were enrolled into the study.

For qualitative research method; among the women interviewed in the quantitative study above, a purposeful sample of ten women with complications were selected. This sample comprised of two women from each of the five divisions in Sengerema district. The qualitative interview was then conducted when the selected women had improved or on the day of discharge. This in-depth interview was conducted to each participant at her own convenient place of her choice so as to increase confidentiality.

Data collection:

The interview was conducted in Kiswahili by using a pre-coded structured questionnaire, checklist, guidelines and observation schedule.

Data on demographic factors, socio-economic status, the different modalities of health care used, the source of influence in the decision making process, problems faced on the way that made her delay to reach the emergency obstetric care facility and whether she was satisfied or not satisfied with the services received at the hospital were collected. Furthermore inquiry was made as to why women delayed to reaching emergency obstetric care during complications and what they wanted to be done so that they could report early to emergency obstetric care and how they perceived emergency obstetric care services.

For each participant, effort was made to establish the time when the normal onset of labour or problem of abortion/ectopic pregnancy started until when she came to seek care. Also the antenatal cards were reviewed to see if she did attend antenatal clinic or not. The instruments were designed to learn from the participant's perspective on the importance of hospital deliveries, barriers to utilisation of services, which were picked by the use of questionnaire and in-depth interview. For those who delivered at home and brought their new-borns for vaccination reasons made them deliver at home were asked and if they were attending antenatal clinics a card was asked and those who did not have were considered that they did not attend antenatal clinic during their pregnancy. In place where the respondents were delayed in reaching health facilities, the respondents were asked the reasons that made them be delayed to reach the hospital.

Checklist: - was used to assess the availability of equipment for emergency obstetric care and workload related to trained personnel available at the facility.

Active observation: was used to assess the quality of service actually given to the patients and the interaction between the patients and the staff in the wards. It was also used to note the time the patient arrives to the hospital, to the obstetric and gynaecological wards and receives actual treatment.

Questionnaire: - used both closed and open-ended questions to give the respondents a big venue to express their ideas. There were twenty-two open questions and thirty-one closed questions in each questionnaire.

Guideline: - used for in-depth interview patients were given questions so as to explore more from the participants. The obtained information was used to enrich the gathered information from the questionnaire. The principal investigator himself conducted the in-depth interview.

Quality Control of the Data and Data Processing:

The principal investigator made consistent visits to the field as part of the supervision for data collection and edited each interview. The consistence of data collection was regularly checked. When extensive information was missing or inconsistent, a repeat interview was sought.

In addition, every day after data collection, the research team met to ensure that the questionnaires were adequately filled as well as to discuss problems encountered during the day, ready for the next day. Thereafter the responses for the open-ended questions were reviewed, categorised and coded.

Recruitment and training of research assistants:

Three mature, responsible female health workers were recruited from the Sengerema hospital to carry out the fieldwork. They included one assistant medical officer and two nurse officers. All of them had formal training in emergency obstetric care and were working in the obstetric and gynaecology wards with a long experience in tackling emergency cases. In additional, the research assistants were fluent in the vernacular languages spoken by the studied population (Kisukuma and Kizinza).

Prior to data collection, a one-day training seminar was conducted at Sengerema district hospital for the whole team during which instructions were given on the study approach in general and on some specific responsibilities.
Among other things, role-playing was used to familiarise the team on administering the questionnaires. The whole team was co-ordinated and supervised by the author.

Pre-testing of the research tools:

The questionnaires were translated into Kiswahili, which is the national language used in the area. The translation was done by the author who then asked someone else who was conversant in English to retranslate it back to English and see whether it maintained the same meaning or not. The Kiswahili translated questionnaires were used for pre-testing. Before starting the full-scale study, a pre-test was carried out to test the study procedures and instrument. The pre-test was conducted at Mwananyamala hospital in Dar es Salaam where ten patients as a pre-testing sample were interviewed. The procedures planned for the full study were employed. The undertaking proved an extremely useful in assessing the practicability of the

proposed methods. Among other modifications made, the pre-test results provided a basis for reformulating certain questions, inserting new response categories into the questionnaires and confirming the usefulness of the interviewer's questionnaire.

Data Analysis:

Epi-info 6 program was used in data entry and analysis.

For comparative purposes, the sample respondents were categorised into two subgroups of women according to their reporting time to the emergency obstetric care facility during the period of delivery or pregnant. A woman is categorised as delayed to report to the emergency obstetric care facility when she arrives at the facility after 12 hours of progressive labour pain in a normal pregnant women and in true labour pain (cervix dilated 3cm) for a woman with any other risk factor. Women with abortion or ectopic pregnant are said to delay when they report to the hospital in a condition that warrant blood transfusion or after twelve hours for those who are not bleeding much plus those who delivered at home or on the way (BBA) and bring their babies for registration or vaccination within the first week of delivery.

For women who reported without complications within 12 hours or women with complications but not in true labour and ectopic pregnancy and abortion without any indication of blood transfusions were categorised as reported early.

Chi-squared test was used to determine association between variables and delay in health seeking among women of the study population. The results were deemed significant at p-value of equal or less than 0.05 ($p \leq 0.05$). The in-depth interview was

analysed under each category in the quantitative interview and used to get more information to enrich the gathered information.

Ethical Considerations:

Ethical clearance for this study was sought from the research and publication committee of MUCHS. Permission to conduct the study at Sengerema district hospital was obtained from the district medical officer. At the hospital a detailed explanation of the study was made to the respondent in order to create a good rapport and obtain informed consent. Those who agreed were enrolled into the study and those who disagreed were not included. There were only two participants who disagreed. The interviewing process was conducted confidentially and each respondent was approached and interviewed separately.

Limitations:

1. **Selection bias;** Although Sengerema hospital is the only referral hospital for obstetric emergency care in the district, patients were totally selected on the basis of convenient and they might not be the representative sample of the whole district as it excluded those who did not deliver or die in the hospital. This was dealt with by conducting an in-depth interview that could give us some feelings of the community in which they live.
2. **Interviewee bias:** The problem with the in-depth interview might deliberately with hold or distort information.

   - The interviewers being medical personnel and were conducting the interview at the hospital set up, the interviewee would fear to give right answers assuming

that if they gave answers against the hospital would be denied of good care and hence gave answers favouring the hospital. This was minimised by creating good rapport to the patients before being interviewed.

DEFINITION OF TERMS USED:

1. **Health seeking - behaviour** is defined as any activity undertaken by individuals who perceive themselves to have a health problem or to be ill for the purpose of finding an appropriate remedy (Kasl and Cobb's 1966).

2. **Women of reproductive age**: In this study is defined as any woman aged 13-49 years of age.

3. **Maternal death**: It is defined as the death of a woman while pregnant or within forty-two days of termination of pregnancy irrespective of the duration or site of pregnancy, from any cause related to or aggravated by the pregnancy or its management but not from accidental causes.

4. **Maternal mortality ratio (MMR):** is the number of maternal deaths due to pregnancy, childbirth and puerperal condition during a given year per 100,000 live births during the same period.

5. **Delay:** A woman is termed as delayed to report to the emergency obstetric care facility when she arrives at the facility after 12 hours of progressive labour pain in a normal pregnant women and in true labour pain (cervix dilated 3cm) for a woman with any other risk factor. Women with abortion or ectopic pregnant are said to delay when they report to the hospital in a condition that warrant blood transfusion or after six hours plus those who delivered at home or on the way (BBA) and bring their babies for registration or vaccination within the first week of delivery.

6. **Emergency obstetric care:** is a special form of care which provide skilled attendant to pregnant women able to prevent, detect, manage the major obstetric complications, together with equipment, drugs and other essential supplies for effective management so as to prevent preventable deaths and disabilities (WHO, 1999).

RESULTS

A total of 172 women were interviewed in Sengerema district. This is 145.5% of the calculated sample of 119 participants. Of these 132 (76.7%) attended or were admitted to the hospital due to labour pain, 12 (7%) due to abortion, 4 (2.3%) due to ruptured ectopic pregnancy, 4 (2.3) due to vaginal bleeding, 4 (2.3%) due to intra uterine fetal death and the other 16 (9.3%) due to mixed reasons.

Table 1 shows that the age of the studied women ranged from 16 years to 48 years, with the majority of them being in the age group between 16 to 20 years (32%). About 59% of them had spent 5-7 years in school while a further 29.1% had never been to a formal school. The majority of women (84.3%) were either married or cohabiting at the time of the study.

The majority of the studied population who received care at the hospital (73.8%) had five or less deliveries with a labour pain (76.7%) as a leading cause of admission to the hospital. Among all women who attended to the hospital 66.9% (115/172) of them were supposed to deliver at the emergency obstetric care facility.

Table 1(a): Socio-demographic characteristics of the study population. (N = 172)

Age (years)	Number	Percents
16-20	55 9	32%
21-25	37	21.5%
26-30	37	21.5%
31-35	20	11.6%
36-48	23	13.4%
Years spent in school		
0 years	50	29.1%
1-4 years	16	9.3%
5-7 years	102	59.3%
8+ years	4	2.3%
Marital status		
Single	21	12.2%
Married/cohabiting	145	84.3%
Separated/widow/divorced	6	3.5%
Parity		
Five or less	127	73.8%
More than five	45	26.2%

Table 1(b). The reasons for admitting pregnant women into the hospital

Cause of admission	Number	Percent	E.O.C
Labour pain	132	76.7%	83
Abortion	12	7.0%	12
Ectopic pregnancy	4	2.3%	4
Vagina bleeding	4	2.3%	4
Intra-uterine fetal death	4	2.3%	4
Others	16	9.3%	8
Total	172		115(66.9%)

Finding shows that among all women who attended to the hospital with obstetric problems, 66.9% (115/172) of them were supposed to deliver at the facility that provides emergency obstetric care.

Table 2 (a): Age distribution and reporting time to the emergency obstetric care.

Age (yr.)	The proportion of women reporting to the E.O.C		
	Early	Late	Total
16-20	32 (58.2%)	23 (41.8%)	55.(32.00%)
21-25	22 (59.5%)	15 (40.5%)	37.(21.50%)
26-30	15 (40.5%)	22 (59.5%)	37.(21.50%)
31-35	4 (20.0%)	16 (80.0%)	20 (11.60%)
36-48	6 (26.1%)	17 (73.9%)	23 (13.40%)
Total	79 (45.9%)	93 (54.1%)	172

χ^2 test = 15.55, Df = 4, P value = 0.004

Findings show that the proportion of women reporting to the emergency obstetric care facility decreases as age increases. In women aged between 16 years to 20 years the proportion of women who reported to the EOC early was 58.2% compared to

26.1% of women aged between 36 years to 48 years. Only 45.9% of all women who reported to the hospital for delivery or any obstetric emergency during the study period reported early.

In the in-depth interview, it was found that aging women tend to consider themselves as experienced with delivering and overburdened with household responsibilities and hence do not rush to hospitals.

Table 2 (b): Common types of transport used to transport the studied women to health facilities.

Means of transport	Frequency (percents)
Bicycle	72 (41.90%)
Private vehicle	36 (20.90%)
Walking	41 (23.80%)
Local stretchers	2 (1.20%)
Others(boats with other means)	21 (12.20%)
Total	172 (100.00%)

The main means of transport were bicycle (41.9%) followed by private vehicles (20.9%).

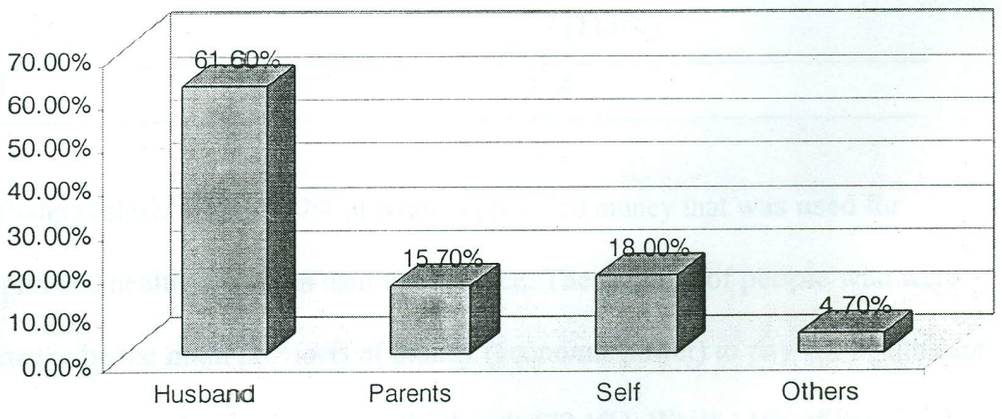
Table 3: The association between the parity of a woman with reporting time to the emergency obstetric care.

Reporting Time	Parity		
	Five or less	More than five	Total
Early	71 (55.90%)	8 (17.80%)	79
Late	56 (44.10%)	37 (82.20%)	93
Total	127 (73.80%)	45 (26.20%)	172

χ^2 test =19.34, P value = 0.00001

Findings show that women with five or less deliveries reported to the emergency obstetric care facility earlier (55.9%) than those with more than five children (17.8%). In the in-depth interview participants said that when a woman delivers several times without problems tend to have courage of delivering the subsequent pregnancies even at home and rushes to hospital only when she gets problems.

Figure 2: Persons who make decisions as to where a pregnant woman should delivery in Sengerema district.



The findings show that only 18% of the studied women made decision on their own on where to go for delivery or treatment. In majority of women it was the men (61.6%) who decide on where to seek care. Parents were reported by 15.7% of the respondents as the main decision-makers. In the in-depth interview many women said that their husbands decided for them on the place to deliver, except two women who said that both husband and wife made the decision. One woman said,"*I had problem before delivery but I did not go to the hospital because my husband was not at home. I waited for him till I delivered. When he came, he found me in a pool of blood and unable to stand on my own. He called our neighbours who took me to the hospital on the bicycle.*"

Table 4: Person providing money to be used during emergencies.

Person	Frequency (percents)
Husband	124 (72.1%)
Self	12 (7.0%)
Relatives	5 (2.9%)
Parent	12 (7.0%)
Borrowed	19 (11.0%)
Total	172

The findings show that only 7% of women provided money that was used for transport and health care from their own source. The majority of people who were reported to be the main providers of money (economic power) to pay for health care and transport during emergency were husbands (72.1%). While 11% of the respondents borrowed money from other sources. In the in-depth interview one woman said that *if the husband forbids you from going to the hospital and yet you go,*

he will not assist you in whatever expenses that you incur in the hospital so you better stay at home until he decides otherwise.

Table 5: Time taken in labour pain or gynaecological emergency before making decision to go to the hospital.

Time (hours)	Frequency (Percent)
0.00 - 4.00	49 (29.20%)
4.01 – 8.00	44 (26.20%)
8.01 – 12.00	25 (14.90%)
12.01 – 16.00	13 (7.70%)
16.01 – 20.00	6 (3.60%)
20.01 – 24.00	5 (3.00%)
24.01 – 240.00	26 (15.50%)
Total	✳168 (100.0%)

✳ Four women delivered at home

The time taken to decide to go to the hospital is too long that 15.5% took 24-240 hours to decide to go to the hospital. The average time taken before taking decision to go to the hospital was 19.10 hours and the median of 8 hours. In the in-depth interview women said that they do delay to decide to go to the hospital because at home there is nobody to take her to the hospital, no money because the husband is away, unavailability of transport, too far to walk, sometimes when they tell their husbands to take them to the hospital they are told to go if they have their own money. They decide to take them to the hospital only when they see them in critical condition.

Table 6: The association between reporting time to the emergency obstetric care and the years spent at school among the studied woman.

Years spent at school	Proportion of women delivering in the hospital		
	Early	Late	Total
0yrs	20 (40.00%)	30 (60.00%)	50 (29.10%)
1-4 yr.	9 (56.30%)	7 (43.80%)	16 (9.30%)
5-7 yr.	48 (47.10%)	54 (52.90%)	102 (59.30%)
8+ yr.	2 (50.0%)	2 (50.00%)	4 (2.30%)
Total	79	93	172

χ^2 test = 1.47, Df = 3, p value = 0.7

The number of years a woman spent in school did not show significant association with reporting time to the emergency obstetric care. Age stratified analysis showed that at the age groups between 16-20 years and 21-25 years among women with primary education majority reported to the emergency obstetric care early 68.8% and 54.5% respectively, but as age increased the influence of education became insignificant.

Table 7 (a): Distance traveled by a pregnant woman/BBA'S and time reporting to the E.O.C

Distance Kilometer	The proportion of studied women who report to the hospital		
	Early	Late	Total
1-10kms	29 (46.80%)	33 (53.20%)	62 (36.00%)
11-20kms	22 (57.90%)	16 (42.10%)	38 (22.10%)
21-30kms	8 (36.40%)	14 (63.60%)	22 (12.80%)
31-40kms	6 (54.50%)	5 (45.50%)	11 (6.40%)
41-50kms	6 (40.00%)	9 (60.00%)	15 (8.70%)
51-95kms	8 (33.30%)	16 (66.70%)	24 (14.00%)
Total	79	93	172

χ^2 test = 5.09, Df = 5, p value = 0.4; The median travel distance = 17 km.

Findings do not show any significant association between reporting time to the emergency obstetric care facility and distance traveled by women with obstetrical problems. In the in-depth interview it was revealed that women who lived far away from the hospital had to go to the maternity waiting homes which is within the hospital compound or their relatives who live nearby the hospital towards the end of the gestation period.

Table 7(b): The association of distance traveled with complications that were treated by operation.

Distance (Kms)	Complication treated by operation		
	Yes	No	Total
1-10km	4 (6.50%)	58 (93.50%)	62 (36.00%)
11-20km	4 (10.50%)	34 (89.50%)	38 (22.10%)
21-30km	5 (22.70%)	17 (77.30%)	22 (12.80%)
31-40km	3 (27.30%)	8 (72.70%)	11 (6.40%)
41-50km	2 (13.30%)	13 (86.70%)	15 (8.70%)
51-95km	9 (37.50%)	15 (62.50%)	24 (14.00%)
Total	27 (15.70%)	145 (84.30%)	172

χ^2 test = 15.39, df=5, p value = 0.009

The findings show that the proportion of complicated cases, which were treated by operation increased with increasing distance. 6.5% of complicated cases were operated at the distance between 11-20 km. compared to 37.5% at the distance between 51-95km.

Table 8:Accessibility to transport during emergencies

Transport availability	Frequency (Percents)
Yes	38 (22.10%)
No	134 (77.90%)
Total	172 (100.00%)

The findings show that only 22.1% of the respondents had access to transport when problem arises but the remaining 77.9% have no access to transport. In the in-depth interview majority of women had no access to transport especially at night,

sometimes it is too expensive to hire a vehicle or difficult to afford even a bicycle to go to the hospital. For instance, one woman spent 40,000/= Tshs. for transport alone. Worse still, sometimes you have to walk to Sengerema town to hire a vehicle and go with it to your village to carry a woman with emergency obstetric problem.

Table 9: Time spent on the way before reaching the emergency obstetric care.

Travelling Time(hrs)	Reporting time to E.O.C		
	Early	Late	Total
0.01-2.00	57 (54.3%)	48 (45.7%)	105 (61.00%)
2.01-4.00	16 (43.2%)	21 (56.8%)	37 (21.50%)
4.01-6.00	5 (33.3%)	10 (66.7%)	15 (8.70%)
> 6.	1 (6.70%)	14(93.30%)	15(8.70%)
Total	79	93	172

χ^2 test = 13.33, Df = 3, p-value = 0.004

Increasing travelling time was seen to have a significant association with reporting time to the emergency obstetric care. The trend indicate that the proportion of delayed to reach to the E.O.C increases with traveling time from 45.7% among those who travelled for less than two hours to 93.3% among those who traveled for more than six hours. During the study one woman died due to vagina bleeding. She spent about six hours before reaching the E.O.C and died while receiving blood transfusion. This travel time include the time spent in different health facilities that could not tackle emergency obstetric cases.

In the in-depth interview several causes of prolonged transit time were mentioned. These included inappropriate referral system, improper counseling of the patients about their problems requiring solutions or precautions, incompetence of clinicians/nurses that result in delayed referrals and treatment, private dispensaries with a motive of generating money rather than helping pregnant women in their problems, lack of transportation or break down of vehicles, lack of money and hard to reach areas like islands or mountainous locations.

Table 10: Causes of delay among the respondents.

Causes of delay	Frequency
Transport problems	14 (15.10%)
Financial problems	10 (10.80%)
Waited for labour to start	29 (31.20%)
Too far to walk	3 (3.20%)
Nobody to escort me to the hospital	5 (5.40%)
Others	32 (34.40%)
Total	✳93 100.00%)

✳ Only for women who reported late to the emergency obstetric care facility.

The findings show that among women who reported late to the emergency obstetric waiting for labour to start accounted for 31.2%, transport problems (15.1%) and financial problems (10.8%). In the in-depth interview the causes of delay were distance, financial problems, transport problems and experiences (multiparous women).

Table 11: The cost incurred for health care and transport with reporting time to the hospital.

money spent	Report time to the emergency obstetric care		
	Early	Late	Total
500-1700	6 (46.20%)	7 (53.80%)	13 (7.70%)
1701-2901	40 (51.30%)	38 (48.70%)	78 (46.40%)
2902-4102	5 (35.70%)	9 (64.30%)	14 (8.30%)
4103-5303	10 (83.30%)	2 (16.70%)	12 (7.10%)
5304-6504	7 (43.80%)	9 (56.30%)	16 (9.50%)
6505-59000	10 (28.60%)	25 (71.40%)	35 (20.80%)
Total	78 (46.40%)	90 (53.60%)	✶168

✶ Four women delivered at home. χ^2 test =12.49, Df = 5, P value = 0.03

The findings show that the cost incurred for both health care and transport has a significant association with the reporting time to the emergency obstetric care. The cost below 4103 Tanzania shillings does not affect the reporting time, but when exceeds the percentage of women reporting early decreases from 83.3% to 28.6% at the cost between 6505 to 59,000/= Tanzania shillings. In the in-depth interview lack of money was a big problem for women who reported late. For instance, one woman waited for two days in labour for a lift to take her to the health facility due to lack of money. When she got the lift it took her to the place where the problem was not solved. She was required to pay 20,000/= Tshs for buying fuel to take her to Sengerema hospital, which she did not have, except for the three goats of her father at home, which were sold in order to get money for transport. The acquired money from selling the goats was used for transport alone leaving her with nothing for a living or treatment at the hospital.

Table 12 **Perception of the community towards women who deliver unassisted at home.**

Perception	Frequency (Percents)
Normal	55 (32.00%)
Brave	13 (7.60%)
Despised because of her ignorance	93 (54.10%)
Others	11 (6.40%)
Total	172 (100.00%)

Women were asked to give their perceptions on home deliveries. The findings show that many women who deliver at home unassisted are despised because of their ignorance (54.1%), 32% of respondents considered it as normal while 7.6% thought that women who delivered without assistance are highly esteemed because of their bravely act.

Table 13(a): Consulting TBA's or Traditional healers in relation to time reporting to the EOC.

Report time to the E.O.C.	Consult the TBAs or Traditional healers		
	Yes	No	Total
Early	18 (40.90%)	61 (47.70%)	79
Late	26 (59.10%)	67 (52.30%)	93
Total	44 (25.60%)	128 (74.40%)	172

χ^2 test = 0.60, p value = 0.4

Out of 44 respondents who went to consult the traditional healers or traditional birth attendants, 40.9% of them reported early to the emergency obstetric care facility

compared to 47.7% who did not consult them. The difference was however not statistically significant.

Table 13(b): Perceived causes of complications according to the traditional healers or traditional birth attendants.

Causes of problems	Frequency (percent)
Ancestral spirits	5 (11.4%)
Mixing male partners	1 (2.30%)
witchcraft	2 (4.50%)
Abnormal fetal lie	3 (6.80%)
Not told the cause	12 (27.3%)
Worms (traditional concept)	21 (47.70%)
Total	44 (100.00%)

The findings show that among the respondents who went to consult TBAs or traditional healers were told that the major causes of their problems were worms (47.7%) and ancestral spirits (11.4%).

Table 14: Reporting time to the EOC among women who had problems during their

Report time to the hospital	Problems during pregnancy		
	Yes	No	Total
Early	38 (34.20%)	41 (67.20%)	79
Late	73 (65.80%)	20 (32.80%)	93
Total	111 (64.50%)	61 (35.50%)	172

χ^2 test = 14.60, P-value = 0.0001

Out of the 111 women who had problems during pregnancy, 34.2% reported early compared to 67.2% of those who did not have any problems during their pregnancy. In the in-depth study it was found that most women with problems during pregnancy in the village do not go directly to the hospital, instead they consult traditional healers or birth attendants. This cadre attributes witchcraft, ancestral spirits, prostitution and worms as causes of these problems. Also women who had not delivered for a long time tend to go to the traditional healer to be cleansed or treated. Once they conceive, they have to pass through a traditional healer before going to deliver in the hospital, in order to be given some medicine so as to open the passage for the fetus to pass (open "Lwikilo").

Table 15: **The time spent by the studied women at the hospital before receiving treatment.**

Waiting Time (hours)	Too long to wait: Yes	No	Total
0.00-0.30	7 (5.30%)	124 (94.70%)	131 (78.00%)
0.31-1.00	13 (56.5%)	10 (43.5%)	23 (13.70%)
1.01-1.30	2 (66.7%)	1 (33.3%)	3 (1.80%)
1.31-2.00	6 (100.0%)	0 (0%)	6 (3.60%)
2.01-4.00	4 (80.00%)	1 (20.0%)	5 (3.00%)
✶Total	32 (19%)	136 (81.0%)	168

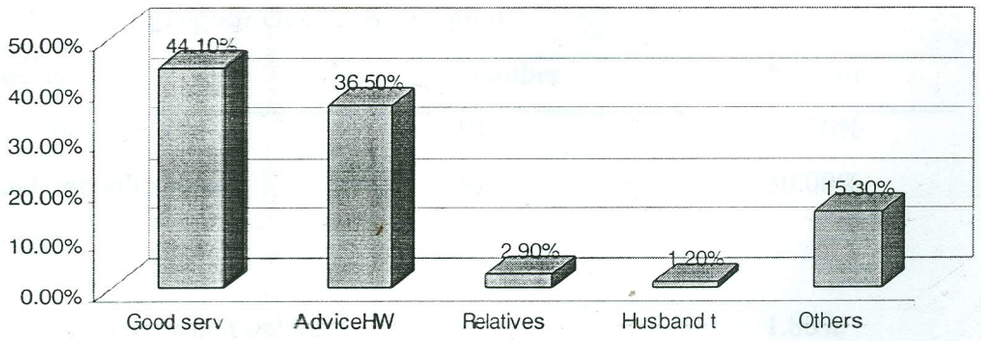
✶ Four women delivered at home; The average waiting time is 45 minutes

χ^2 test = 78.86, Df = 4, P value = 0.000

78.1% of the respondents waited for about 30 minutes before receiving treatment and 19% thought the time used to wait for receiving treatment was too long. In the in-depth interview found other causes of delayed receiving treatment, which are user

fees for evacuation which must be paid before the woman with abortion is evacuated, long cues of patients and bribe motive for some of the workers. For instance, one participant was referred to the hospital with incomplete abortion, she stayed at the out patient department unattended for three hours because she did not have enough money to be evacuated nor admitted. The clinician on duty came back after three hours claiming that she had decided to favour her on the conditions that she has to bring her rice and chicken the following day.

Figure 3: **The reasons that made the studied women deliver or attend at Sengerema designated district hospital .**



Women were asked to mention the reasons behind their decision to come to the hospital for delivery. About 44% mentioned the good service offered at the hospital, while 36.5% had risk factors and hence were advised to deliver in the hospital by health workers and only 1.2% were advised by their husbands.

Table 16: **The quality of service given by health workers to the patient of Sengerema district.**

Type of service	Number	Percent
Offer good service	161	95.80%
Irresponsible to their duties	1	0.60%
Others	6	3.60%
Total	✶168	100.00%

✶ Four women delivered at home

The findings show that 95.8% of the respondents said that health workers do offer good services to their clients.

Table 17: **Reasons for the respondents to plan to deliver their subsequent pregnancies in the hospital**

Reasons	Number	Percent
Offer good services	94	55.30%
Avoid unpredictable problems	51	30.00%
Little assistance when deliver in other areas	3	1.80%
Used to deliver in hospital	6	3.50%
Others	16	9.40%
Total	✶170	100.00%

✶ Two women planned to complete family size.

The main reasons made women plan to deliver in the hospital their next pregnancies were good service (55.3%) followed by avoiding unpredictable problems that might occur during delivery (30%).

Findings from the checklist

Table 18: The number of staff and equipment available at the hospital

Particular	Requirements	Available (percent)
Trained staff	120	70 (53.3%)
Equipment	70 components	64 (85.3%)
Blood bank	1	1 (100.00%)
Ambulance	1	0 (0.00%)

The hospital does not have an ambulance and has deficit of trained nurse midwives. The equipment is enough according to the ministry of health guideline.

Table 19: Workload of activities at the hospital

Particulars	Frequency
Number of beds in obstetric ward	50
Number of admission per week	91
Number of admission per day	13
Number of caesarean section per month	27
Number of evacuation per week	7

The findings show that the hospital has shortage of beds in relation to the patients admitted to the obstetric ward per week. It gives the ratio of one bed to two patients (91/50). The hospital has an average of 28 abortion per moth and 27 caesarean sections.

Active observation

Findings:

1. More than one patient slept on one bed, this can cause sepsis or spread communicable infections.
2. Some clinical officers purposely delay patients for admission in the ward. This situation creates environments for bribe.
3. Some of the nursing students are not polite to the patients and irresponsible to their duties. They tend to use excuse language or sometimes when a patient develop problems and ask them to help her they say I will come but never turn back. And nurses in-charge never rebukes them for any bad thing they do.
4. The language used by most worker to their patients is good even patients appreciate it.
5. Patients for evacuation delay to receive services until they pay evacuation fees for fearing that if they evacuate them before paying, they might not pay and go away with their money. This can lead to sepsis and negligence to lazy workers who are not willing to perform their duties on time.
6. Re-use of gloves in the labour ward.

DISCUSSION

This study has shown that delay in seeking health care during emergency obstetric problems is a significant public health problem among the community of Sengerema women. This can cause a lot of maternal mortality and morbidity. The overall proportion of women who delayed in seeking care was 54.1%. These women reported at the hospital when already in a situation that could compromise their health and making life saving to be difficulty to attain.

Factors that were seen to contribute to delay in seeking obstetric care were age and parity, decision making, poor accessibility to funds, travelling time, education, distance, community attitude, transport, costs, illness characteristics, problems during pregnancy, waiting time interval and quality of services. The findings from this study want to complement previous studies in highlighting the magnitude of different factors contributing to delay in seeking emergency obstetric care in Tanzania. Previous studies conducted in the country focusing specifically on why do at-risk mothers fail to reach referral hospital by Kowalewski (2000), achieving identification on antenatal care and timely referral of high-risk pregnancies in Mtwara, Tanzania by Jahn (1998). Also on reduction of maternal deaths in the regional hospital, Kigoma by improving quality of service at the hospital (Mbaruku, G., *et al*, 1995). Others are Social, obstetric history and accessibility of health care factors for maternal deaths in Ilala, Dar es salaam (Urassa, E., *et al*, 1995); in the study conducted by Urassa found that 62% of the causes of maternal death were direct causes which could be prevented with timely medical care (Urassa, E., *et al*, 1996). The results of some of

the above studies confirm and add on the body of scientific knowledge on the factors contributing to delay in seeking emergency obstetric care.

Some factors, such as cost and distance affect people's decision to seek care and there is relatively little that individuals or families can do to alleviates these problems. However, in order to make widespread changes in these factors the government must take some steps to improve distribution of health centres and financing medical care to the level that can offer emergency obstetric care. This is because many women waste a lot of time in facilities that cannot offer emergency obstetric care. However, there are some initiatives that can be introduced and help in reducing delay in reporting time to the emergency obstetric care facility and hence reduction of the toll of preventable maternal deaths and disabilities. Some of these are discussed below.

The study has shown that both age and parity were significantly associated with reporting time to the emergency obstetric care. Increasing of both age and parity act as significant factors that promote delay in women to reach to the hospital on time. This was supported by the in-depth interview that increasing age and parity were associated with a lot of household chores and experience on signs of labour especially for those with high parity without history of problems in the previous deliveries. This increased home responsibility make them fear to go to the hospital early that during their absence things might go wrong. Even when they are in labour tend to buy time at home supervising things until she is about to deliver instead of rushing to the hospital earlier and be told by nurses to walk around so as to stimulate labour pain. Because of these responsibilities the respondents perceive that they are

vulnerable to fatigue and overburdened with household duties. However, these causes of their vulnerability also prevent them from receiving timely care during emergency or adequate care during pregnancy. In such situation, women may try as much as they could to deliver at home but when they fail would rush to the emergency obstetric care facility. Similar observations were found by Kowalewski (2000) in southern Tanzania; Okojie (1994) and Juncker & Khanum (1997) in Bangladesh; and Bolam (1998) in Nepal who suggested that increased home responsibilities prevented multiparous women to receive adequate care during pregnancy or delivery, making them unwilling to go to deliver to the hospital because it could disrupt household organisation and increases the risk of home deliveries respectively.

Unfortunately, increasing age and parity are associated with increased complications during delivery or post delivery, which if not taken care early might claim a lot of lives of these women. These hazards need to be understood by the community so as they can take appropriate measures and timely care before a lot of lives of its members are claimed.

Delay in seeking emergency obstetric care can be reduced by providing women with access to emergency obstetric care facility. However, accessibility to the emergency obstetric care alone does not guarantee the utility of the facility unless women are are given decision and economic power could utilise the EOC properly because in this study it is shown that in almost many cases, husband's permission (61.6%) is required for a woman to seek health services including life saving care. Only 18% of

the respondents made decision on their own. If a husband is away from home during deliveries those present are often unwilling to take the women for care, no matter how pressing the need appear to be. If this is not controlled women will still report late during emergencies. Similar observations were also found in a study that was conducted in Dar es Salaam whereby mothers made 31% of the decisions and husbands made 29% of the decisions. Other studies with similar findings were conducted in Nigeria, Ethiopia, Tunisia, Bangladesh, India and Korea and showed that decision belongs to their mothers in law, husbands or family members (Kloos, *et al*, 1987; Juncker & Vanneste, 1994; Dia, *et al*, 1989; Dey, 1998).

Also the study has showed that husbands (73.2%) provided money required for transport and health services, while households which did not have money to be used during emergency (11%) borrowed from relatives, friends, community or any other sources for helping pregnant women. Since most women do not have autonomy and economic power, they lack influence on their families to make decision on emergency obstetric care in their favour and that's why about 44.7% of the respondents took above 8 hours to decide to go to the hospital (Table 5). Lack of economic power to women was also found in a study conducted in Bangladesh by Juncker & Vanneste (1994). This gives me an impression that although their situation might have been critical and needed emergency obstetric care, some women were denied referral to Sengerema hospital that has equipped with emergency obstetric care facilities. Men were the main holders of the house hold money, such that when they were on safari, women were unable to pay for their essential health services.

The number of years spent in the formal education was not found to be an important factor affecting the reporting time to the emergency obstetric care. But when used age-stratified analysis, it became an important factor whereby the majority of young women aged between 16-25 years reported early. This might be because majority of them were prime gravida which is the special psychological state that make the first pregnancy different from the later pregnancies, and results also in high proportion of hospital deliveries in Sengerema. Also the higher education levels in young women and the modernisation process in general, that's why majority of them reported early to deliver in the hospital. On the contrary, aged women have many responsibilities at home and considered themselves as experienced in this situation education plays very little role. Similar studies that were conducted in Zimbabwe and Ethiopia found formal educational to be not an important factors that contribute to the utilisation and early reporting to the emergency obstetric care so as to prevent maternal mortality and morbidity (Kwast, 1985; Harrison, 1989). However, this findings contrasted the results found in the studies conducted in Dar es Salaam, Tanzania, and Zaria, Nigeria (Urassa, 1995; Harrison, 1989) where level of education had association with timely reporting to the hospital and hence reduced maternal mortality. The difference might be due to localities that the later findings were conducted in towns where most educated and modern women are likely to live and hospitals are plenty.

Physical distance between people and emergency obstetric care in Sengerema district is a problem that will take a considerable amount of time, money and political will to solve. There are several comparative inexpensive measures that could reduce delay-reporting time and hence maternal mortality by reducing travel distance to the

emergency obstetric care. Some of the measures were already in use and others were not yet in use. Either pregnant women have to move closer to the services or the services have to move closer to women.

Sengerema pregnant women were implementing the former measure by moving to live with their relatives who live closer to the hospital and others stayed in maternity waiting home which provide modest accommodation closer to the hospital for pregnant women with risk factors who live far away. Unfortunately this is available in the district hospital alone and it is not possible to cater for all women in the district and make women stay far from their houses, which sometimes can make them use a lot of money for a living. This can be effectively if all health centres build maternity waiting homes plus transport and radio calls are made available. A number of countries such as Malawi, Ethiopia, Colombia, Cuba, Nicaragua, Bangladesh and Brazil, which are using maternity waiting homes, have proved to be successful (Figa-Talamanca, 1996; Fauveau, 1991).

Probably that's why the study did not show any significant association between distance with reporting time. Though it showed that women and families try by all means to reach hospital in case of obvious complications regardless of distance and travel time used to reach to the hospital. That's why the proportions of complicated women treated by operations increase with increasing distance. Such findings have also been observed in the study conducted in Mtwara whereby it was found that the overall referral rate declined continuously with increasing distance and the rate of complicated cases remained stable beyond 10 km. This indicates that there is a core group of women and families who try by all means, to reach hospital in case of complications (Jahn, 1998).

While maternity-waiting homes were practically useful in some situations, it is not a solution to Sengerema district where there is only one emergency obstetric care facility, which is located in town. To deal with this problem, a number of programmes have to be planned in which community members will be helped to prepare for eventuality of obstetric emergencies either by setting aside funds to pay for public transport or by arranging with owners to make vehicles available in emergencies, as suggested in the in-depth interview.

As seen in table 8, that majority of the respondents had no access to transport especially at night, so if a woman gets problem at night has to wait until the following day to be taken to the hospital. Transport problem (15.1%) has also ranked second cause of delay among the respondents who reported late to Sengerema designated district hospital. Sometimes, they have to walk to Sengerema town to look for transport and come back to carry a pregnant woman in need of assistance. For instance, a 16 years old woman from Katoma village was told to deliver at Sengerema hospital, but due to lack of money for transport she had to stay at home for two days waiting for a lift if it passes by to take her to the hospital. On the next day, while waiting for transport a traditional healer was called to help her if possible but when he found the abdomen has begun to divide into two parts he said the child was ascending because of mixing male sexual partners. Such findings were also found in Sierra Leone, Liberia, Ghana and Zimbabwe where obstructed labour was said to be caused by infidelity of women (Peterson, 1985). The pregnant girl was then given local herbs to drink but the condition worsened. On the second day, a

lorry, which was going to Kalebezo village (where the clinic was) to collect cotton, passed by and gave her a lift. When she arrived at the clinic the nurses tried to deliver her but failed. The owner of a vehicle which was nearby the clinic told them to give her 20,000 Tshs. for fuel to take them to the hospital but unfortunately, they had nothing except for the three goats of her father at home. They went home and sold the goats to secure money for transport. When they reached to the hospital late, she was operated but later developed vesicle vagina fistula and rectal vesicle fistula. This could not have happened at all if the villagers had arranged for emergency transport or did not waste a lot of time on the way due to lack of money to pay for transport.

The second options of moving services closer to the women of Sengerema district as proposed by a WHO Working Group on the Organisation of Maternal health care, which stressed that "programs should be provided at most peripheral level of the health system at which this can be done effectively (WHO, 1985).

It is reasonably that each health centre in Sengerema be under assistant medical officer and trained nurse midwife with life saving skills. The local government and the community should construct the maternity ward and operating theatre and make drug revolving funds to ensure availability of supplies so as to tackle some obstetric complications such as difficulty delivery, ectopic pregnancy and abortions. This will reduce the travelling time and distance as stipulated in table 9. This will save lives of many women with complications. Such practices are done in Gambia and Ghana (Djan, *et al*, 1996; Thaddeus, *et al*, 1994). About 93.3% of the respondents who

reported late had to travel for more than six hours to reach the emergency obstetric care facility. This long travelling time was aggravated by delay in the facilities that could not offer emergency obstetric care services, lack of transport and hard to reach areas, like islands. This is in contrast to the study conducted in Gambia, whereby only three hours were spent to reach to the hospital (Thaddeus, *et al,* 1994). One woman who was suffering from heavy bleeding spent about six hours and died just on arriving at Sengerema hospital.

One of the common suggestions for extending the coverage of maternity care services is to train traditional birth attendants, since there are many societies where they still conduct a large portion of delivery; so that they can sense the danger signs and encourage these women to deliver in health facilities or report early. However, it does not address the problem of major obstetric complications, many of which cannot be predicted. For most of major complications there is little that a TBA can in the way of treatment, although existing training programs would do well to include more on the first aid measures. In the study, it is unfortunately traditional healers who treated complications with herbal medicine and sacrifices, thus delaying referral to medical facility attended women that went to this cadre. This finding was also found in the study conducted by Itiana (1997).

Seven percent of the respondents said that the community perceived women who delivered in the community unassisted as brave. This phenomenon might encourage many women to continue to deliver at home, due to the honour brought to families in the community if they were seen as "stoic" during labour and childbirth. A similar

observation was obtained in the study conducted in Benin where the government put significant pressure on women to have institutional deliveries, including fines but still, many women continued to deliver at home, so as to bring honour in their families (Maine, 1996).

Fees discourage women from reporting early to the emergency obstetric care and keep many women from having hospital-based delivery or from seeking care even when complications arise. Even if official fees are low there may be "unofficial" or under the table fees as mentioned by some of the respondents or other costs. Like in this study more money was spent on transport than treatment for those women who lived far away from the hospital. Other costs include costs of food or lodging for women or family members who help care for her in the hospital. Similar findings were obtained from the studies conducted by Thaddeus, *et al*, (1994).

Literature indicates that people's recognition of illness and perception of severity and aetiology play an important influence on the decision to seek care and reporting time to the emergency obstetric care. This is encouraging, because the recognition of danger signs during pregnancy, labour and delivery can be addressed through community based programs, which are revealed in this study where those women, who suspected that witchcraft, prostitution or ancestral spirits were the cause of their problems during pregnancy or deliveries, they regard traditional healers as the only appropriate care to be taken before going to the hospital. This may explain the low number of hospitalised women with the risk factors or increased number of women delay to report to the emergency obstetric care. From the biomedical point of view

when a woman develop complication due to delay has a high predictive value for an adverse outcome in the next pregnancy (Kowalewski, *et al*, 2000). So the district health management committee in collaboration with other sectors in the district need to provide community education on pregnancy care and obstetric complications through women group and the importance of early reporting time to emergency obstetric care (Dia, 1989). However, lack of information might not be the only problem because women and families could have enough knowledge to seek care in a timely fashion, but may face other obstacles, such as distance, cost of services and inadequate quality of health care.

Sometime decision and reaching to the emergency obstetric care can be overcome in time but the problem remains on receiving treatment. Likewise in the study carried out at Sengerema hospital, which is providing comprehensive emergency obstetric care showed delay in receiving treatment once women arrive at the facility to be a factor contributing to delay and probably mortality-with admission to treatment interval with a mean time of 45 minutes. This is in contrast with the study conducted in Senegal where the admission treatment time intervals ranged from a mean of 2.6 hours to 15.5 hours (PMM Network 1995). In Sengerema, long admission to treatment interval was attributed to user fees, long cues of patients and bribe motive for some of the workers.

Quality of care is an important consideration in the decision to seek care. In this study it was found that almost all women (95.8%) who received obstetric care at the hospital perceived the quality of emergency obstetric care services offered by health providers as good. That is why about 55.3% of women planned to deliver in the

hospital their next pregnancy. These findings suggest that Sengerema women prefer to deliver in the emergency obstetric care facility except for the few who prefer to deliver to the traditional healers and traditional birth attendants. Problem found at the hospital included deficiency of beds in the maternity wards forcing two women to sleep on the same beds in the maternity wards whereby two women had to share a bed at times. This could trigger cross infection between them. Another problem identified was the reuse of gloves, which can lead to HIV infection to the women as well as to the staff.

Conclusion and Recommendations:

This study was done in Sengerema district, where distance to the emergency obstetric care facility is long, transport not readily available especially at night and health workers still delay in making appropriate diagnosis and timely referral to EOC in different health facilities. The Ministry of Health, therefore, must design possible ways to improve the working conditions and continued training of its staff. Sengerema district health management team (DHMT) must also design appropriate strategies of conducting on job training to its satellite dispensaries and health centres for improving knowledge on appropriate diagnosis and timely referral to emergency obstetric care. Also the DHMT has tom identify health facilities which have no trained health workers and ask the local government to give them chance of recruiting competent health workers in those localities, so as to reduce maternal mortality in the country. This to be useful we should move the services closer to these women by updating health centres to handle emergency obstetric cases by reducing travel distance and costs used, since travel cost consumed more money than

treatment as seen in the study. This study has clearly demonstrated factors that contribute in delay to reaching emergency obstetric care that can lead to excess maternal mortality in developing countries. Lack of adequate resources for emergency obstetric cases remains a major constraint for safe motherhood programme.

Social cultural factors, such as ancestral spirits, witchcraft, worms (traditional concept) and sharing male sexual partners that were attributed by traditional healers as the causal of women problems contributed to further delays. Community leaders and the public at large should discuss this. So as to raise awareness a village audit for every maternal death should be useful improvement of handling emergencies in the hospital by community education on the need to seek medical treatment early. This should go hand in hand with encouraging them on the importance of effective antenatal clinics where risk factors could be identified and referred earlier so as to reduce maternal mortality.

The referral chain is the core of good organisation of obstetric care. Unless all the three levels of delay are addressed, no safe motherhood programme can succeed. Finally one would conclude that provision of optimal emergency care even in the peripheral areas might be the most crucial question for improved maternal survival in our poor countries.

Recommendation:

1. Community Education and mobilisation. Where services are available, community education and mobilisation can encourage early decision to seek care and increase utilisation of emergency obstetric care facilities.

2. Community loan funds. Lack of money for transport and treatment were found to contribute to delay in seeking care at the emergency obstetric care facility. Establishing community loan funds requires substantial mobilisation efforts, this will help to increase utilisation of the emergency obstetric care services in the district.

3. Emergency transport. Availability of emergency transportation is a crucial element of a strong referral system. This does not necessarily require ambulances but commercial transport owners and communities can be mobilised to work together to identify schemes to provide affordable emergency transport from the community level.

4. Maternity waiting homes. Maternity waiting homes are designed primarily to reduce intra and postpartum complications. This are supposed to be built at least in all health centres which are not fur away from the place they live, psychologically are not separated from their environment and can get foods and other needs from their families. Community involvement and community concerns must be considered in the design and building of maternity waiting homes. Also quality antenatal care and screening services must be in place to

ensure that women with obstetrical complications are identified for referral and admission to the maternity waiting homes.

5. Upgrading of health centres. The government together with the community have to contribute funds that will be used to upgrades the health centres to handle emergency obstetric cases so as to move the services closer to the people in need.

Research needs and information Gaps

1. Identification of innovative techniques for community education (to raise awareness of complications and the need to seek timely care) and community mobilisation (to ensure availability of transport and availability of funds).
2. The referral system. Many women with obstetric complications die because of the inefficiency of the referral system. What factors constitute an effective referral system? What is needed for a functioning referral system? Research and analysis on adequacy, costs, and impact on maternal mortality and morbidity of different approaches used in different settings for referral to a facility with emergency obstetric care services. What innovative strategies are likely to be required to enhance the referral system, linking providers at the community level, health centre level and hospital level to respond to obstetric complications.

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