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TITLE: FACTORS CONTRIBUTING TO THE HIGH NUMBER OF HOME DELIVERIES IN MUFULIRA URBAN.

BY

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A disertation submitted to the University of Zambia in partial fulfillment of the requirement of the masters degree in public health.

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APPROVAL PAGE

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DECLARATION

I declare that this dissertation is the original work of P. Shipili. It has been prepared in accordance with the guidelines for MPH dissertations of the University of Zambia. It has not been admitted for a degree at this or any other university.

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ABSTRACT

The research contained in this document was done in order to determine the factors contributing to a high number of home deliveries in Mufulira urban. The identified factors were subjected to tests in order to establish whether the association observed was significant or not.

Maternal health is the complete physical, social and psychological well-being of a woman of reproductive age. Addressing maternal health encompasses social and cultural factors, as well as addressing health system and health policy. Indicators used to measure maternal health include skilled attendance at birth, contraceptive prevalence rates and most importantly maternal mortality and morbidity. Improving maternal health is one of the eight millennium development goals, and great efforts have been put forth to achieve that goal.

A case control study comprising 340 women aged between 15-45 years who had delivered at home within the past three months as cases (164) and those who did so in health facilities as controls (176). The sample was randomly selected from two residential areas which were conveniently selected due to the high number of home deliveries.

Data were collected by use of questionnaires, focus group discussion and review of records. Data analysis was done with computer software SPSS and EPI info. The analysed data were presented in frequency tables, cross tabulations and bar graphs. Both multivariate and bivariate analyses were done on variables whose association with the place of delivery was found to be significant.

This study revealed that low education level of women contributes to the increase in home deliveries (A significant association was observed between level of education and place of delivery, $P<0.001$). This is due to the fact that women of low education are not able to easily understand certain maternal conditions and the need to seek health care. Distance to the nearest health facility was also observed to contribute to pregnant mothers delivering in their homes ($P=0.003$). In addition, a significant association was observed between husband's employment status and place of delivery ($P<0.001$). Women married to men who are working have a higher chance of seeking health care because they can afford user fees, transport costs and layette. The study further revealed a significant association between the number of antenatal visits attended by a mother and the place of delivery. The lower the number of antenatal visits, the more likely that the mother will deliver from her home

(P=0.031, Fisher's Test).

This study concluded by coming up with several policy change recommendations which would enhance pregnant mothers' access to maternal health services. It was recommended that the health centres should be operating beyond 1600 hours so that those who might go in labour after 1600 hours could still be assisted by a skilled health worker. In addition, staffing levels needed to be improved to ensure quality maternal health care. There was need to source transport for the health centres to enhance the referral of patients from one health facility to another. Other recommendations included the rehabilitation of the health infrastructure and also the training of traditional birth attendants needs to be strengthened further as these cadres are playing major roles in the provision of maternal health services in the community in which they live.

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DEDICATION

I dedicate this dissertation to the Almighty God for seeing me through and to my family for their understanding and support. I pray to God that this study will inspire my only daughter, Bupe, to pursue further studies.

CERTIFICATE OF COMPLETION OF DISERTATION

I.....hereby certify that this dissertation is a product of my work and in submitting it for my Master of Public Health Degree Programme, further attest that is has not been submitted in part or in whole to another university.

I/We.....having supervised and read this dissertation, am/are satisfied that this is the original work of the author under whose name it is being presented. I/We confirm that the work has been completely satisfactorily and is ready for presentation to the examiners. (Delete sections that are not applicable).

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ACRONYMS

C.S.O.	Central statistical Office
CBoH	Central Board of Health
D.H.M.B.	District Health Management Board
D.H.M.T.	District Health Management Team
M.O.H.	Ministry of Health
P.H.C.	Primary Health Care
T.B.A .	Traditional Birth attendant
t.T.B.A.	Trained Traditional Birth Attendant
U.N.F.P.A.	United Nations Fund for Populations Activities
U.N.I.C.E.F.	United Nations Independent Children's Emergency Fund.
W.H.O.	World Health Organization
Z.D.H.S.	Zambia Demographic Health Survey

CHAPTER ONE

1.0 INTRODUCTION

1.1 BACKGROUND

Women's health is of utmost importance, both for the women themselves and for the next generation (WHO, 1997). Maternal health is described as the complete, social and psychological well being of a woman of reproductive age. Pregnancy and childbirth are a natural process but not one that is free from risks. In many parts of the world women still suffer and die unnecessarily because they do not have access to essential health services. At the time of giving birth only half of the world's women are attended to by a skilled health worker; that is someone who can make sure that essential care is given and be able to recognize the onset of problems and seek help early enough (WHO, 1997). Nearly two hundred million women worldwide become pregnant each year and more than five hundred thousand die of pregnant related causes while millions suffer complications of pregnancy (WHO, 1996). There are four hundred and thirty maternal deaths globally for every 100,000 live births. In developing countries, the figure is four hundred and eighty deaths for every 100,000 live births, while in developed countries there are 27 maternal deaths for every 100,000 live births.

In many developed countries, when child birth (labour) changed from a natural process to a controlled procedure, the place of birth also changed from home to hospital. Some developed countries have established birth centres in and outside hospitals where low-risk women can give birth in a home-like atmosphere, under primary care, usually conducted by midwives (Rook *et al*, 1989).

However the situation in Africa and other developing countries is different. Millions of women lack access to adequate care during pregnancy. In these countries, only 65 percent of women receive

antenatal care, 63 percent in Africa, 65 percent in Asia and 73 percent in Latin America and the Caribbean. In contrast, in developed countries, 97 percent of women receive antenatal care (WHO, 1997).

Each year, sixty million deliveries take place in which the woman is cared for by a family member, an untrained traditional birth attendant or no one at all. Only 53 percent of deliveries in developing countries take place with the assistance of a skilled birth assistant by way of a doctor or midwife (WHO, 1997). These skilled birth professionals are essential for making motherhood safer. A skilled birth attendant can ensure hygiene during labour and delivery, provide safe and non-traumatic care, recognize complications and manage them effectively or refer the woman to a higher level for care.

As a result of lack of skilled birth assistants, untreated or improperly treated complications of pregnancy and delivery are leading causes of death for women in developing countries (Murray and Lopez, 1990). In much of Asia, some parts of sub-Saharan Africa and North Africa, women are more likely to deliver at home (63%) than in a medical facility (Population reports, 2003). Most of the home deliveries in Africa are attended to by untrained Traditional Birth Attendants, trained Traditional Birth Attendants and elderly relatives as opposed to midwives.

In Zambia, maternal health issues are receiving significant recognition as a major public health concern (ZDHS, 2000). However, the records from the Zambia Demographic and Health Survey indicate that the maternal mortality rate has risen from 649 maternal deaths per 100,000 live births in 1996 to 729 in 2001 (ZDHS, 2002).

Many factors have undermined the efforts of the safe motherhood initiative and adversely affected the health of women. These include: economic crises faced by many countries globally, social cultural factors, political instability, epidemiological changes, ecological and natural disasters.

The Copper belt Province, in which Mufulira town is located, has the highest concentration of people although it has the second smallest land area (14.2 percent of the total area of Zambia). The population has grown from 800,000 in 1980 to about 1.6 million in 2000 (CSO, 2002). In the same year Zambia's total fertility rate was 6.0, while that of the Copperbelt was 5.2 and the one for Lusaka stood at 4.6. Mufulira district is an area of 1,258 square kilometers and has a population of 143,930. The population is broken down into 61,387 (49 percent) males and 60,949 (51 percent) females. Although the population for the province has been increasing, the population for Mufulira district has been decreasing over the years. In 1990 the population was 152,785 and reduced to 143,930 in 2000 (CSO, 2002). The district has three hospitals and twenty one (21) clinics (CSO, 2000). Fourteen (14) of the twenty one (21) health centres are located within Mufulira urban.

Mufulira has the same picture that is obtaining in many other areas of developing countries. The antenatal attendance is higher than the number of deliveries conducted in the health centres. Data in the 2005-2007 Action Plan indicate that the antenatal coverage for Mufulira in 2004 was 74 percent while that of supervised deliveries stood at 54 percent.

1.2 STATEMENT OF THE PROBLEM

Maternal and child health refers to the promotion, preventive, and rehabilitative health care for mothers and children. Some specific objectives of maternal child health are to reduce maternal, infant and childhood mortality and morbidity as well as promotion of reproductive health (Park, 2005). Risks in pregnancy both to the mother and unborn child need to be identified early so that proper interventions are put in place. Efforts to achieve this can be done during pregnancy, delivery and after delivery including regular access to family planning services (CBoH, 2003).

Childbirth is a normal physiological process but complications arise mainly because of variations in the place of delivery and the kind of birth assistance which is offered. Each woman who gets pregnant is exposed to maternal health risks. It is estimated that more than fifty million women suffer from reproductive health and serious pregnancy related illnesses and disabilities. A further 585,000 women die from complications of pregnancy and childbirth (Said, 2004). Most of the deaths occur in Africa and Asia. Women in higher fertility countries in sub-Saharan Africa have a 1: 13 life time risk of dying from maternal causes, compared with women in low-fertility countries in Europe and North America who have 1: 2,000 and 1: 3,900 life time risks respectively (Said, 2004).

Maternal risk is described as the probability of dying or experiencing serious injury due to pregnancy and childbirth. The World Health Organization states that at least 1,600 women die every day from complications of pregnancy and childbirth. The main causes of maternal death especially in developing countries are given as severe bleeding (25 percent), eclampsia (12 percent) and obstructed labour (8 percent) (WHO, 1997). Maternal deaths are as a result of low utilization of maternal health services. The contributing factors to low utilization of maternal health services include distance from the health facility, cost (direct fees and cost of transportation, drugs and supplies), multiple demands

on women's time and lack of decision making power within the family. In addition, poor quality of maternal health services contributes to women not seeking maternal health services (AbouZahr, 1997). In order to help countries develop consistent strategy at national and local level, the World Health Organization has put in place the mother-baby package which is a practical guide to implementing safe motherhood programs. Based on the principles of equity, affordability and access, it describes essential interventions which have to be put in place to ensure that childbirth is safe for women and babies. The mother-baby package further stresses the importance of providing adequate but economical and sustainable services even at the peripheral level of the health care system. However, despite the heightened attention devoted to safe motherhood, progress in reducing maternal deaths has so far been elusive. The rates of maternal and infant morbidity as well as mortality are still high in developing countries (WHO, 1999).

In Zambia, it is estimated that 4,000 women die each year from complications of pregnancy and childbirth (CBoH, 2002). The maternal mortality rate for Zambia stands at 729 per 100,000 live births (ZDHS, 2001/2002). Zambia also has a ratio of 1:30 life time risk of maternal death compared to Mauritius with 1:300, Hong Kong's 1:9200 and Spain's 1:9200 (WHO, 1997).

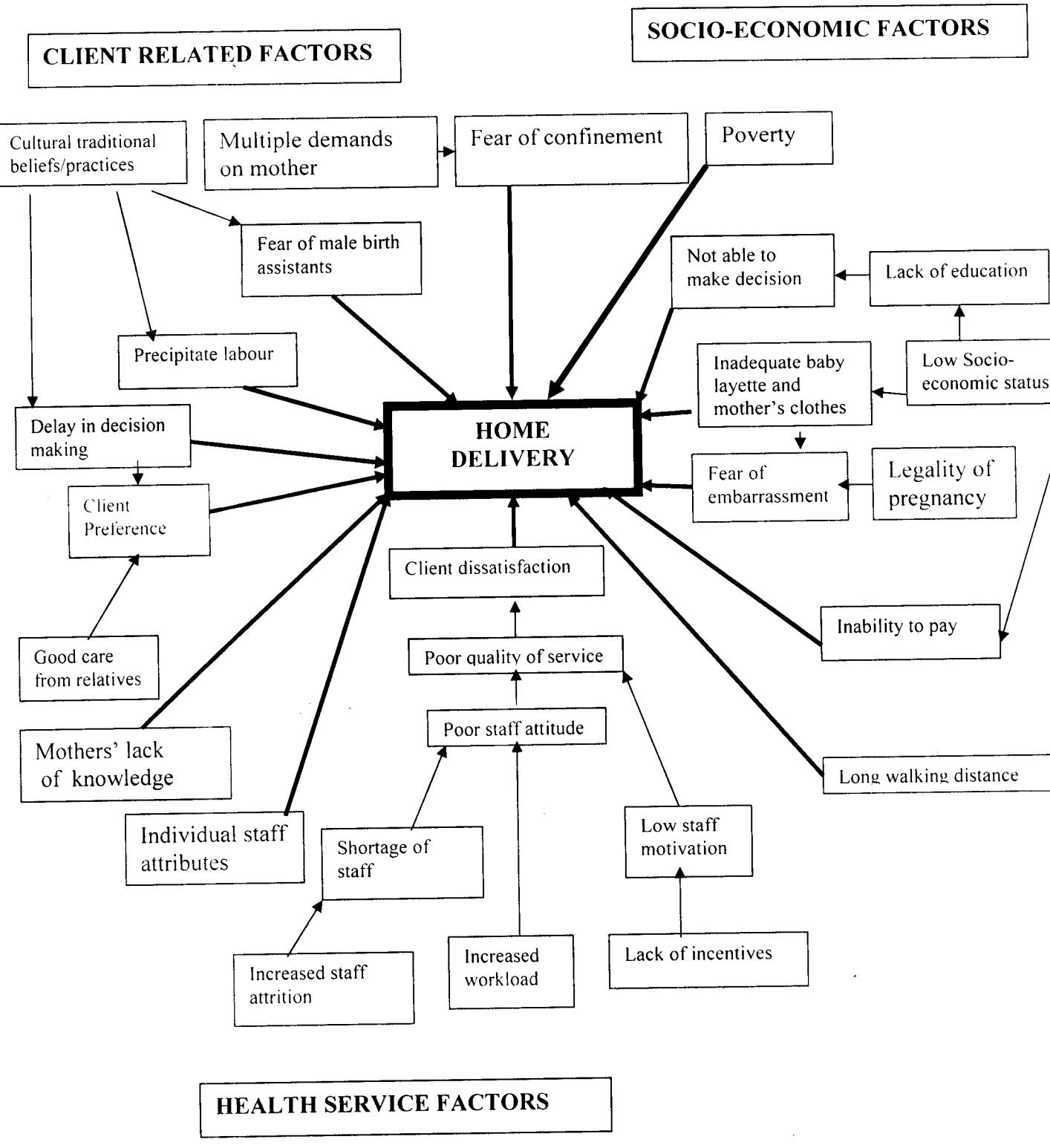
Mufulira, like many towns in Zambia has a higher coverage of antenatal attendance than the number of institutional deliveries. The antenatal coverage for the district was 72 percent for 2002, 72 percent for 2003 and 74 percent for 2004. At the provincial level, the antenatal coverage was 76 percent in 2001, 79 percent in 2002 and 96 percent in 2003. The district antenatal coverage is far short of both the provincial coverage and national target which stands at 90 percent.

On the other hand deliveries conducted by trained staff were 50 percent in 2002, 52 percent in 2003 and 54 percent in 2004. The deliveries assisted by trained Traditional Birth Attendants were 5 percent in 2002, 8 percent in 2003 and 6 percent in 2004. The risk of complications arising in pregnancy and birth in 2003 was estimated at 6/1000 live births (DHMT Action Plan, 2005-2007). Women in Mufulira like in any place in the developing world are experiencing problems of access to maternal health care and therefore exposed to the same maternal health risks. For various reasons, about 43 percent of pregnant women in Mufulira prefer to deliver at home. The home environment, however, is not conducive as there is no skilled assistance and no equipment to use in case of emergency. In addition to maternal and neonatal mortality, home delivery can lead to complications such as uterine prolapse, fistulae, incontinence, and infertility. Records at Ronald Ross General Hospital (a second level referral centre) indicate that the average number of still births is high (13 in the first quarter, 2 in the second quarter and 8 in the third quarter of 2005).

In addition, the records at the hospital indicate that, there is an increase in the number of caesarean sections and most of them are as a result of emergencies. This implies that the involved women initially did not want to come to the hospital but were just forced by circumstances like cold prolapse, obstructed labour and many others.

It is important that this study is undertaken in order to come up with solutions to barriers to maternal health care so that both maternal and neonatal mortality can be minimized in Mufulira. Mortality and morbidity for mothers and their newborn can be prevented.

1.3 PROBLEM ANALYSIS



The major factors observed in the problem analysis diagram were inability to pay, client dissatisfaction of the care, mothers' lack of knowledge, precipitate labour, fear of male birth assistants, inability to make decisions, walking long distances and fear of embarrassment due to lack of money to buy baby layette and clothes for the mother.

1.4 JUSTIFICATION

As is the custom in Zambia, relatives or untrained Traditional Birth Attendants assist women in labour as a traditional reproductive role for women. Such practices expose women to higher maternal risks because the attendants are not able to detect the onset of the complications of pregnancy and childbirth, thus, leading to increased maternal morbidity and mortality.

The study sought to investigate why there are so many women (46 percent for 2004) in Mufulira who preferred unsafe home delivery to supervised delivery in health centres and by trained Traditional Birth Attendants. Perspective of primary health care which has been adopted in this country also advocates for strengthened community based approaches through training of traditional birth attendants to reduce reproductive health risks associated with assisted delivery care in home situations. The findings would be helpful to policy makers, Mufulira District Health Management Team (DHMT), reproductive health providers and other partners in the district. The recommendations and findings could be used in formulating strategies aimed at increasing access to maternal health care thereby reducing neonatal and maternal mortality.

CHAPTER TWO

2.0 LITERATURE REVIEW

2.1 INTRODUCTION

The proportion of pregnant women who have care during delivery is universally lower than those who receive antenatal care. Yet it is during labour, delivery and immediate post-partum period that complications are most likely to arise and it is the time when care is most needed. Almost half of all post-partum deaths take place within one day of delivery and 70 percent within the first week. Poor rural women in sub-Saharan Africa and South Asia are least likely to receive antenatal, delivery or post-natal care (AbouZahr, 1997).

Vast discrepancies continue to exist in access to maternal health care between the developed and developing world, and between richer and poorer women, urban and rural women and educated and uneducated women. At least 35 percent women in developing countries still receive no antenatal care, almost 50 percent give birth without a skilled attendant and 70 percent receive no post-natal care (AbouZahr, 1997).

Access to quality care during pregnancy and especially at delivery seems to be the one factor in explaining the disparity in maternal mortality between the developing and industrialized world. Approximately 90 percent of maternal deaths could be avoided if adequate care was provided (Faundes et al, 1988).

In Zambia the percentage of women receiving antenatal care from a health professional has decreased slightly from 96 percent in 1996 to 93 percent in 2001 (ZDHS, 2001/2002). The report also indicates that medical personnel are attending slightly fewer deliveries (51 percent in 1992, 47 percent in 1996 and 43 percent in 2001), while the proportion of births attended by traditional birth attendants is the highest since 1992 (12 percent).

Like many other developing countries, it is considered normal in Zambia for childbirth to take place in a home. The pregnant woman may be on her own or she may be assisted by a non-professional person who may be a family member or untrained birth attendant. More than 60 percent of women are delivered by relatives like mothers and grand mothers, (Sitali, 1991). Place of delivery and type of assistance during delivery are indicators of the quality of care being provided. Over half (56 percent) births occur at home, while 44 percent occur in health facilities (ZDHS, 2001/2002).

As is the case with many developing countries, pregnant women in Zambia have problems in accessing maternal health care services. In a survey conducted by the Central statistical Office in 2001, 77 percent women indicated that they faced problems in accessing health care. Some major problems cited were difficulty in getting money for treatment or transport (47 percent) and distance to the health facility (46 percent). However this may not be the case in Mufulira as antenatal care is free and pregnant women are within easy reach. The perceived barriers to maternal health services are as discussed below.

2.1.1 HOME DELIVERY CARE OUTCOMES

Maternal mortality ratios reflect a woman's risk of dying each time she becomes pregnant especially in developing countries where a woman has to bear many children and obstetric care is poor. As a result

the lifetime risk of maternal death is much higher (almost 40 times higher) than in the developed world (UNICEF, 1996). This is made worse when pregnant women decide to deliver at home without the assistance of skilled personnel.

In addition to maternal mortality, each year eight million neonatal deaths and stillbirths occur among young women, largely as a result of factors which caused the death and disability of their mothers. The factors include poor maternal health, inadequate care, poor hygiene and inappropriate management of delivery, as well as lack of new born care (WHO, 1994)

Although infant mortality has fallen in many developing countries over the past two decades, the rate of the fall may be slowing (UNICEF, 1999). One reason is the resistant contribution of neonatal mortality, which has remained fairly steady over this period (Nichter, 1983). For many mothers health care during and after childbirth is virtually non-existent. In 2000, an estimated 53 million women in developing countries gave birth without professional help (UNFPA, 2000). The World Health Organization guidelines for essential newborn care encompass cleanliness, thermal protection, initiation of breathing, early and exclusive breast feeding, eye care, immunization, management of illness, and care of the low birth weight infant (WHO, 1996). Unfortunately these conditions are not met in the homes in which childbirth is conducted in developing countries.

It is estimated that 300 million women more than one quarter of all adult women now living in the developing world suffer from short or long term illness related to pregnancy and childbirth (UNICEF, 1996). Death and disability related to maternal causes account for 18.5 percent of the burden of disease among women of reproductive age in developing countries (WHO, 1996). Long term complications

of pregnancy and childbirth include uterine prolapse, fistulae, incontinence, and pain during intercourse and infertility (WHO, 1994). Up to 80,000 women each year develop fistulae in the birth canal which allow leakage of urine or faeces from the bladder or rectum, making a woman permanently incontinent. Between five hundred thousand and one million women now live with fistulae, many of whom become social outcasts and some are even rejected by their husbands and families (UNICEF, 1996). In unsafe hands, obstructed labour can result in permanent nerve damage, loss of sensation and muscle deterioration in the legs and the woman may become crippled (Royston and Armstrong, 1997). If the home environment is dirty, the woman may develop infection which can lead to pelvic inflammatory diseases, infertility and a range of other gynaecological disorders (Royston and Armstrong, 1997).

2.1.2 CLIENT INTERACTIONS WITH HEALTH PROVIDERS

Many women describe providers in the formal health care system as unkind, rude, brusque, unsympathetic and uncaring. Where health workers are perceived as hostile and unfriendly, many women rely instead on traditional healers or traditional birth attendants (TBAs) for antenatal, delivery and post-partum care. This can lead to delays in seeking adequate care for pregnancy-related complications.

In Tanzania, a study found that 21 percent of women delivered at home because of the rudeness of the health staff even though they thought delivering in a health facility was safer (Biego *et al,* 1995)

Formal health services can conflict with cultural norms surrounding child birth, including preferences for privacy, modesty and female attendants. Among Saragoro Indians in Ecuador, hospital based deliveries are perceived to violet privacy, many health providers are men, which is unacceptable culturally. As a result, affordable and accessible maternal health services are under-utilized (Leslie and

Gupta, 1989). In Sudan, a study found that women were ashamed of being poorly dressed in front of health workers (who were generally of higher socio-economic class), and were also afraid the health workers would react negatively to their illiteracy. These feelings deterred many women from using formal maternal health services (DHS, Various years)

2.1.3 WOMAN'S LACK OF DECISION MAKING POWER

In many parts of the world, women's power to make decision is limited, even over matters related to their own health. In Bangladesh, a study to determine who made decision patterning to child birth established that it is usually the mother-in-law, husbands or other family members who make decisions.

In Nepal, mothers-in-law attend most deliveries, and additional care or help is sought only if the mother-in-law decides that such care is needed. One study found that 75 percent of mothers-in-law did not believe an antenatal check-up was necessary (Report of Safe motherhood, 1990). A study in Zaria, Nigeria found that in almost all cases, a husband's permission was required for a woman to seek health services, including life-saving care. If a husband is away from home during delivery, those present are often unwilling to take the woman for care no matter how pressing the need appears to be (Thaddeus and Maine, 1994).

Acsadi and Jonson Acsadi (1993) argued that, in many cultures, pain and illness are considered normal part of women's lives and are thus not worthy of medical attention. They cited examples from Africa, Latin America and the Caribbean. Zambia is male dominant heterosexual community and most of decisions are made by men.

2.1.4 DISTANCE AND LACK OF TRANSPORT

The most important variable associated with utilization of maternal child health services is the physical accessibility of these services (Abbas and Walkern, 1986). Several other studies indicate that physical proximity of health care services, especially in the developing countries, plays an important role in the utilization of health services (Stock, 1983).

In most rural areas, one in three women lives more than five kilometers from the nearest health facility, and 80 percent of the rural women live more than five kilometers from the nearest hospital. The scarcity of vehicles and poor road conditions can make it extremely difficult for women to reach even nearby facilities. Walking is the primary mode of transportation, even for women in labour (World Development Report, 1994). In rural Tanzania, 84 percent of women who gave birth at home intended to deliver at a health facility, but did not due to distance and lack of transportation (Bingo *et al,* 1995). In Malawi, a study found that 90 percent of women wanted to deliver in health facility, but only 25 percent of them did. The most important reason given by 53 percent of the women was that by the time they realized they were in labour, they did not have enough time to get to the health facility (Lule, and Ssembataya, 1996). A study done by WHO (1998), in Uganda, revealed that transportation difficulty was a major factor that contributed to the low levels of institutional deliveries and high rates of maternal deaths.

In Zambia, according to the ZDHS of 2001-2002, women in Lusaka and the Copper belt were less likely to cite distance to the health facility and availability of transport as a problem in accessing health care than women in other provinces.

2.1.5 COST OF HEALTH SERVICES

Fees reduce women's use of maternal health services and keep millions of women from having hospital-based deliveries. Even when formal fees are low or non-existent, there may be other costs which pose as significant barriers to women's use of services. These may include costs of transportation, drugs and food or lodging for the women or for family members who come to care for her in the hospital (Safe motherhood technical committee, 1997). User fees may create an especially problematic barrier to poor pregnant women who need to deliver in health facilities. They may delay seeking treatment until serious complications develop, with possible life threatening consequences.

The introduction of user fees at Ahmadu Bello university hospital in Zaria, Nigeria in 1985 was associated with a reduction in the number of obstetric admissions (Ekwempu *et al.* 1990). Studies in Cote d'Ivoire (Gertler, and Van der Gaag 1988) and Peru (Gertler, 1988) found that fees deter everyone from using health services especially the poor women.

On the other hand, a study from Cameroon suggests that when improvements in the perceived quality of services accompany an increase in user fees, demand for services may actually increase, and the power strata of the population may increase their utilization by proportionately more than any other group (Litvack and Bodart, 1992).

2.1.6 BIRTH ORDER AND PLACE OF BIRTH

Several studies have found a strong association between birth order and use of health care services (Wong, *et al,* 1987 and Elo, 1992). As a result of perceived risk associated with first pregnancy, a woman is more likely to seek maternal health care services for the first order than higher order births. Having more children may also cause resource constraints, which have a negative effect on health care utilization (Wong *et al,* 1987). Women with a large number of children under-utilize available health

services because they have too many demands on their time which force them to forgo health care (McKinlay, 1972).

In Zambia, Kasoka (1998) observed that women who were delivering for the first time in Munfumbwe district, preferred to do it at home so that herbs could be applied during labour in order to enhance or quicken the delivery.

2.1.7 SOCIO-ECONOMIC STATUS AND THE PLACE OF DELIVERY

It is well recognized that mother's education has a positive impact on health care utilization. In a study in Peru using DHS data (Elo, 1992) found that mother's education was statistically significant on the use of prenatal care and delivery assistance. It is argued that better educated women are more aware of the health problems, know more about the availability of health care services, and use this information more effectively to maintain or achieve good health status.

In Zambia, the records indicate that women with no education are more likely to experience problems in accessing health care compared with their counterparts with higher education. In a CSO survey of 2001-2002, women with no education had 78 percent chance of having problems in finding money for treatment compared with 31 percent for those who had higher than secondary school education. Getting money for transport or treatment was the most frequently reported problem in all the provinces. On the other hand, increased income of a woman has a positive effect on the utilization of modern health care services (Elo, 1992). Increased income enables acquisition of more and better health care, depicting it as an enabling factor (Fiedler, 1981).

CONCLUSION

From the literature search, it was evident that a number of women were delivering in their homes assisted by unskilled attendants and in some cases by none. The factors contributing to home delivery varied from place to place. It was therefore important that this study was undertaken in order to establish why a high number of mothers preferred to deliver at home despite the many risks and complications associated with home delivery. In addition, there had been no study done in urban setting on women living within 5 to 10 Kilometres from the health centre.

CHAPTER THREE

3.0 HYPOTHESIS

There is no association between place of delivery and the following:

- Quality of health care offered
- Education level of the mother
- Birth order
- Family income
- Traditional beliefs

3.1 OBJECTIVES

3.2 GENERAL OBJECTIVE

To determine factors which contribute to the high number of home deliveries among expectant mothers in Mufulira urban in order to reduce both maternal and neonatal complications.

3.3 SPECIFIC OBJECTIVES

- To determine the relationship between socio-economic status and place of delivery
- To identify the influence of traditional beliefs on the place of delivery.
- To establish the extent to which perceived staff attitude affects place of delivery.
- To establish the influence of the number of antenatal visits on the place of delivery.
- To determine the influence of sex of the assistant during delivery on the mother's choice of place of delivery.
- To establish whether family's income influences place of delivery.
- To determine the relationship between birth order and place of delivery.
- To determine the association between mothers' knowledge about the dangers of delivering at home and the place of delivery.

- To determine the relationship between the quality of service and place of delivery.

CHAPTER FOUR

4.0 METHODOLOGY

4.1 VARIABLES

A variable is a characteristic of a person or object which can take different values. The two major categories of variables in the study are dependent and independent variables. A dependent variable is the outcome which reflects the effect or response to the independent variable where as the independent variable influences other variables. The variables in the study are as indicated below.

	VARIABLES	INDICATORS	SCALE OF MEASUREMENT
1.	**Dependent** Home delivery	Percentage of assisted Home deliveries in relation to total	Rate
2.	**Independent Variables** Age	Age of last birth day	In years
3.	Marital Status	Single Married Divorced Widowed	Rate or proportion
4.	Completed years in school.	1. College/University 2. Secondary level 3. Primary level 4. No formal education	In rate scale
5	Family income	Above K500,000 K200,000-K500,000 K100,000-K199,000 Less than K100,000	In rate scale
6.	Number of antenatal visits	Above 4 visits 3-4 Visits 1 to 2 visits	Rate scale
7.	Distance to the health centre	Near (1 to 2 Km) Far (3 to 4 Km) Further (Above 4 Km)	Distance in Km
9.	Birth Order of last child	Very high High Low	Rate scale
10.	Decision Making concerning place of delivery	Self Relative Husband Health worker	–
11.	Attitudes of health workers	Reasons for positive and negative responses	-
12.	Beliefs	Presence of beliefs (Proportion)	Rate
13	Level of knowledge by mothers on risks associated with home delivery	Correct responses Rated into scale; Poor, average and Good	Rate scale

4.2 RESEARCH DESIGN

It was a Case-Control study as it tried to establish the association between independent variables and the outcome. The mothers with children aged three months and below were interviewed to identify variables that could help explain the factors contributing to a high number of home deliveries in Mufulira urban. In the study, the mothers who delivered at their homes were the cases while those who delivered in health institutions were the controls.

4.3 RESEARCH SETTING.

The study was conducted in Mufulira, a town on the Copper belt province. The town was stratified into compounds. Two compounds with the highest number of home deliveries were sampled by convenience.

4.4 STUDY POPULATION

The study population comprised a cross section of mothers of child bearing age (15-49 years) living in Mufulira urban.

4.5 SAMPLING METHOD

The study setting (Compound) was selected by convenient sampling method. Two compounds (Kankoyo and Kawama west) with high number of home were chosen.

Systematic sampling method was then used to select the homes in which the mothers who formed the sample lived. All the women living within the sampled compounds were eligible to be selected.

4.6 INCLUSION CRITERIA

Case

Any woman who delivered at home within the past three months and resided within Kankoyo or Kawama west compounds located within Mufulira urban.

Control

Any woman who delivered at a health facility within the past three months and resided within Kankoyo or Kawama west compounds located within of Mufulira urban.

4.7 SAMPLE SIZE DETERMINATION

The sample size was determined by using the following formula:

$$n = \frac{P_1Q_1 + P_2Q_2\, f(aB)}{(P_1 - P_2)^2}$$

P1 = Expected proportion of home deliveries (56%)

P2 = Expected proportion of institutional deliveries (44%)

Value for alpha and Beta =7.85

Q = 100 - P

- $\frac{56 \text{ X } 44 + 56 \text{ X } 44 \text{ X } 7.85}{56 - 44}$
- $\frac{21{,}806.4}{144}$
- 151.4
- Rounding off to 155 for strong generalization of findings and to reduce the chances of making type 1 error.
- Adjusting for a response rate of 90 percent

- 155/.90
- =168
- We took a total sample of 340 mothers of whom 176 were controls and 164 cases.

4.8 DATA COLLECTION TECHNIQUE

Different data collecting techniques were used to collect data for this study. Combining different techniques maximized the quality of data collected and reduced the chances of bias. The following techniques were used to collect data from respondents.

An Interview Schedule: was used with the assistance of a questionnaire. The questionnaire comprised both open and closed ended questions (qualitative data). Open ended questions were used to develop responses for closed ended items, to test the respondent's knowledge of the topic, to explore a topic in depth, to arouse the subject's interest, and to collect opinion.

A Focus group discussion: was used as a qualitative data collection technique. The women, clinic staff (In-charges in Labour ward and antenatal care) and Traditional birth attendants were included. This method was used to validate the data collected by using a questionnaire.

Review of records: these were obtained from the sampled clinics and referral hospital to assist the researcher in establishing existence of undesired effects such as delayed, referred complicated cases, neonatal and maternal mortality rate and many more.

4.9 PILOT STUDY

A sample of 40 cases and 40 controls was used for pre-testing of data collection instrument before the actual data collection to ensure clarity, precision and consistency of the questions. After the pilot study, corrections and modifications were done to the data collection instrument in relation to the pilot study. In addition, the pilot study sample was used to compute sample size for the study.

4.10 ETHICAL CONSIDERATION

Clearance was sought from the Research Ethics Committee of the University of Zambia. Permission to undertake the study was also obtained from Mufulira district management team. In addition, written consent (informed) was obtained from each respondent after explaining fully the aim of the study. Anonymity of respondents and confidentiality of information was ensured.

4.11 DATA PROCESSING AND ANALYSIS

Raw data on all questionnaires was edited to ensure completeness and that the entries were complete. The responses were categorized and post-coded and then entered into the computer. The Chi-square was used to test the association and significance between continuous variables. SPSS package was used during multivariate analysis. In order to determine the relationship between the independent and dependent variables, both multivariate and bivariate analyses were used.

Data presentation was done using frequency tables, cross tabulations, bar charts, and percentages in case of important variables.

4.12 STAFFING AND WORK PLAN

Four research assistants were recruited to assist in data collection. These were trained so that they were equipped with the skills and knowledge needed during the exercise for uniformity of data collection.

The senior members during the exercise included the supervisor and co-supervisor who provided guidance and ensured the smooth running of the study.

4.13 DISSEMINATION AND UTILIZATION OF FINDINGS

Dissemination of findings was done through the use of reports which will be presented to Mufulira DHMT, Department of Community Medicine and School of Medicine library for use. The executive summary will be sent to the Ministry of Health who are the policy makers so that they can find solutions to the problem of large number of women delivering in their homes in Mufulira urban. Corrective measures to this problem may assist in preventing maternal and neonatal complications. The community will be informed about the findings through local meetings. A workshop will be held for health staff in order to inform them about the study findings. The findings will also be used by other researchers in the district in order to come up with measures to address the problem.

CHAPTER FIVE

5.0 RESULTS

The findings are presented in frequency tables, cross tabulation tables and bar charts. The total sample comprised 340 respondents. The number of cases was 164 (women who delivered at home) and that of controls was 176 (women who delivered in health facilities).

5.1 SOCIO-DEMOGRAPHIC DATA

5.1.1 AGE

Table 1 Shows the age range of respondents who were involved in the study.

Category	Cases		Controls		Chi-square	P-value
	Number	Percentage	Number	Percentage		
Less than 21 years	28	17.1	32	18.2	6.46	0.091
21-30 years	78	47.6	101	57.4		
31-40 years	51	31.1	34	19.3		
above 40 years	7	4.3	9	5.1		
Total	164	100	176	100		

As shown in table 1, the majority 78(47.7%) of cases and 101 (57.4%) of controls aged between 21-30 years were involved in the study as respondents. The least 7 (4.3%) of cases and 9 (5.1%) of controls were aged above 40 years. The distribution of age was similar between cases and controls (P=0.091). There was no significant association observed between age and place of delivery.

5.1.2 MARITAL STATUS, RELIGION AND EDUCATION

Table 2 Shows marital status, religious affiliation and education level of the respondents.

Category	Cases		Controls		Chi-Square	P-value
	Number	Percentage	Number	Percentage		
Marital status by place of delivery						
Single	28	17.1	40	22.7	1.70	0.193
Married	136	82.9	136	77.3		
Total	164	100	176	100		
Religion by place of delivery						
Anglican	13	8.1	10	5.7	6.34	0.175
Catholic	58	36.3	51	29.3		
Pentecostal	15	9.4	30	17.2		
seventh day	15	9.4	21	12.1		
Others	59	36.9	62	35.6		
Total	160	100	174	100		
Education level by place of delivery						
No education	17	10.4	6	3.4	13.69	0.001
Primary	93	56.7	82	46.6		
Secondary and above	54	32.9	88	50.0		
Total	164	100	176	100		

MARITAL STATUS

Due to the fact that expected frequency was less than 5 in some cases, marital status was categorized as single and married and the result was that there was no significant association between marital status and place of delivery (P=0.193). The majority 136 (82.(%) of cases and 136 (77.3%) controls were married as shown in table 2.

RELIGION

Among the cases 160 (97.6%) belonged to different denominations while the remaining 4 (2.4) did not belong to any religious groupings. The Catholics were the majority 58 (36.3%) among the professing Christians.

On the other hand 174 (98.9%) among the controls were Christians from various denominations and 2 (1.1%) did not belong to any religious cycle. There was no significant association observed between religion and place of delivery as shown in table 2.

EDUCATION LEVEL

The majority of cases 93 (56.7%) and controls 82 (46.6) attained Primary education level while 54 (32.9%) cases and 88 (50%) controls reached secondary level of education and above. As indicated in table 2, a significant association was observed between education level and place of delivery (P<0.001). The cases tended to be less educated compared to controls.

5.1.3 EMPLOYMENT STATUS

Table 3 Shows the employment status of the respondents and their husbands' by place of delivery.

Category	Cases		Controls		Chi-square	P-value
	Number	Percentage	Number	Percentage		
Respondents' employment status by place of delivery						
unemployed	122	74.4	125	71	3.44	0.179
employed	3	1.8	10	5.7		
Self-employed	39	23.8	41	23.3		
Total	164	100	176	100		
Husbands' employment status by place of delivery						
unemployed	13	9.3	7	4.9	21.08	<0.001
employed	42	30	82	56.9		
Self-employed	85	60.7	55	38.2		
Total	140	100	144	100F		
Family Income by place of delivery						
No Income	6	3.7	15	8.5	38.85	<0.001
Less than K100,000	51	31.1	20	11.4		
K100,000-K199,000	35	21.1	20	11.4		
K200,000-K500,000	56	34.1	74	56		
Above K500,000.	16	9.8	47	26.7		
Total						

There was no significant association observed between a woman's employment status and place of delivery as shown in table 3. However, there was a significant association (P<0.001) between husbands' employment status and place of delivery as the proportion of unemployed or self-employed husband was higher among the cases than the controls. There was also a significant association observed between family income and place of delivery (P<0.001).

5.2 DURATION OF STAY IN A RESIDENTIAL AREA

Table 4 Looks at duration of stay in residential area by place of delivery

Category	Cases		Controls		Chi-square	P-value
	Number	Percentage	Number	Percentage		
Less than 3 years	16	9.8	36	20.5	11.50	0.003
3-5 years	34	20.7	47	26.7		
more than 5 years	114	69.5	93	52.8		
Total	164	100	176	100		

Among the cases, the majority 114(69.5%) had stayed for more than five years in their residential areas while on the other hand 93(52.8%) of the controls had stayed in their residential areas for the same length of time. A significant association was observed between length of stay in an area and place of delivery as shown in table 4 (P=0.003).

5.3 DISTANCE TO THE NEAREST FACILITY AND MODE OF TRANSPORT

Table 5 Distance to nearest health facility and mode of transport to the nearest health facility by place of delivery.

Category	Cases		Controls		Chi-square	P-value
	Number	**Percentage**	**Number**	**Percentage**		
Distance to the nearest health facility by place of delivery						
Less than 30 minutes Walk	135	82.8	160	90.9	4.90	0.027
30 or more minutes walk	28	17.2	16	9.1		
Total	163	100	176	100		
Mode of transport to the nearest health facility by place of delivery						
Walking	160	98.2	175	99.4		**0.355 (Fisher's test)**
Others	3	1.8	1	0.6		
Total	163	100	176	100		

Distance to nearest health facility by place of delivery

Table 5 shows that the majority of cases 135 (82.8%) and the majority of controls 160 (90.9%) stayed within 30 minutes walking distance (near) to a heath facility. Cases tended to have stayed more than thirty minutes walk away from a health facility compared to the controls (P=0.027).

Mode of transport to the nearest health facility by place of delivery.

On mode of transport, the majority of cases 160 (98.2%) walked to the health facility and 175 (99.4%) of the controls also walked to the nearest health facility. There was no significant association observed between mode of transport to the nearest facility and place of delivery as shown in table 5.

5.4 Obstetric history by place of delivery

Table 6 Shows number of mothers who attended antenatal care, number of antenatal visits, birth order and the number of the last pregnancy by place of delivery

Category	Cases		Controls		Chi-square	P-value
	Number	Percentage	Number	Percentage		
Attended antenatal care by place of delivery						
Yes	157	95.7	175	99.4		0.031 Fisher's test.
No	7	4.3	1	0.6		
Total	164	100	176	100		
Number of antenatal visits by place of delivery						
1-3 visits	60	38.2	74	42.3	0.57	0.451
4 and above	97	61.8	101	57.7		
Total	157	100	175	100		
Number of last pregnancy by place of delivery						
1-2	51	31.1	78	44.3	8.83	0.012
3-4	51	31.1	55	31.3		
above 5	62	37.8	43	24.4		
Total	164	100	176	100		

There was no significant association between the number of mothers who attended antenatal care and place of delivery (P=0.451), but the number of antenatal visits was significantly associated with place of delivery (P=0.031) as shown in table 8. The majority 62(37.8%) of cases had five and above number of pregnancies and 78(44.3%) controls had between 1 to 2 pregnancies (P=0.012).

5.5 Staff attitude

TABLE 7 Shows staff attitude and reasons given for classification of staff attitude by place of delivery.

Category	Cases		Controls		Chi-square	P-value
	Number	Percentage	Number	Percentage		
Staff attitude by place of delivery						
excellent	9	5.5	7	4	3.76	0.153
good	152	92.7	159	90.4		
poor	3	1.8	10	5.7		
Total	164	100	176	100		
Reasons given for the classification of staff attitude by place of delivery						
They are welcoming and kind	159	98.1	165	94.3	3.38	0.066
Their attitude is Bad	3	1.9	10	5.7		
Total	162	100	175	100		

Staff attitude by place of delivery

The majority 152 (92.7) of cases and 159 (90.4%) controls thought that the attitude of staff was good. There was no association between classification of staff attitude and place of delivery (P= 0 .153) as indicated in table 7

Reasons given for the classification of staff attitude by place of delivery.

The majority 159 (98.1%) of cases and 165 (94.3%) controls said that the staff were kind and welcoming, and there was no significant difference in the classification of staff between the two study groups (table 7, P=0.066)

5.5 BIRTH ATTENDANTS

Table 8 Shows sex preference of birth assistant by place of delivery.

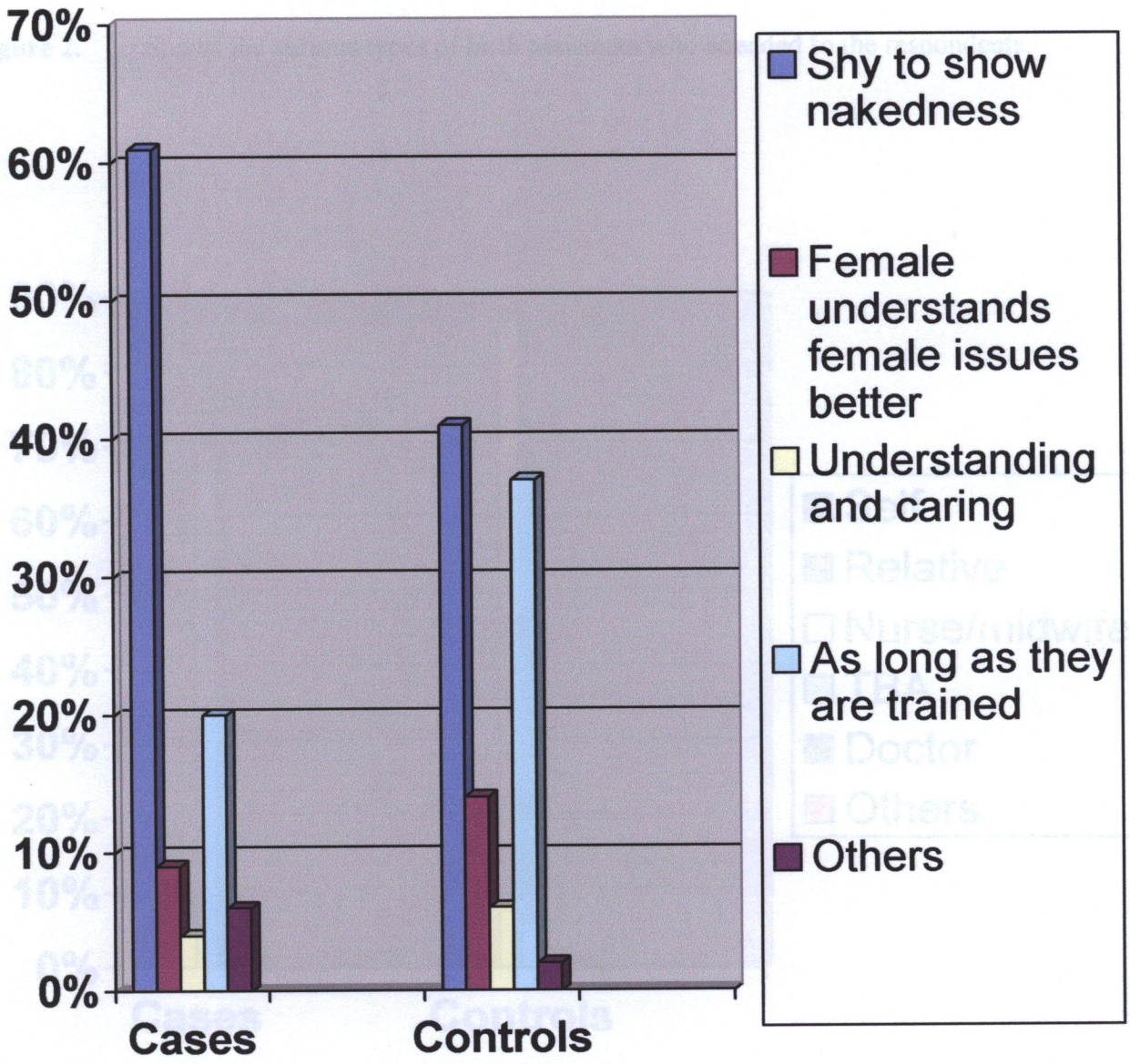
Category	Cases		Controls		Chi-square	P-value
	Number	Percentage	Number	Percentage		
Sex preference of birth assistants by place of delivery						
Female	130	79.3	106	60.2	14.50	<0.001
male or female	34	20.7	70	39.8		
Total	164	100	176	100		

Sex preference of birth assistants by place of birth

In terms of sex, the majority 130 (79.3%) of the cases and 106 (60.2%) controls preferred to be assisted by female assistants while 34 (20.7%) of cases and 70 (39.8%) controls did not mind to be assisted by either female or male as shown in table 8.

Figure 1

Shows the respondents' reasons for sex preference of birth assistants in relation to place of Delivery.

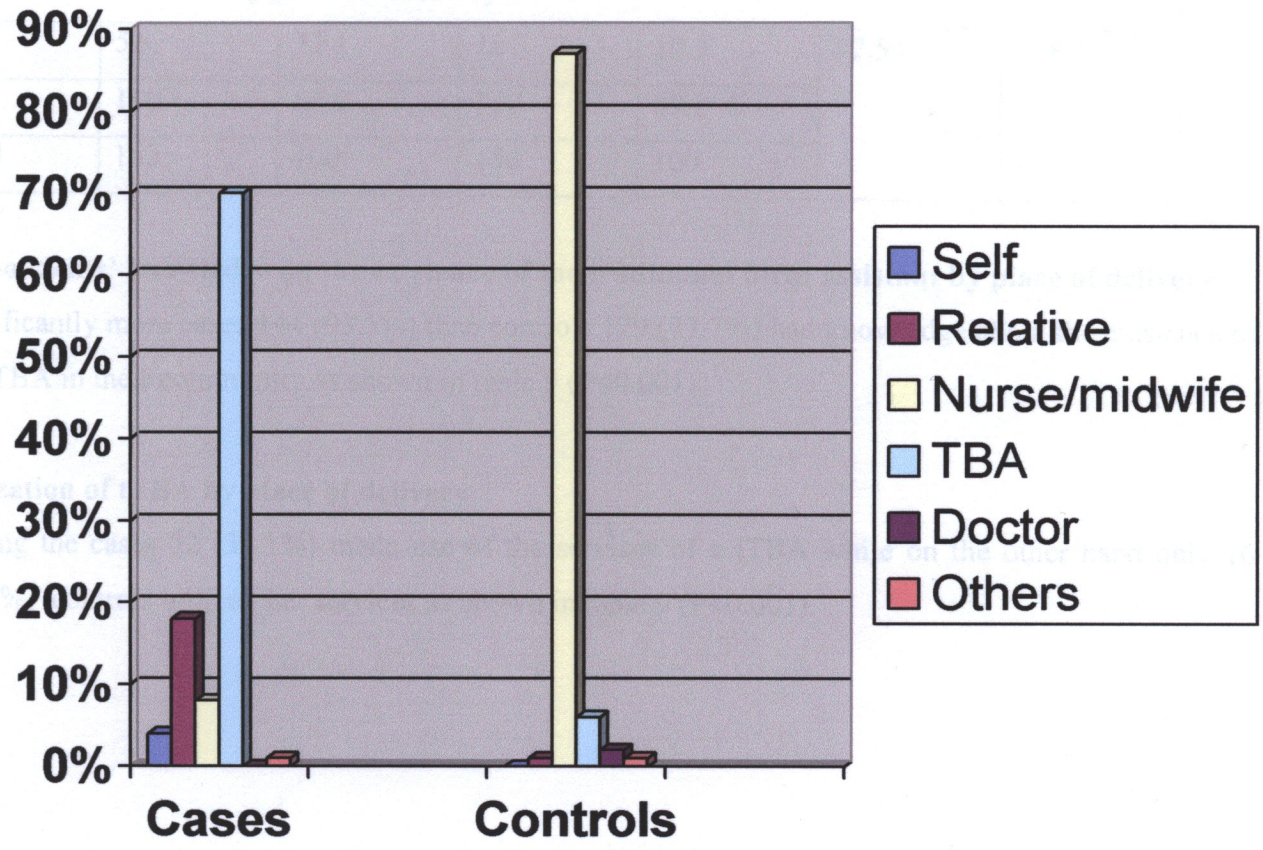


Reasons of sex preference of birth assistants by place of delivery

More cases 86(61.4%) than controls 64 (40.8%) said that they preferred to be assisted by females because they were shy to show their nakedness to males as shown in figure 1.

5.6.1 Birth assistant by place of delivery.

Figure 2. Shows the various types of birth assistants who attended to the respondents.



The majority 115 (70.1%) of cases were assisted by a tTBA during delivery while on the other hand the majority 156 (88.6%) of controls were assisted by either nurses or midwives as shown in figure 2.

5.7 Trained Traditional Birth Attendant

Table 9 Shows respondents' knowledge about the existence of trained birth attendant in their area and utilization of birth attendant by place of delivery.

Category	Cases		Controls		Chi-square	P-value
	Number	Percentage	Number	Percentage		
Knowledge about the existence of trained birth attendant by place of delivery						
Yes	144	93.5	129	77.7	15.91	<0.001
No/do not Know	19	6.5	37	22.3		
Total	163	100	176	100		
Utilization of a tTBA by place of delivery						
Yes	52	32.1	16	10.3	22.55	0.001
No	110	67.9	140	89.7		
Total	162	100	156	100		

Respondents' knowledge on the existence of the traditional birth assistant by place of delivery.

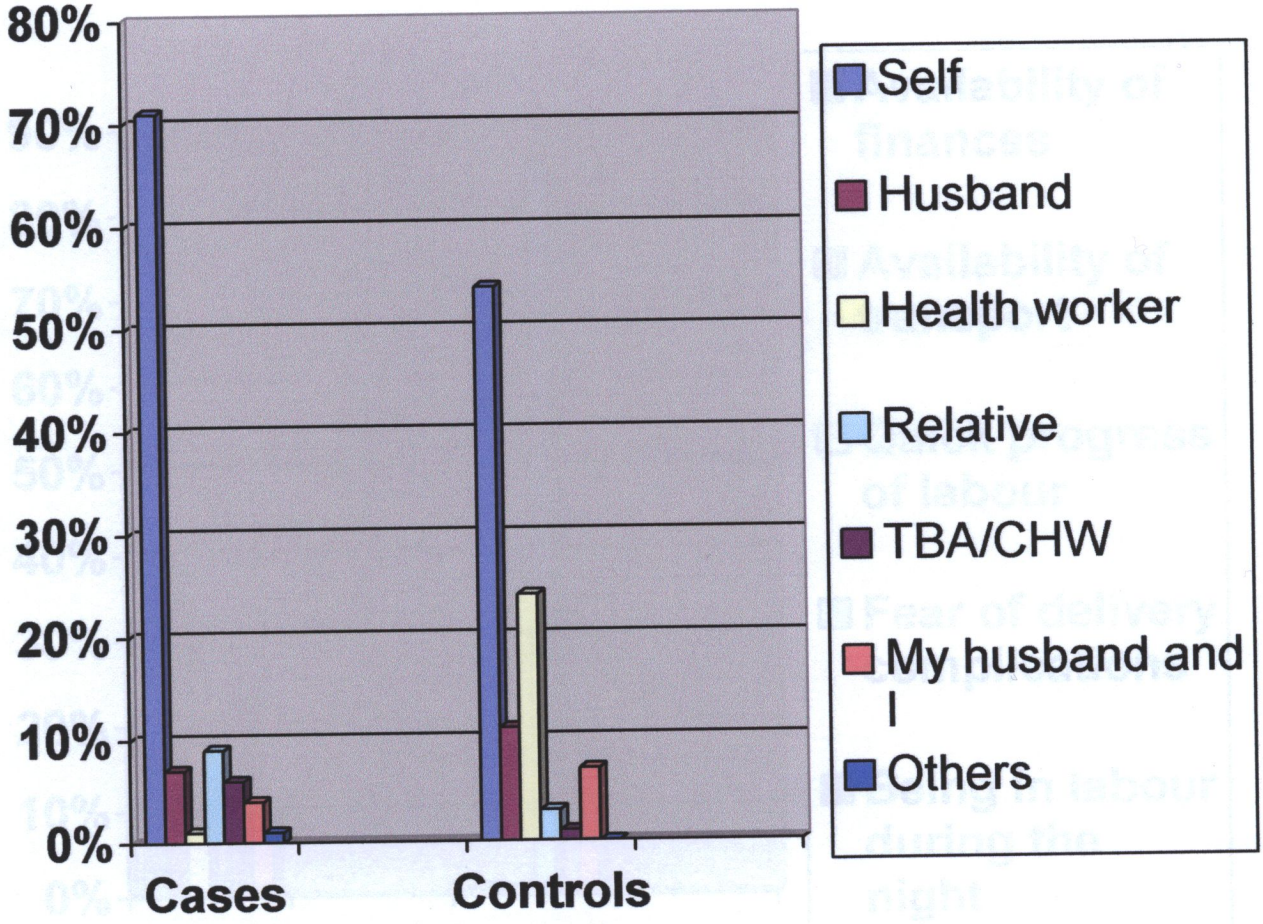
Significantly more cases 144 (93.5%) than controls 129 (77.7%) had knowledge about the existence of the tTBA in their community as shown in table 9 (P<0.001).

Utilization of tTBA by place of delivery

Among the cases 52 (32.1%) made use of the services of a tTBA while on the other hand only 16 (10.3%) controls utilized her services as shown in table 9 (P<0.001).

5.8 DECISION MAKING

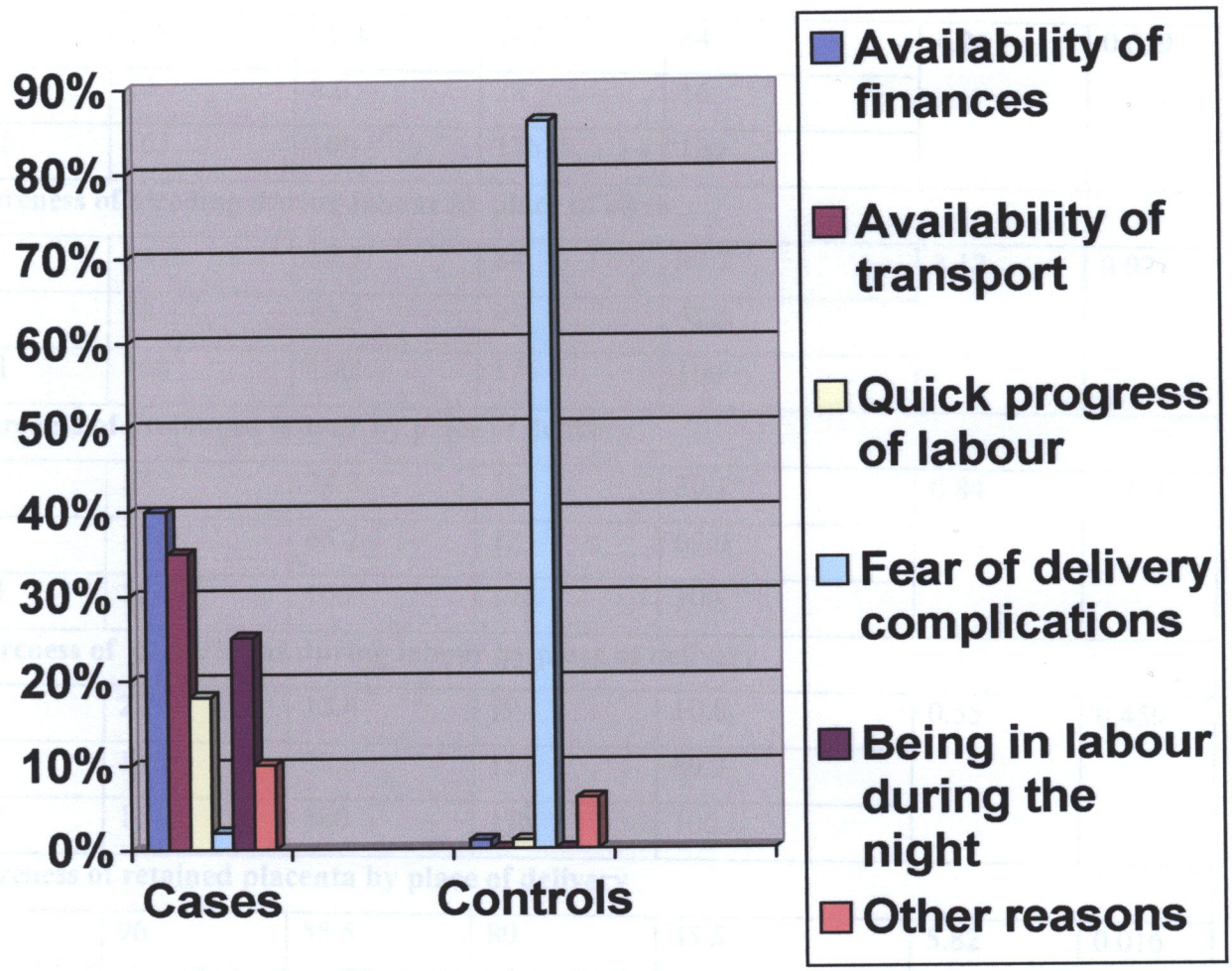
Figure 3. Show the people who made decisions on which place the respondent needed to deliver from.



The majority 117 (71.3%) of cases and 95 (54.3%) of controls made personal decisions for their place of delivery. For the remaining cases and controls, decisions were made by husbands, relatives, health worker, TBA/CHW and others as shown in figure 3.

5.8.1 Reasons for the choice of the place of delivery.

Figure 4 Reasons for the choice of the place of delivery



The reasons given by the cases for delivering at home were that they had financial problems (39.6%), had no transport to the health facility (34.8%), being in labour during the night (25%) and labour being too quick (18.3%). The majority of the controls 151 (85.8%) said the fear of complications forced them to deliver in health facilities as indicated in figure 4.

5.9 Knowledge of complications

Table 12 Knowledge of delivery complications by place of delivery.

Category	Cases		Controls		Chi-square	P-value
	Number	Percentage	Number	Percentage		
Awareness of delivery complications by place of delivery						
Yes	149	91.4	147	84	4.26	0.039
No	14	8.6	28	16		
Total	163	100	176	100		
Awareness of bleeding during labour by place of birth						
Yes	94	57.3	84	47.7	3.13	0.077
No	70	42.7	92	52.3		
Total	164	100	176	100		
Awareness of prolonged labour by place of delivery						
Yes	57	34.8	53	30.1	0.84	0.361
No	107	65.2	123	69.9		
Total	164	100	176	100		
Awareness of convulsions during labour by place of delivery						
Yes	22	13.4	19	10.8	0.55	0.459
No	142	88.6	157	89.2		
Total	164	100	176	100		
Awareness of retained placenta by place of delivery						
Yes	96	58.5	80	45.5	5.82	0.016
No	68	41.5	96	54.5		
Total	164	100	176	100		
Awareness of any other complication of labour by place of delivery						
Yes	45	27.4	36	20.5	2.28	0.131
No	119	72.2	140	79.5		
Total	164	100	176	100		

Significantly more cases 149 (91.4%) than controls 147 (84%) were aware of delivery complications (P=0.039). A significant association was also observed between awareness of retained placenta and place of delivery (P=0.016), with more cases than controls being aware as shown in table 12.

5.10 Delivery problems and place of delivery

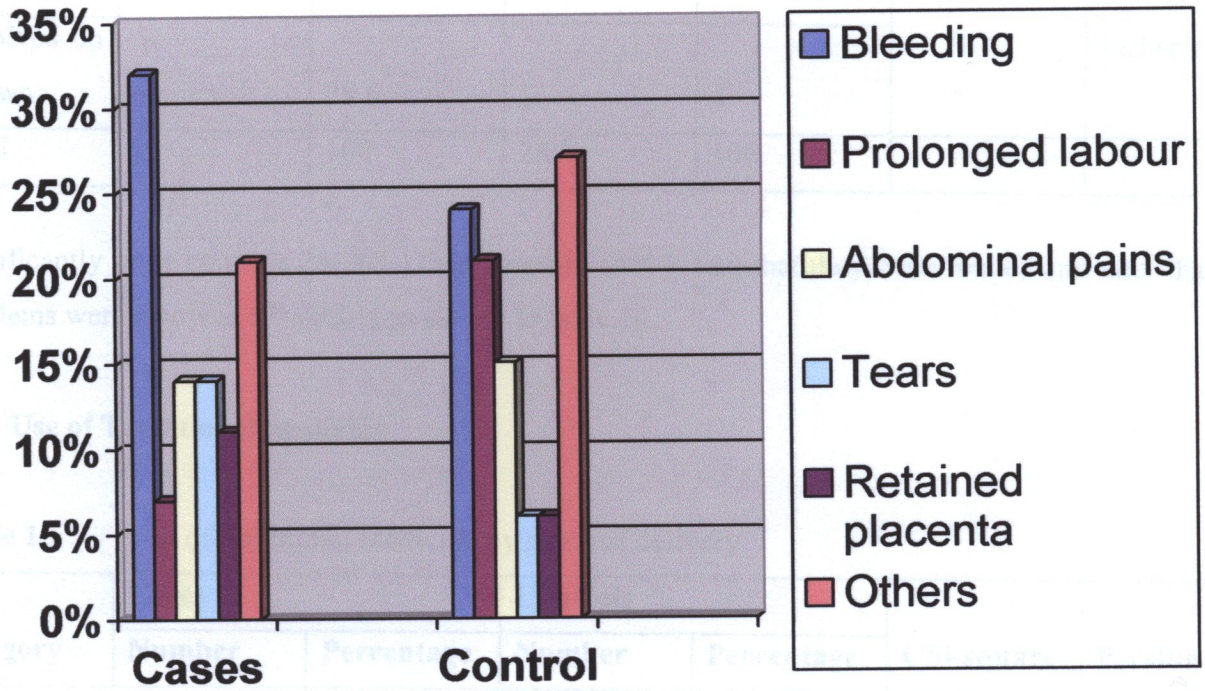
Table 13. Shows number of respondents who encountered delivery problems and those who did not.

Category	Cases		Controls		Chi-square	P-value
	Number	Percentage	Number	Percentage		
Yes	28	17.1	33	18.8	0.16	0.687
No	136	82.9	143	81.3		
Total	164	100	176	100		

Among the cases 28 (17.1%) said they had problems compared to 33 (18.8%) controls who said that they had problems (Table 13, P=0.039)

5.10.1 Delivery problems encountered by place of delivery.

Figure 3 Shows different complications encountered by respondents during delivery.



As shown in figure 3, the majority of cases 9 (32.1%) and controls 8 (24.2%) experienced a complication of bleeding during delivery. Among the controls 7 (21.2%) experienced prolonged labour, while 2 (7.1%) of the cases experienced the same.

5.10.2 How the encountered delivery problems were resolved by place of delivery.

Table 14 Caring for delivery problems by place of delivery.

Category	Cases		Controls		Chi-square	P-value
	Number	Percentage	Number	Percentage		
Was treated	15	50	24	94		<0.001 Fisher's test.
Resolved on its own	6	28.6	1	4		
Total	16	100	25	100		

Significantly more controls 24(96%) than cases 15 (50%) said that they were treated and after that the problems were resolved (P<0.001) as shown in table 14.

5.11 Use of Traditional medicine

Table 15 Use of traditional medicine by place of delivery

Category	Cases		Controls		Chi-square	P-value
	Number	Percentage	Number	Percentage		
Yes	17	10.4	15	8.6	0.34	0.534
No	146	89.6	159	90.9		
Total	163	100	175	100		

Use of traditional medicine during labour and delivery.

The majority of cases 146 (89.6%) and 159 (90.9%) controls were not given any traditional medicine and their proportions were not significantly different (P=0.534, Table 15)

5.12 TABOOS

Table 16 Shows respondents' knowledge of taboos associated with birth assistants and effect of delivery taboos on the place of delivery

Category	Cases		Controls		Chi-square	P-value
	Number	Percentage	Number	Percentage		
Knowledge of taboos associated with birth assistants by place of delivery						
Yes	5	3	3	1.7		0.489
No	159	97	173	98.3		Fisher's test.
Total	164	100	176	100		
Taboos related to birth place.						
Yes	4	2.4	0	.0		0.053
No	160	97.6	176	100		Fisher's test.
Total	164	100	176	100		

Only 4 (2.4%) cases and none of the controls said there were taboos related to the place of delivery. On the other hand only 5 (3%) of cases and 3 (1.7%) of controls knew about some taboos related to birth assistants by place of delivery as indicated in table 16.

5.13 IMPROVEMENTS TO BE MADE

Table 17 Shows the suggestions made by respondents in order to improve maternal health services in the district.

Category	Cases		Controls		Chi-square	P-value
	Number	Percentage	Number	Percentage		
Health centre to have 24 hour service						
Yes	102	62.2	98	55.7	1.49	0.223
No	62	37.8	78	44.3		
Total	164	100	176	100		
Health centre should have more staff						
Yes	61	37.2	82	46.6		0.099
No	103	62.8	94	53.4		Fisher's test.
Total	164	100	176	100		
Infrastructure improvements at health centre						
Yes	21	12.8	35	19.9		0.082
No	143	87.2	141	80.1		
Total	164	100	176	100		
Other suggestions						
Yes	138	84.1	132	75.0		0.044
No	26	15.9	44	25.0		
Total	164	100	176	100		

The majority 102 (62.2%) of cases and 98 (55.7%) controls said they wanted the health centre to have 24 hours service. In addition, 61(37.2%) of cases and 82 (46.6%) controls wanted the health centre to have more staff as shown in table 17.

5.14 BIVARIATE AND MULTIVARIATE ANALYSIS

Table 18 shows factors that were significantly associated with place of delivery in bivariate analysis.

No.	Variable	Indicator
1.	Education level	None, primary, secondary and above.
2.	Husbands employment status	Unemployed, employed, self-Employed
3	Family income	No income, Less than K100,000, K100,000-K199,000, K200,000-K500,000, K500,000 and above
3.	Duration of stay in residential area	<2years, 3-4 years, 5years and Above
4.	Distance to the nearest health Facility	<30 minutes, 30 minutes and Above
5.	Attended antenatal care	1-2 visits, 3-4, 5 and above
6.	Sex preference of birth assistants	Female, male or female
7.	Knowledge about the existence of trained traditional birth attendant	Yes, No
8.	Utilization of trained traditional birth attendant	Yes, No
9.	Awareness of delivery Complications	Yes, No
10	Awareness of retained placenta	Yes, No

Summary of results of bivariate analysis shown in table 18.

Table 19 Shows results of multivariate analysis

Factor	Odds ratio	95 Confidence interval
Husband's occupation		
Unemployed	1.90	(0.88, 4.07)
Employed	0.53	(0.33, 0.85)
Self employed	1	
Sex preference of birth assistants		
Female	1.52	(1.13, 2.06)
Male or female	1	
Utilized trained traditional birth attendants		
Yes	2.26	(1.57, 3.26)
No	1	

The results of the multivariate analysis are shown in table 19. Only husband's occupation, sex preference of birth assistants and utilization of trained traditional birth attendants were independently associated with place of delivery. Respondents whose husbands were employed were 47% less likely to deliver at home compared with respondents whose husbands were self employed. Participants who preferred female birth assistants were 52% more likely to deliver at home compared to participants who had no sex preference for birth assistants. Lastly, respondents who utilized trained birth assistants were 2.26 times more likely to deliver at home compared to respondents who did not utilize them.

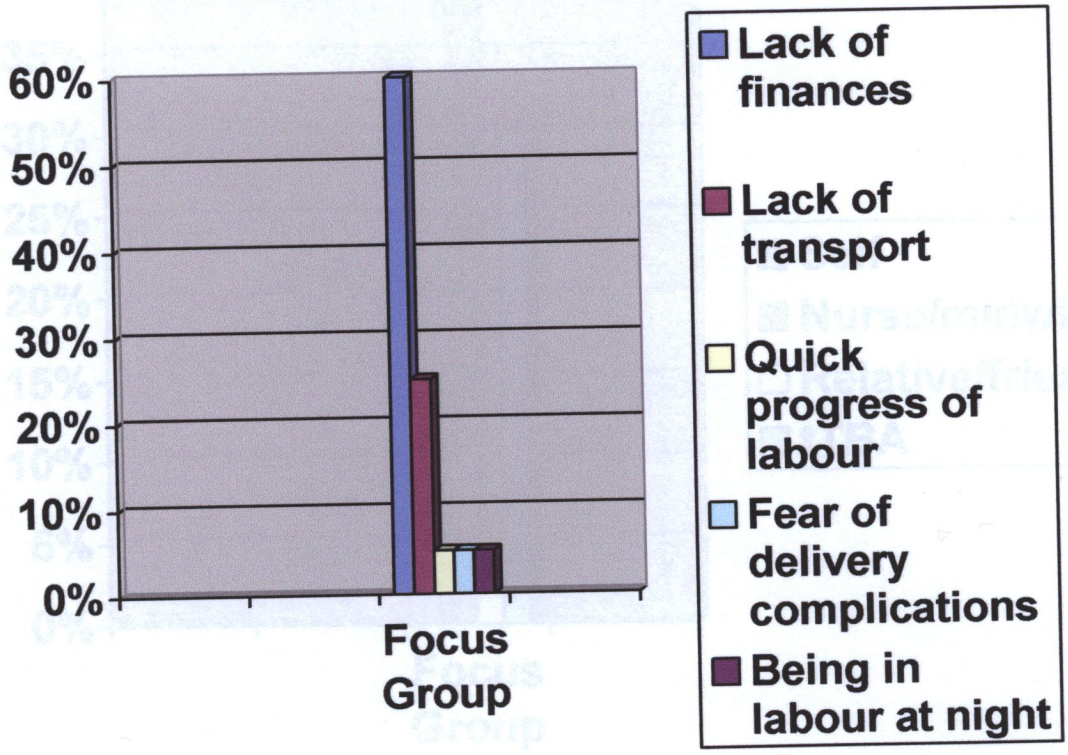
5.15 FOCUS GROUP DISCUSSION

Table 20. shows place of delivery for focus group respondents. Two sessions were held involving 20 respondents (mothers who had delivered in health facilities before and those who had done so at home and some were health workers)

CATEGORY	NUMBER	PERCENTAGE
Home	8	40
Health Facility	12	55
Total	20	20

The majority 12(60) delivered in health facilities while 8(40%) had home deliveries as shown in table 20.

Figure 4 shows the responses of the focus group on the reasons why some women delivered at home.



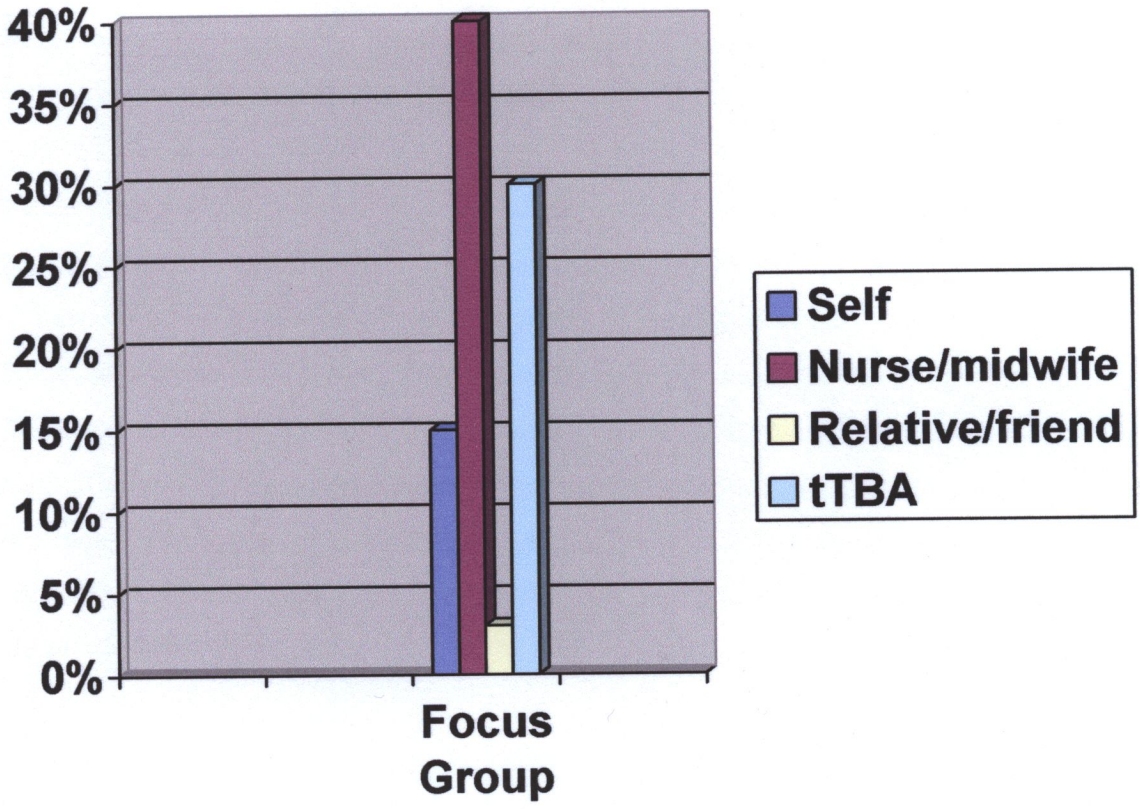
The majority 12 (60%) of the focus group members said women delivered in their own homes because of lack of finances while 5(25%) felt that women did so as a result of lack of transport as shown in figure 4.

Table 21. Shows focus group members who sought assistance during delivery.

CATEGORY	NUMBER	PERCENTAGE
Yes	15	75
No	5	25
Total	20	100

The majority 15(75%) of the respondents had assistance during delivery while 5(25%) did not receive any assistance as indicated in table 21.

Figure 5 shows the type of assistant which the focus group members sought when they went through the process of delivery.



The majority 8(40%) were assisted by either a midwife or a nurse while 6 (30%) of the focus group members were assisted by a trained traditional birth attendant as shown in figure 5.

Table 22 Shows responses of the focus group on whether taboos and cultural beliefs affected the place of delivery.

CATEGORY	NUMBER	PERCENTAGE
Yes	3	15
No	17	85
Total	20	100

Most 17 (85%) of the group members did not know of any taboos or cultural beliefs which affected the place of delivery while on the other hand 3 (15%) said some taboos and cultural beliefs could affect the place of delivery as shown in table 22.

6.0 DISCUSSION OF FINDINGS.

Universal access to health care is a norm in most of the developed countries and some developing countries like Cuba, Thailand and others. In many developing countries however, there are many obstacles to maternal child health services and home deliveries seem to dominate (Faunders et al, 1993).

The obstacles limiting women's use of health services are of several types, some of which are general (i.e., they also affect men) and others are gender-related. Studies suggest that many households are less willing to commit resources for the health care of female household members (especially in South Asian countries), with the result that the costs of using health services (including user charges, travel expenses and the opportunity cost of the patient's and family caregiver's time) often present a greater barrier for females than for males (Kutzin, 1992). Other factors which influence the mother's preference for home delivery over health facility delivery include age, education level, socio-economic status, distance to health facility and many others.

In this study however, age did not appear to affect place of delivery. This could be due to the fact that the research setting was in an urban area where traditions and cultural practices by elderly women are not so much rooted in them. As a result they are free to undress before a male birth assistant or just a young female birth assistant. Significant associations were only observed between place of delivery and education level of respondents, employment status of the respondent's husband, duration of stay in a residential area, number of antenatal visits, and lack of transport to health facility. These are the factors which contributed to the mothers delivering from their homes instead of a health facility. The majority of those who delivered in health institutions gave fear of delivery complications as the reason for their place of delivery.

On multivariate analysis, only husband's occupation, sex preference of birth assistants and utilization of trained traditional birth attendants were independently associated with place of delivery. Participants who preferred female birth assistant were more likely to deliver at home compared to participants who had no sex preference for birth assistants. This is due to the fact that it is a norm for an expecting mother to be assisted by a Mbusa (traditional birth attendant) who should be a female. It is a taboo for traditional birth attendant to be a male. The practice in Zambia is that there are both

trained traditional birth attendants and those who are not trained. These people live in the community and thus give assurance to an expecting mother that she would receive care during delivery even if she did not go the a health facility.

As a result, about 44 % of the deliveries in Zambia occur in the home setting while only 56% take place in the health facilities.

6.1 CHALLENGES AND CONSTRAINTS OF THE STUDY

The first challenge was that of inadequate funds as only about half of the total budget was made available to the researchers. As a result, the researcher's movement to other eligible respondents in other compounds of Mufulira urban which could have afforded them chance to give their views was hampered.

The second challenge hinged on the size of Mufulira urban district. Since the area is big, the researchers conveniently chose two compounds with a relatively higher number of home deliveries in comparison to others. However, we feel the results have not been significantly biased as a result because the views expressed by these respondents were not unique in comparison to the rest of the respondents. One of the chosen compounds was shanty while the other one was a medium density compound. In this way we wanted to give a balanced view in terms of responses. The individuals that constituted the sample came from different parts of Zambia, belonged to different tribes, different religious groupings, and had different cultural and traditional beliefs. These were the same factors which could also be found in the people that were not included in the sample. We therefore take it that our sample was representative and the views expressed in their responses were not unique. The understanding is that, when a view is unique in comparison to the rest, the response given to a particular question will also be totally different from the rest. As the responses were not very different, we feel the results can be generalized for an urban setting.

It would have been better for us to look at both urban and rural settings so that views from the two areas could have been compared but due to lack of finances and limited time, we had to focus our study on an urban setting.

UNIVERSITY OF

6.3 Age

The age range of the study units was from 15-49 years. Most of the study units 70 (47.5%) of cases and 101(57.4%) of controls aged between 21-30 years. There were few respondents 7(4.3) of cases and 9(5.1%) falling above 40 years. The study units who were less than 21 years were 28(17.1%) of cases and 32(18.2%). It is well recognized that women's current age plays an important role in the utilization of medical services (Fosu, 1994). Mother's age may sometimes serve as a proxy for the women's accumulated knowledge of health care services, which may have a positive influence on the use of health services. Some older women prefer to deliver from a health facility to avoid complications. On the other hand, it is a common view that younger women should deliver from health facilities because they lack knowledge and more prone to complications. Buitendijk (1993) indicated that in the outcome of teenage pregnancies 13-17 years age group in the Netherlands had the lowest percentage of home delivery at 10%. The understanding is that as a result of development of modern medicine and improvement in education opportunities for women in recent years, young women might have an enhanced knowledge of modern health care services and place more value upon modern medicine.
This study found no association between age and the place of delivery.

6.4 Marital status

Marital status was classified as single or married. Most of the cases 136(82.9%) and 136(77.3%) were married while 28(17.1%) of cases and 40(22.7%) of controls were single. MoH (1998) stated that single mothers were more likely to deliver in a health facility and less likely to choose home delivery. It may mean that single women would prefer to avoid costs arising from delivery complications as a result of unskilled delivery assistants. The married women may not take this as a priority since they can count on their husbands for financial help.

In this study, however, there was no association between marital status and place of delivery.

6.5 Religion

The respondents were overwhelmingly Christian with just a few who did not belong to any religion. The majority of cases and controls were Catholics but this did not affect the respondents' access to maternal health care. They were the majority because the Catholic Church is the biggest church in Zambia (Mufulira)

In some settings, religion does influence the place of delivery. In Muslim countries for example, the decision for a woman to take medical care is not made by the woman herself, but by her husband,

mother, mother in-law, village elders, or other family or community members (Acsadi and Acsadi, 1993).

However, this study found no association between religion and the place of delivery. This could be due to the fact that all respondents practice Christianity which does not advocate for such restrictions.

6.6 Education

The majority of study subjects had only attained Primary school education. In relation to the utilization of maternal health services, those with higher education were found to use the health services more than those with lower education. Greater education achievement is associated with an increased likelihood to use medical care services. Women with no (education) or primary education tend to lowly-utilize health services. It is evident that women with no education are more likely to experience problems in accessing health care because of their inability to find money for treatment and transport. It is also well known that the uneducated are disadvantaged as they may not seek treatment for certain conditions because they do not know that the condition from which they are suffering can be treated. A study in Zimbabwe found that the main reason why women with cervical cancer delayed seeking care was that they did not recognize that the condition was serious (Thaddeus and Maine, 1990). Similarly, a study on mothers living in the slums of India found that most women only sought care when symptoms became genuinely debilitating and ceased care when symptoms stopped (Kanani et al, 1991).

The uneducated also tend to be ignorant of the services offered in the health facility and look to others to make decisions for them. In this study, mothers who had no or only up to primary education were 77.1% more likely to deliver at home compared to those who had secondary education and above. Education was found to have an important impact on the use of maternal health services. This implies that improving education opportunity for women may have a large impact on improving utilization of such services. This is, however, a long-term investment. As an alternative, in the short term, health programmes need to focus on attracting women with little or no education. When women are educated, they are able to function at all levels in society and make correct decisions for themselves as well as their families. A study in rural Nigerian women (Turner, 1991) found that 80% of the women with secondary education and above delivered from health facilities compared to 40% with primary education.

6.7 Employment status.

The majority of cases 122(74.4%) and 125(71.6%) of controls were unemployed. The employment status of husbands of the majority of cases and controls were either employed or self-employed. The majority of cases and controls earned between K200,000 to K500,000 per month while a few 47(26.7%) of cases and 16(9.8%) of controls earned above K500,000 which was the highest category.

When women are well educated they stand a chance of getting employed and will thus be able to sustain their lives and that of the family. It is well known that increased income has a positive effect on the utilization of health care services (Fosu, 1994). There was no association observed in this study between respondents' employment status and place of delivery.

However, there was a significant association between husband's employment status and place of delivery. Husband's occupation can be considered a proxy of family income as well as social status. Differences in attitudes to modern health care services by occupational groups depict occupation as predisposing factor. Alternatively, viewing occupation as a proxy to income, which enables acquisition of more and better health care, depicts it as an enabling factor (Fiedler, 1981). People who are employed can make a decision on the quality of service than those who are not. Unemployed husbands may not be able to afford transport and other costs for the wife to deliver in a health facility. For fear of stigmatization (because they are poor) at the health facility, such wives may not go to the health facility during labour and delivery. In addition, many unemployed husbands lack understanding of the importance of health facility delivery due to their low level education and consequently, they may not take their wives to a health facility or advise them to go there.

In relation to income, there was a significant association observed between family income and place of delivery ($P<0.001$). The level of income can significantly affect whether a pregnant woman has to deliver in a hospital or not. She has to make a decision whether to use the little money on health care or use it on pressing needs within the home.

6.8 Residential area

The most important variable associated with utilization of maternal child health services is the physical accessibility of these services (Abbas and Walker, 1986). Several other studies also found that physical proximity of health care services, especially in the developing countries, plays an important role in the utilization of these services. Distance to the nearest facility has influence on the choice of the place of delivery. As noted by Nwakoby (1992), the use of comprehensive health centres showed decline with increasing distance from the woman's residence.

In this study, however, women who lived more than thirty minutes walking distance to the health facility were 95.1% less likely to be cases. This appears to be very unusual and needs further investigating. Coverage of health facilities especially in rural areas remains a big barrier. Poor women in rural areas walk more than an hour to the nearest health facility. Poor infrastructure and lack of public transport make access difficulty especially when there are complications. As a result poor women seek health care from less trained providers who are more accessible.

In this study, some social factors like fear of husbands misusing money especially at moth-ends could make women avoid hospital confinement. It is a common practice for miners to overspend (cerebrate) once they get their salaries and the spouses would not like to lose out by being confined in a health facility. In addition there was no association observed in this study between mode of transport and place of delivery.

The majority of both cases and controls in the study had stayed in their area of residence for more than 5 years. It may be understood that the more one stays in the area the bigger the number of both cases and controls become. There was a significant association observed between duration of stay in a residential area and place of delivery.

6.8 Distance and lack of transport

In most rural areas, one in three women lives more than five kilometers from the nearest health facility, and 80% of rural women live more than five kilometers to the nearest hospital. The scarcity of vehicles, especially in remote areas and poor road conditions can make it extremely difficult for

women to reach even relatively near by facilities. Walking is the primary mode of transportation, even for women in labour (World development report, 1994).

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 et al, 1995).

In Malawi, a study found that 90% of women wanted to deliver in a health facility, but only 25% of them did. The most important reason given by 53% of the women was that by the time they realized they were in labour, they did not have enough time to get to a health facility (Ssembataya and Lule, 1996).

Our research findings are consistent with the above stated observations. Most (98%) of our respondents came to the health facility walking. Some of the reasons given were that they could not afford the cost of transport and the other was lack of transport. In our study cases tended to have stayed within thirty minutes walk (near) from the health facility.

6.9 Birth order

Several studies have found a strong association between birth order and use of health services (Elo, 1992). As a result of perceived risk associated with first pregnancy, a woman is more likely to seek maternal health care services for first order than higher order births. As women add on the number of pregnancies and children, they feel more competent to be able to have a home delivery. Having more children may also cause resource constraints, which have a negative effect on health care utilization (Wong et al, 1987). Women with a large number of children under-utilize available health services because too many demands on their time force them to forgo health care (Mckinlay, 1972).

However, in this study there was no association observed between the number of the last pregnancy and place of delivery.

6.10 Antenatal visits

The aim of antenatal care is to prepare the pregnant woman and her family for pregnancy, labour, puerperium, lactation and care of the newborn (CBoH, 2002). The World Health Organization recommends that pregnant women should have at least four antenatal visits so that the mother can be

examined to ensure that both the child and the mother are well. The attitude of the mother towards her pregnancy is a very important factor in her life. The percentage of women receiving antenatal care from a health professional slightly dropped from 96 percent in 1996 to 93 percent in 2002 (ZDHS, 2002). In this study 97.6 percent of the women received antenatal care. The majority of pregnant women attended antenatal care sessions. This could be attributed to the publicity campaigns on the benefits of antenatal care by the ministry of health. However, despite the high antenatal coverage, 47.3 percent of the women who received antenatal care had home delivery. This implies that there are many factors contributing to home delivery and not necessarily lack of knowledge on the part of the pregnant women. Attending antenatal sessions is one thing and delivering in a health facility is another in that it has financial implications for the expecting mother to incur which she may not have. As a result she will end up delivering in a home even though she has been attending antenatal care.

In this study, there was no significant association observed between the number of mothers who attended antenatal care and place of delivery but the number of antenatal visits was significantly associated with place of delivery.

6.11 Attitude of health staff

High quality maternal health care can be provided in a variety of settings, and does not only refer to hospital-based treatment. High quality care must be assured in whatever environment maternal health care takes place: the home, rural or urban health centre or well-equipped hospitals in large cities (Koblinsky, 1997).

Many studies have found that health care workers often treat women in an insensitive manner, not paying adequate attention to their concerns and treating them rudely, particularly when they come late for treatment or do not comply with medical advice. Yet positive interactions between women and health care providers lead to client compliance and confidence (AbouZahr et al, 1996). Further, many studies have found that poor women without formal education are most likely to be poorly treated by health professionals (AbouZahr et al, 1996).

Quality of care maybe perceived differently by clients and providers, with providers anxious to ensure technical correctness where as clients maybe more concerned with issues such as birthing position and social support. The two approaches must be reconciled in the search for quality of care.

The preference of a woman to utilize health services may be influenced by her attitude towards the health staff at the local facility. In this study, the majority of both cases and controls said the attitude of staff was good as they were welcoming and kind. The reason could be that the clients and staff belong to the same communities and have thus built a strong and friendly relationship. A relationship which is seen to be warm and friendly can encourage utilization of health services although in this case, the utilization is not at the expected level. The low utilization of maternal child health services could have been influenced by other factors other than staff attitude.

6.12 Decision making

Decision making concerning place of delivery is a very important undertaking for a woman. Although pregnancy primarily affects a woman, in certain traditions, she is not expected to make a decision in relation to labour and delivery. She is therefore expected to wait for someone to make a decision for her even when her life is being threatened. As a result, sometimes women have lost their lives in the process of waiting, delivered on the way or even delivered at home when they had actually planned for a health facility delivery. A study in Banglandesh stated that it was usually the mother-in-law and husband who made the decision to seek (or not to seek) care (AbouZahr et al, 1996).

Cultural restrictions on women's use of health care providers influence the choice women make on place of delivery. In many cases women will not seek treatment from these providers because of the belief that they should not be seen naked by any other male other than a close relative. These women have little experience in communicating with men other than their close relatives, and this may have negative consequences for the patient provider-relationship and thus the quality of care (Krieger and El-Feraly, 1991).

In this study however, both cases and controls made their own decisions in relation to place of delivery. This may be due to the fact that the research setting was peri-urban where such traditions are not deeply rooted among people. The reasons given by the cases were economical such as lack of money and transport to enable them go to the health facility. Other reasons included labour starting in the night when the nearest health facility was closed (most health centres operate up to 1600 hours), and labour being too quick. On the other hand, the controls mostly based their decisions of going to deliver at a heath facility on

avoiding complications. This implies that, with more information and sensitization on the decision making power of women, society and families would change and even more women would be able to make independent decisions. There is a strong link between cultural and religious beliefs. The other reason for the observed freedom of decision making by the participants would be due to the fact that all of them were Christians. Christianity does not impose such restrictions as observed in other faiths like Islam.

6.13 Use of Traditional medicine

Women in labour are sometimes given traditional medicine by their elderly relatives to fasten labour. This practice may predispose pregnant women to delivery complications and eventually death. However, in this study, the greater majority of cases and controls were not given traditional medicine while in labour. This may be due to the fact that most of the home deliveries were conducted by trained TBA who might have advised against the practice. Mostly, the Mbusas (traditional birth attendants who are not trained) are the ones who offer traditional medicine to a pregnant woman in labour. The second implication could have been due to the fact that the practice of giving traditional medicine during delivery is not being practiced much as the research setting was in town. The last view could be that since a big number of pregnant mothers attend antenatal care, they could have been advised against the use of traditional medicine when they were pregnant to prevent complications. During antenatal visits pregnant women are treated for ailments which they may have, assessed in terms of their health and that of their unborn children and also education on health promotion as well as how complications of labour can be avoided is given.

6.14 Assistant during delivery

Delivery in a health facility is mainly characterized by use of skilled assistants while home delivery is characterized by unskilled attendants such as relatives. Having a skilled health professional at delivery is essential for making motherhood safer. A skilled birth attendant can ensure hygiene during labour and delivery, provide safe and non-traumatic care, recognize complications and manage them effectively or refer the women to higher level of care. In many developing countries including Zambia, many deliveries are attended to by midwives. This implies that pregnant women may not have a choice to make concerning birth attendant but to be assisted by the one on duty. This is compounded by shortage of staff in our health institutions. If there is only one midwife on duty, then the pregnant mother will have no other option but to be assisted by the one available. If there was a chance for them to chose, it may in turn increase the number of women delivering from health facilities. In this study, it

was noted that the majority of both cases and controls would like to be attended to by a female. The main reasons put forward were that they felt shy to undress before a male attendant and a female attendant would understand female issues better.

On the other hand, in a home environment, a woman may be able to choose a birth attendant as this could be a close relative or friend. This is supported by the results in this study which indicate that the majority of cases made a choice of birth attendant while the majority of controls did not make a choice. The choice of birth attendant in this study was determined by who was available when a woman was in labour and whether they had received some training or not.

6.15 TBA

As more attention is being paid to the promotion of normal child birth and reduce maternal mortality and morbidity strategies have been developed by United Nations Alliances to improve the situation. One of such strategies is to have a skilled attendant at birth (WHO, 1998). The term "skilled attendant" refers exclusively to people with midwifery skills, who have been trained and are proficient to provide competent care during pregnancy and child birth. A skilled attendant must be able to manage normal labour and delivery, recognize onset of complications, perform essential interventions, start treatment, and supervise the referral of mother and baby for interventions that are beyond their competence or not possible in the particular setting(WHO, 1999). The term skilled attendant refers to midwives, doctors and nurses but globally the midwife is the health worker, who most commonly assists the women during normal child birth.

WHO has observed that there is a growing shortage and migration of nursing and midwifery personnel. Failure to strengthen nursing and midwifery could seriously impair the quality of health care and access to services for pregnant women and their children (WHO, 2002).

In countries like Zambia, where there are not enough midwives, a traditional birth attendant with or, more often, without any basic training, may assist women during birth(Anderson et al, 1986) or women deliver alone(MoH, 1998). TBAs are not defined as skilled birth attendants (Tinker et al, 1993). Studies in Africa and Asia show that training TBAs in the absence of skilled back up did not decrease women's risks of dying during child birth (WHO, 2000). However, TBAs can contribute in

providing moral and emotional support especially as they are familiar with local customs and may be likely to respect women's needs.

In Zambia, TBAs are trained so that there could be improvements in both maternal and child health especially in areas where skilled manpower is not readily available. They assist pregnant women in labour and delivery by identifying, manage progress of labour and are able to refer those they can not handle. However, despite their role in the community, they are considered unskilled manpower as they are not able to manage complications (FCI, 2002). The benefits of TBAs in the communities are enormous and there is need to support and strengthen their training programme.

In this study, the majority of cases and controls were aware about the presence of TBAs in their areas. This may mean that the pregnant mothers might have discovered the TBAs in the process of trying to look for someone to assist them during labour. This is supported by another finding, in this study, the majority of both cases and controls did not consult the TBA during pregnancy. The other understanding is that, they might not have consulted the TBA during pregnancy, although they were aware about her presence, because they were not in a desperate situation.

Apart from assistance during delivery (for most of the cases), fewer women utilized the services of TBAs. This may mean that the communities were not involved in selection and planning for TBA Training and thus they felt that they were not part and parcel of the programme. The community should be allowed to identify women to be trained as TBA as they know who is hard working and liked by the community. Once they are actively involved, their level of co-operation will be raised.

6.16 IMPROVEMENTS TO MATERNAL HEAKTH SERVICES

Everyday and in any situation planning for improvement is very important. The activities of maternal health are targeted at the women and therefore they should be given a chance to contribute towards the creation of maternal health programmes which will address the real issues which affect them. Several suggestions were raised by the respondents which included addressing the issue of staffing and staff Development infrastructure improvement, opening the clinics for 24 hours and procuring ambulances for the Clinics.

The suggestions were considered to be valid and implementing them would require concerted effort from individuals, the community and health care providers. Though the District Health Office will have to provide leadership, community involvement and participation are cardinal in ensuring success in the process of improving the health status of the people.

6.17 CONCLUSION

Maternal health is the complete physical, social and psychological well-being of a woman of reproductive age. However, this is being threatened because there are barriers preventing pregnant women from accessing maternal health services in MUFULIRA. From the study it is clear that mothers' lack of education, financial difficulties, poverty, health care system and knowledge of delivery complications affect utilization of maternal health care.

It is apparent that addressing these obstacles would enhance access of pregnant women to maternal health services. Addressing maternal health encompasses social, economical and cultural factors as well as addressing systems and health policy.

Intervention efforts must begin now so that access to maternal health can improve and thereby contribute to achieving the millennium development goals pertaining to maternal and child health.

RECOMMENDATIONS

Mothers need more information related to issues of maternal health. There is need to strengthen and broaden Information Education and Communication strategies by the District Management Team placing emphasis on the importance of health facility delivery. Information Education and Communication should be conducted in simple, direct terms so that even the uneducated can easily understand. Strategies such as drama performances and group discussions can be used to enhance understanding.

It is further recommended that girl children should be encouraged to go to school so that we shall have educated future mothers. Mothers who are educated will be able to understand maternal health issues better and besides they will become financially independent and will be able to afford the cost of health care. Government on its part should continue providing free education so that many girls can have access to school education.

In this study, it was observed that a number of women (44%) delivered from their homes despite the high risk of developing complications. In the midst of shortage of professional health workers, it is recommended that training of traditional birth attendants be strengthened and supported. There is need for more traditional birth attendants to be trained as they play a very important role in the community in which they live. In addition, those who are already practicing need to be retrained.

As a matter of urgency, there is need to recruit more professional staff (especially midwives) and find ways of retaining them if the rate of both neonatal and maternal mortality (including morbidity) has to be reduced. Having traditional birth attendants without the back up service of skilled manpower is not good enough. If Zambia has to achieve the millennium goals pertaining to mothers and children, the health sector has to be adequately staffed. . In order to attain maternal health, it is important that skilled manpower is present at all times and levels. Skilled manpower will be able to manage normal labour and delivery, identify complications and refer the mother and baby for appropriate management at a higher level.

There is also need for some clinics to operate 24 hours so that whenever a pregnant mother goes in labour she can be assisted by skilled health care. In addition, transport (Ambulance) should be sourced to enhance referral of patients.

Maternal health services need to be available as close to people's homes as possible. Therefore, there is need to rehabilitate and expand the infrastructure in the clinics to meet maternal health needs.

Finally, there is also need for further research on this topic using different methodologies and probably on a larger scale.

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QUESTIONNAIRE No.....

INTERVIEW SCHEDULE

TITLE: FACTORS CONTRIBUTING TO THE HIGH NUMBER OF HOME DELIVERIRES IN MUFULIRA URBAN.

DATE: ----------

PLACE ----------

INSTRUCTIONS TO THE INTERVIEWERS

1. No name should appear on this questionnaire.
2. Information given by the respondent will be considered confidential.
3. Obtain consent and explain the purpose of the study before commencement of the interview.
4. Indicate the answer to the question by ticking in the box provided ☑

and write the response to open ended questions in the space provided.

SECTION A DEMOGRAPHIC DATA

1. Your age in years---------- Do not know ☐ ☐
2. Date of birth----------/---------/---------- Do not know ☐ ☐

3. Your current marital status.

1.	Single	
2.	Married	
3.	Divorced	
4.	Widowed	

4. The church that you belong to.

1.	Anglican	
2.	Catholic	
3.	Pentecost Assembly of God	
4.	Seventh Day Adventist	
5.	Others	
6.	None	

5. Your education level.

1.	No education	
2.	Primary level	
3.	Secondary	
3.	College or University	

6. What is your occupation?

1.	Unemployed	
2.	Self-employed	
3.	Employed	

7. If you are married, what is the occupation of your husband?

1.	Unemployed	
2.	Self-employed	
3.	Employed	

8. What is your monthly income?

1.	Less than K100,000	
2.	Between K100,000 and K199,000	
3.	Between K200,000 and K500,000	
4.	Above K500,000	

DISTANCE TO THE HEALTH FACILITY

9. Where do you live?----------

---

10. For how long have you lived in this compound?----------

---

11. How long does it take you to reach the nearest health institution from your home?

1.	Less than 30 minutes (Near)	
2.	30 minutes to 1 hour (Fair)	
3.	More than 1 hour (Far)	

12. What mode of transport do you use to get to the health facility?

1.	Walking	
2.	Ox cart	
3.	Bicycle	
4.	Vehicle	
5.	Others (Specify)	

SECTION B

OBSTETRIC INFORMATION

13 Did you attend antenatal care during your last pregnancy?

1.	Yes	
2.	No	

14. If yes, how many times did you attend antenatal care?----------

15. How many children do you have?----------

16. What number was your last pregnancy?----------

ATTITUDE OF STAFF

17. How would you describe the attitude of health staff at your centre?

1.	Excellent	
2.	Very good	
3.	Good	
4.	Poor	
5.	Very poor	

18. Explain the reason for your answer to question 17----------

---

---

19. Who would you like to assist you with delivery?

1.	Male health worker	
2.	Female health worker	

20. Explain your reason for your answer to question 19.----------

---

---

21. How would you describe the quality of care offered at the health centre?

1.	Excellent	
2.	Very Good	
3.	Good	
4.	Poor	
5.	Very Poor	

22. Explain the reason for your answer to question 21----------

---

PLACE OF DELIVERY

23. From where did you give birth during your last pregnancy?

1.	Home	
2.	Health institution	
3.	Others (Specify)	

24. What was the reason for your choice? ----------

---

25. If it was home, did you go to the health facility afterwards?

1.	Yes	
2.	No	

26. If yes to question 25 why did you go there?----------

---

27. If no to question 25 why did you not go there?----------

---

28. Who made the decision for you to deliver from that place?

1.	Husband	
2.	Self	
3.	Health worker	
4.	Relative	
5.	TBA/CHW	
6.	Others (Specify)	

29. Why was this person chosen?----------

---

30. Did someone give you any medicine to fasten labour?

1.	Yes	
2.	No	
	I do not know	

31. Who assisted you with the delivery?

1.	Trained TBA	
2.	Self	
3.	Relative/Friend	
4.	Nurse/Midwife	
5.	Doctor	
6.	Others (Specify)	

32. Did you choose this assistant?

1.	Yes	
2.	No	

33. If yes, why did you choose this person?----------

KNOWLEDGE OF DELIVERY COMPLICATIONS

34. Are you aware of any delivery complications?

1.	Yes	
2.	No	
3.	Do not know	

35. If yes, which complications do you know?

1.	Bleeding after delivery	
2.	Long hours to deliver	
3.	Convulsions	
4.	Retained placenta	
5.	Others (Specify)	

36. What problems did you face during and after delivery?----------

---

---

37. How were these problems resolved?----------

---

38. Do you have trained Traditional Birth Attendants in your area?

1.	Yes	
2.	No	
.	Do not know	

39. During your last pregnancy, did you consult your local trained Traditional Birth Assistant?

1.	Yes	
2.	No	

40. If yes, for what services?----------

PRACTICES AND BELIEFS

41. What taboos are associated with place of delivery?----------

---

---

42. What taboos are associated with the birth attendant?----------

---

RECOMMENDATION

43. What would you suggest in order to improve maternal health services in this district?

THE END

Thank You For Taking Part.

Appendix ii

WORK PLAN

	ACTIVITY	TIME FRAME	RESOURCES REQUIR
1.	Research proposal development	Up to 30th July, 2006	-Stationery -Computer/printer/diskettes -Human
2.	Submission of the research proposal to the UNZA and Ethics Committee	1st -15th August, 2006	-Human
3.	Pre-testing the questionnaire	15th-20th August, 2006	-Stationery -Computer/printer diskettes -Transport Human
4.	Making corrections on the questionnaire	22nd -24th August, 2006	-Stationery -Computer/printer/diskettes -Human
5.	Training research assistants in data collection	28th-31st August, 2006	-Stationery -Computer/printer/diskettes -Human
6.	Data collection for the Pre-test	1st-10th September, 2006	-Stationery -Computer/printer/diskettes -Human
7.	Analysis of data for the Pre-test	15th-21st September, 2006	-Stationery -Computer/printer/diskettes
8.	Collection of data	25th June - 25th September, 2006	-Stationery -Human -Allowance
9.	Data entry and analysis	1st-30th October, 2006	-Computer/diskettes/printer -Human
10.	Report writing	1st November– 31 December, 2006	-Stationery -Computer/diskettes/printer -Human
11.	Submission of report	1st – 30th January, 2006	-Human
12.	Dissemination of information	1st -28th February, 2006	-Bound Reports -Transparencies/flip charts -Human

Appendix iii

A	Nov 2005	Dec 2005	Jan 2006	Feb 2006	Mar 2006	Apr 2006	May 2006	Jun 2006	Jul 2006	Aug 2006	Sep 2006	Oct 2006	Nov 2006	Dec 2006
Research Proposal development	* * * *	* * * *	* * * *	* * * *	* * * *	* * * *	* * * *	* * * *	* * * *					
Submission of research proposal to UNZA and Ethics Committee										* *				
Pre-testing the questionnaire														
Making corrections on the questionnaire										* *				
Training research assistants in data collection										=				
Data collection for the initial sample size calculation										=	* *			
Analysis of data for Pre-test											=			
Collection of data												* *		
Data entry and analysis												* *	* * * *	
Report writing														* * * *

	Jan 2007	Feb 2007										
Submission of report	* * *										* * * *	
Dissemination of information		* * * *										* * * *

N.B A star (*) denotes a period of one week while (=) denotes a period less than one week.

Appendix iv

Budget and Justification

No.	CATEGORY	QUANTITY	UNIT COST (K)	TOTAL COST (K)
1.	**STATIONERY**			
a.	A4 bond paper	10	25, 000	250,000
b.	Diskettes	10	2,500	25,000
c.	Folders	5	5,000	25,000
d.	Pens	15	1,000	15,000
e.	Clips	1 box	15,000	15,000
f.	Pencils	15	500	7,500
g.	Rubbers	10	3,000	30,000
h.	Tip-Ex	3	5,000	15,000
I	Writing pads	4	5,000	20,000
J	Carrier bag	1	50,000	50,000
SUB TOTAL				**542,500**
2.	**SECRETARIAL**			
i.	**RESEARCH PROPOSAL**			
a.	Typing	80 pages	1,500	120,000
b.	Printing	80 pages	1,000	80,000
c.	Photocopying	9x80 pages	200	144,000
d.	Binding	10 copies	5,000	50,000
e.	Submitting to the Research Ethics Committee		120,000	120,000
SUB TOTAL				**514000**
ii.	**PILOT STUDY**			
a.	Typing	5 pages	1,500	7,500
b.	Printing	5 pages	1000	5,000
c.	Photocopying	30x5 pages	200	30,000
SUB TOTAL				**42,500**
Iii	**ACTUAL STUDY**			
a.	Typing	500	1,500	750,000
b.	Printing	500	1,000	500,000
c.	Photocopying	800	200	160,000
SUB TOTAL				**1,410,000**
3.	**ALLOWANCES**			
a.	Research assistant training. Lunch allowance	2x4	50,000	400,000

b.	Research assistant data collection. Lunch allowance	15x4	50,000	3,000,000
c.	Research assistant transport for data collection	15x4	10,000	600,000
d.	Principal research meal allowance	17 days	50,000	850,000
e.	Principal research transport for data collection	15 days	10,000	150,000
f.	Supervisor's allowance	2	270,000	540,000
SUB TOTAL				**5,540,000**
4.	**TRANSPORT FROM LUSAKA TO MUFULIRA AND BACK**			
a.	Researcher	2x2 trips	50,000	200,000
b.	Supervisor	2x1 trip	50,000	100,000
SUB TOTAL				**300,000**
5.	**DATA ANALYSIS**			
a.	Analysis	40 hours	10,000	400,000
b.	Report writing	20 hours	10,000	200,000
c.	Editing	15 hours	10,000	150,000
d.	Binding	10 copies	20,000	200,000
SUB TOTAL				**950,000**
TOTAL				**9,299,000**
CONTINGENCY 10%				929,900
GRAND TOTAL				**10,228,900**

Appendix v

FOCUS GROUP DISCUSSION GUIDE

TOPIC: FACTORS CONTRIBUTING TO HOME DELIVERY

1. Introduction- Topic, Researcher and participants
2. Places where mothers deliver
3. Reasons for the choice of those places
4. Assistance during delivery
5. Practices/customs pertaining to delivery
6. Complications of home delivery

THE UNIVERSITY OF ZAMBIA

SCHOOL OF MEDICINE
DEPARTMENT OF COMMUNITY MEDICINE

INFORMED CONSENT

INTRODUCTION

The health of women is of outmost importance for both the women themselves and the generation to come. Maternal health is very important as it provides a foundation for the subsequent success to child health on which the future of every nation including Zambia depends.

Our study is on "Factors contributing to the high number of home deliveries in Mufulira urban". Once the factors have been identified, the policy makers (Planners) will be better placed to create an environment which will improve access to maternal health services. You are therefore encouraged to take part in the study if you so wish.

PURPOSE OF THE STUDY

We would like to investigate the reasons why some pregnant women prefer to deliver within their own homes as opposed to health centres. We further wish to find out the reasons why other women on the other hand deliver in health facilities.

PROCEDURE

If you agree to take part, we will ask you a few questions in relation to where you delivered your last pregnancy and the reasons for such a decision. Other questions focusing on your income, cultural practices and who makes decisions in your home concerning delivery will help in identifying factors contributing to the high number of home deliveries.

The information that we are going to collect from you will be used by the planners and health care providers in our district in order to improve on the quality and utilization of maternal health care.

RISKS AND BENEFITS

There is no risk that you will be exposed to during the interview. However, the information will be beneficial to you and other women in future as it will be used to resolve the barriers which prevent pregnant women from delivering in the health facilities.

VOLUNTARINESS AND CONFIDELIALITY

It is your choice to take part in this interview. The choice which you will make will not affect the subsequent care that you will receive from the health centre. If you do agree to take part, you can also decide not to answer any questions that you do not want to. In addition, if you decide to change, you can withdraw from taking part at any time even after giving the consent. The purpose for the consent is to authorize us to collect information from you but your name will not be written on the questionnaire and besides, the information you will give will only be accessed by the investigators and the people involved planning for health care. All this will be done to ensure confidentiality.

If you have any questions or clarification pertaining to this interview, please feel free to ask the Principal Investigator or other Investigators whose names and contact information is given below.

1. Mr. Pascalis Shipili
   63 Jomokenyatta Avenue
   MUFULIRA
   OR

Mufulira Schools of Nursing and Midwifery
P.O Box 40897
MUFULIRA

2. Mrs. S. Mwebela
98 Section 8A
Kantanshi
MUFULIRA
OR
Clinic 3
Mufulira District Management Team
P.O. Box 40055
MUFULIRA
Telephone Number 097798109

3. Mrs. D. Chisenga
10 Dongwe west
MUFULIRA
OR
Mufulira District Management Team
P.O. Box 40055
MUFULIRA.
Telephone Number 097633301

You can also get more information from the following address; University of Zambia, Research Ethics Committee, Ridgeway Campus, P.O. BOX 50110, LUSAKA, Telephone number 260-1-256067.

Thank you very much for your time. Would you like to take part in the interview?

Statement of consent (Signature or thumb print required)

The above has been read to me after which an explanation of every detail has been done. I have understood everything and have independently decided to take part in the study.

Signature_____ Date_____

Thumb print

Participant's name_____

For persons who can not sign

The above consent has been read after which an explanation of every detail has been given. The participant has understood everything and has independently decided to take part in the study.

Signature_____ Date_____

Witness name_____

THE UNIVERSITY OF ZAMBIA
SCHOOL OF MEDICINE
DEPARTMENT OF COMMUNITY MEDICINE

Telephone: 252641,
Fax: + 260-1-250753,

P.O. BOX 50110,
Lusaka, Zambia.

==========

10 August 2006.

The District Director of Health
Mufulira District Health
Management Team
MUFULIRA

Dear Sir/Madam

RE: REQUEST FOR PERMISSION FOR MPH STUDENT TO COLLECT INFORMATION FOR DISSERTATION.

We are writing to kindly request for permission for Mr. Pascalis Shipili who is currently studying for his Masters in Public Health (MPH) to collect information in your Department. The collected information would serve the purpose of dissertation on:

- Topic:
  " A study of factors contributing to home deliveries in Mufulira Urban ".

We appreciate your support to our MPH programme and the student.

Yours Faithfully

Mr. T Glover-Akpey .
MPH COORDINATOR

Barclays Bank Chambers
1st Floor
Buteko Street
P.O. Box 40055
Mufulira

Phone: 412666, 412636, 411202
Tel/Fax: 410068
E-mail: mufdhmb@zamnet.zm

In reply please quote
No.: .....
All correspondence to be addressed to District Director of Health

REPUBLIC OF ZAMBIA

MINISTRY OF HEALTH

MUFULIRA DISTRICT HEALTH MANAGEMENT BOARD

16th August 2006

Mr P M Shipili
Ronald Ross Hospital School of Nursing
MUFULIRA

Dear Mr Shipili

RE: PERMISSION TO COLLECT INFORMATION

Kindly refer to the above subject.

I am happy to let you know that permission has been granted for you to collect information for your dissertation. Kindly do get in touch with our Manager Planning and Development for the follow-up.

Wishing you success in your dissertation.

Yours faithfully

DR G C MUKUPA
DISTRICT DIRECTOR OF HEALTH

THE UNIVERSITY OF ZAMBIA

RESEARCH ETHICS COMMITTEE

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Ridgeway Campus
P.O. Box 50110
Lusaka, Zambia

Assurance No. FWA00000338
IRB00001131 of IORG0000774

11 December, 2006
Ref.: 009-08-06

Mr Pascalis M. Shipili
Department of Community Medicine
School of Medicine
University of Zambia
LUSAKA

Dear Mr Shipili,

RE: RESEARCH PROPOSAL: **"FACTORS CONTRIBUTING TO THE HIGH NUMBER OF HOME DELIVERIES IN MUFULIRA URBAN"**

The above research proposal was presented to the Research Ethics Committee meeting held on 1 November, 2006 where changes were recommended. We would like to acknowledge receipt of the corrected version with clarifications. The proposal has now been approved. Congratulations!

CONDITIONS:

- This approval is based strictly on your submitted proposal. Should there be need for you to modify or change the study design or methodology, you will need to seek clearance from the Research Ethics Committee.
- If you have need for further clarification please consult this office. Please note that it is mandatory that you submit a final copy of your results at the end of the study.
- Any serious adverse events must be reported at once to this Committee.

Yours sincerely,

Prof. J. T. Karashani, MB, ChB, PhD
CHAIRMAN

Date of approval: 11 December, 2006 **Date of expiry:** 10 December, 2007