

**DETERMINANTS OF SAFE DELIVERY PRACTICES
AMONG MOTHERS IN LUNZA DIVISION OF BUTERE
DISTRICT, KENYA**

**BY
MAERO PETER YAMBOKO**

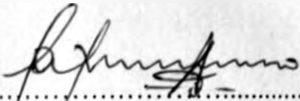
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**A RESEARCH PROJECT SUBMITTED IN PARTIAL FULFILLMENT OF THE
REQUIREMENTS FOR THE AWARD OF THE DEGREE OF MASTER OF ARTS
IN PROJECT PLANNING AND MANAGEMENT OF THE UNIVERSITY OF
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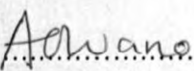
DECLARATION

This research project is my original work and has never been presented for the award of any degree in any other university in Kenya and other parts of the world.

Signed: 
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L50/78266/2009

Date: 07.08.2012.

This research project has been submitted for examination with my approval as the University of Nairobi supervisor.

Signed: 
Dr. Alice Owano

Date: 07/08/2012

Dr. Alice Owano,
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DEDICATION

I dedicate my research project to my wife Grace and to my beloved children Nancy and Vitalis, with whom my future gets its base.

ACKNOWLEDGEMENTS

I am profoundly grateful to my supervisor Dr. Alice Owano who spent a lot of her precious time out of her busy schedule to guide, mentor and direct me. Her tireless and steadfast support enabled me successfully complete this research study project. To her I am greatly indebted. My special thanks to Mr. Matanji, Christine Mayende and other library staff of University of Nairobi and Masinde Muliro University for availing me the necessary material needed to write this work.

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TABLE OF CONTENTS

DECLARATION.....	ii
DEDICATION.....	lii
ACKNOWLEDGEMENTS	iv
TABLE OF CONTENTS	v
LIST OF TABLES.....	viii
LIST OF FIGURE	ix
LIST OF ABBREVIATIONS AND ACRONYMS	x
ABSTRACT.....	xi
CHAPTER ONE	1
INTRODUCTION.....	1
1.1 Background to the Study.....	1
1.2 Statement of the Problem.....	10
1.3 Purpose of Study.....	12
1.4 Objectives of Study.....	12
1.5 Research Questions.....	12
1.6 Significance of the Study.....	13
1.7 Assumptions of the Study.....	14
1.8 Scope of the Study.....	14
1.9 Delimitations of the Study.....	15
1.10 Limitations of the Study.....	16
1.11 Definition of Significant Terms used in the Study.....	16
CHAPTER TWO	20
LITERATURE REVIEW	20
2.1 Introduction.....	20
2.2 Influence of Educational Factors on Skilled Maternal Delivery.....	20
2.3 Influence of Social-Cultural Factors on Skilled Maternal Delivery.....	25
2.4 Influence of Income Level on Skilled Maternal Delivery.....	28
2.5 Influence of Accessibility of Health Services on Skilled Maternal Delivery.....	31

2.6 Empirical Literature	36
2.7 Critique of Literature Review	38
2.8 Conceptual Framework	40
CHAPTER THREE	41
RESEARCH METHODOLOGY	41
3.1 Introduction.....	41
3.2 Research Design.....	41
3.4 Target Population.....	42
3.5 Sample Size.....	43
3.6 Sampling Procedure	43
3.7 Research Instruments	45
3.8 Validity of the Instruments	46
3.9 Reliability of the Instruments.....	47
3.10 Data Collection Procedures.....	47
3.11 Data Analysis Techniques.....	49
3.12 Ethical Considerations	50
CHAPTER FOUR:	
DATA ANALYSIS, PRESENTATION AND INTERPRETATION.....	52
4.1 Introduction.....	52
4.2 Socio-Demographic Characteristics of Respondents.....	52
4.2.1 Age of Respondents	52
4.2.2 Marital Status of Women Respondents.....	54
4.2.3 Working Experience	55
4.3 Social-Cultural Factors and Skilled Maternal Delivery.....	59
4.4 Income Level and Skilled Maternal Delivery.....	62
4.5 Accessibility of Health Services and Skilled Maternal Delivery.....	65
CHAPTER FIVE:.....	68
SUMMARY OF FINDINGS, DISCUSSIONS, CONCLUSIONS AND	
RECOMMENDATIONS.....	68
5.1 Introduction.....	68
5.2 Summary of the Findings.....	68

5.3 Conclusions.....	70
5.4 Recommendations.....	71
5.5 Suggestions for Further Research.....	72
REFERENCES.....	73
APPENDICES.....	79
APPENDIX 1: THE ROLE OF TRADITIONAL BIRTH ATTENDANTS IN RURAL COMMUNITIES.	79
APPENDIX 2: TABLE SHOWING THE REGISTRATION OF ANC AND SAFE DELIVERY ADMISSIONS IN BUTERE DISTRICT HEALTH UTILILITIES.....	83
APPENDIX 3: LETTER OF INTRODUCTION	83
APPENDIX 4: QUESTIONNAIRE FOR REPRODUCTIVE WOMEN.....	84
APPENDIX 5: QUESTIONNAIRE FOR HEALTH ATTENDANTS	88
APPENDIX 6: LETTER OF AUTHORIZATION BY THE NATIONAL COUNCIL FOR SCIENCE AND TECHNOLOGY.....	93
APPENDIX 7: RESEARCH AUTHORIZATION CARD	94
APPENDIX 8: RECOMMENDATION LETTER BY THE DISTRICT EDUCATION OFFICER, BUTERE.....	95

LIST OF TABLES

Table 3; 1: Operational Definition of Variables	50
Table 4; 2: Age distribution of Respondents Lunza Division of Butere District.....	53
Table 4; 3: Marital status of Respondents in Lunza Division of Butere District.....	54
Table 4; 4: Working Experience of Respondents in Lunza Division of Butere District	55
Table 4; 5: Educational Level of Respondents in Lunza Division of Butere District	57
Table 4; 6: Socio-Cultural Factors and Skilled Maternal Delivery	59
Table 4; 7: Socio-Cultural Factors and Skilled Maternal Delivery	60
Table 4; 8: Income Level and Skilled Maternal Delivery.....	63
Table 4; 9: Income Level and Skilled Maternal Delivery.....	64
Table 4; 10: Accessibility of Health Services and Skilled Maternal Delivery	66
Table 4; 11: Accessibility of Health Services and Skilled Maternal Delivery	67

LIST OF FIGURE

Figure 1: Conceptual Framework Showing illustration of Independent and Dependent Variables in the Study..... 40

LIST OF ABBREVIATIONS AND ACRONYMS

AIDS	Acquired Immune Deficiency Syndrome
ANC	Antenatal Care
ART	Anti-Retroviral Therapy
ARV	Anti-Retro-Viral
PNC	Postnatal Clinic
CIG	Common Interest Groups
COPBAR	Community Based HIV/AIDS Activities Reporting Form
HBC	Home Based Care
HIV	Human Immuno Deficiency Virus
TBA s	Traditional Birth Attendants
KAIS	Kenya AIDS Indicator Survey
KDHS	Kenya Demographic Health Survey
KNASP	Kenya National AIDS Strategic Plan
MCH	Maternal and Child Health
NACC	National AIDS Control Council
NASCOP	National AIDS/STI Control Program
OVC	Orphans and Vulnerable Children
PMTCT	Prevention of Mother to Child Transmission
SBA	Skilled Birth Attendant
SP	Service Provider
SPSS	Statistical Package for Social Scientists
STIs	Sexually Transmitted Infections

ABSTRACT

Women of reproductive age play a key role in the procreation and passing on of the torch of life from generation to generation since time immemorial. This is particularly achieved through the process of child delivery. Child delivery takes place in various situations that include: hospital or health facility environment, home environment with skilled midwifery personnel and home delivery with non-skilled personnel. The purpose of this study is to document how independent variables; education level, age, distance/ Accessibility, social – cultural beliefs and economic status of a mother would influence choice for a skilled delivery. The study was further to investigate if there could be other reasons as to why a majority of mothers having accessed antenatal clinics and educated on the importance of skilled deliveries still end up delivering in the hands of un-trained community persons. This study was designed to document the influence of educational level, income level, socio-cultural factors and accessibility of health facilities of the respondents in relation to their seeking skilled deliveries. The study was anchored on a descriptive survey design. Primary data was collected using both open and close ended questionnaires administered through an interview particularly for the target reproductive mothers. The target sample size consisted of 110 out of eligible 16,243 reproductive active women sampled from a Lunza Division and 20 health attendants sampled from 59 Health Service Providers in the district. A sample size was determined using Nassiuma's formula. Pre-testing of the research instruments was done to measure the validity and reliability of the instruments. Reliability of the research instrument was ascertained using Pearson correlation coefficient which yielded value of $r = 0.75$. The data collected was analyzed using statistical package for social scientists programme. Descriptive statistics and Pearson correlation was used to get the degree of relationship between the independent and dependent variables. The data was presented in frequency tables, percentages and cross tabulations. The findings indicated that education levels of respondents played a key role in determining utilization of skilled maternal delivery services. Socio-cultural factors like traditions, cultural and religious beliefs negatively influenced skilled maternal delivery. Income levels of respondents negatively influenced skilled maternal delivery services offered by hospitals in Lunza Division of Butere District and results revealed that distance and income corresponded negatively to attendance of antenatal clinics and post natal clinics. Distance was a major factor negatively influencing accessibility of skilled maternal delivery services. The recommendations made following the study include: reproductive active women should be educated on benefits of skilled deliveries; investment in human resources including a cadre of skilled midwives and birth attendants who can be present before, during and after birth; having in place educational and sensitization activities, such as, conferences, seminars and workshops; publication of training manuals, case studies and best practices, and provision of technical and financial assistance should also be conducted and the Government should ensure that the health systems are strengthened with emphasis on ensuring access and referral networks that do not imply major opportunity costs for women to access. There is need for high level of political commitment towards improving maternal health. The findings of this study may be useful to the Ministry of Health, academicians, researchers and other stakeholders in Ministry of Health for their improvement of policies and practice on skilled maternal delivery.

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CHAPTER ONE

INTRODUCTION

1.1 Background to the Study

Each year around four million newborns die in the first week of life worldwide, (Lawn, Cousens, Zupan, 2005 and WHO, 2005) and an estimated 529,000 mothers die due to pregnancy-related causes. The United Nations International Children's Emergency Fund (UNICEF) estimates that yearly about 515,000 mothers die of pregnancy and childbirth complications (Abel-Smith and Leiserson, 1978). It is estimated that 1600 mothers worldwide die each day as a result of pregnancy and childbirth related problems and the greater proportion of these deaths occur in developing countries (Shah, 1999; Jowett, 2000). In low and middle-income countries many deliveries still occur at home and without the assistance of trained attendants (Mrisho, Schellenberg, Mushi, Obrist, Mshinda, Tanner, Schellenberg, 2007 and Duong, Binns, Lee, 2004). This has generated serious concern, since mothers who develop life-threatening complications during pregnancy and delivery require appropriate and quality care.

Safe delivery practice is an important indicator of reproductive health, while unsafe delivery practice is the one of the most challenging and life threatening scenarios. Unsafe delivery is a wide spread health burden and still it remains a most difficult part to change in the society. Globally, more than 10 million children die annually as a result of complications related to child birth. Of these deaths, about 41% occur in the Sub-Saharan Africa, 35% occur in South Asia. World Health Organization (WHO) and United Nations Children's Fund

(UNICEF) estimated that 1 in every 38 mothers die from pregnancy related causes. In 2008 alone, 342 900 mothers died due to pregnancy related complications. UNICEF (2009), in their publication indicates that only 20% of mothers within active reproductive age are attended to by a skilled service provider (2000-2009), whilst the ratio of the rich to the poor is 80 to 20 percent, an index of 4.

Maternal mortality is an important measure of women's health and indicative of the performance of health care systems in almost everywhere in the world. Worldwide, the complications during pregnancy and childbirth are the leading cause of death and disability among women of reproductive age in developing countries, killing an estimated 515,000 women each year. For every woman who dies, approximately 30 more endure injuries, infection and disabilities in pregnancy and childbirth. Globally, the life risk of dying in pregnancy or childbirth in least developed countries: 1 in 16, developing countries: 1 in 60, industrialized countries: 1 in 4,100 and Worldwide estimate is: 1 in 75 (Report, WHO, UNICEF and UNFPA, 2001).

Interestingly, a large proportion of these deaths could be prevented through timely and appropriate interventions such as antenatal care, delivery and postnatal care (Royston and Armstrong, 1989). Prual, Toure, Huguet, Laurent (2000) assert that the main causes of severe maternal morbidity in Africa are hemorrhage, obstructed labor, eclampsia and sepsis. Complications of pregnancy and childbirth remain the leading causes of death and disability among mothers of reproductive age in developing countries (Maine and Rosenfield, 1999). Mothers play a major role in the rearing of children and the management of family affairs,

hence, their loss from delivery complications is a significant social and personal tragedy. A recent review reported that around 20-30% of neonatal mortality could be reduced by implementing skilled birth care services (Darmstadt, Bhutta, Cousens, Adam, Walker, de Bernis, 2005).

WHO (2005) reports that reproductive health problems account for more than one third (1/3) of the total burden of disease in mothers across the world. It is further estimated that over 515,000 mothers die annually from complications of pregnancy, including abortion; where most of these deaths occur in developing countries where they account for more than 99% of all the deaths as quoted earlier (WHO, 2008). Ouma *et al.*, (2010) in their *Reproductive Health Journal*, assert that, maternal mortality remain disturbingly high in Sub Saharan Africa. It is estimated that 270,000 maternal deaths occurred in the region in 2005. The United Nations Millennium Development Goals (MGD) on maternal deaths aims at reducing the number of mothers who die in pregnancy and childbirth by three-quarters between 1990 and 2015. In order to achieve this goal, it is therefore estimated that an annual decline in maternal mortality of 5.5% is needed. Studies conducted in Nyanza province, in Gem and Asembo indicated that between 1990 and 2005, only 0.5% has been realized out of the 5.5% death burden. This information was based on a study done in 2002 that gave a sense of non-achievable targets having been set.

Maternal mortality in developing countries averagely ranges from 450 to 2000 per 100,000 live births as compared to a mere 30 per 100,000 live births in developed countries. Every pregnancy carries some level of risks, both to the mother and the then new born baby.

The Ministry of Health (2002) records that 15% of mothers delivering may suffer complications during their labour and child birth. It is essential that proper monitoring of labour is done to reduce on the incidences of prolonged labour, maternal and peri-natal morbidity and mortality that is on the increase among mothers within reproductive age bracket.

It is often maintained that mothers' choices and preferences for location of childbirth are enshrined in society's understanding of birth as a social process. In the developed world, this conception is based on biomedical knowledge coupled with two competing models of child birth: the biomedical/technocratic model and natural/holistic model, mediating mothers' choices and preferences for child birth location (Viisainen, 2001). In contrast, the developing world offers varied pictures, ranging from reluctance to use biomedical services even in cases of pregnancy-related complications, given mothers a liking to have normal home births surrounded by their families (Berry, 2006).

Undoubtedly, the choice of and preference for childbirth location are influenced by the socio-economic factors of the contextual environment in which they arise. Cultural and religious epistemologies shape the demand for health seeking such as the demand for delivery institution. In some communities, it is regarded a bad omen if a woman delivers via caesarian section, hence the choice of home delivery. Some evidence among a section of the Akans, a Ghanaian tribe, had it that a woman who experiences prolonged difficulty delivering at home might have cheated on her husband through adultery. Such mothers were made to confess after which it is believed they would have safe passage.

Traditional Birth Attendants, (TBAs) are key members of the communities where the maternal and neonatal health program works, helping to ensure that women can access needed services. TBAs are part of the birthing process throughout the developing world, assisting in the births of a substantial portion of the world's newborns. Usually self-taught or informally trained, TBAs also provide advice and practical help in cleaning, cooking and caring for the households of pregnant women and new mothers. TBAs generally hold a position of respect and influence within their communities, they are uniquely equipped to inform and assist women and their families in preparing for child birth. Over the past decade, traditional birth attendants in many regions have been trained in midwifery and basic hygiene as part of a safe motherhood initiative aimed at reducing maternal mortality (Walraven and Weeks, 1999).

Traditional birth attendants speak the local languages, allow traditional birthing practices, and often have the trust and respect of the community (Walraven and Weeks, 1999; Isenalumbe, 1990; Habimana, Bulterys, Usabuwera, Chao, and Saah, 1994). Although providing highly skilled medical attendants for all deliveries in poor communities remain a long term goal, an intermediate solution is to identify, support, and train birth attendants who are already practicing in local communities. For example, traditional birth attendants in rural Cameroon are selected by a village committee, and after specialized training for up to six weeks, they are given a certificate, an instruction book and a delivery kit. Retention of birth attendants is high because they share cultural and health beliefs with the mothers and have strong ties with the community. In our experience, the competence and skills of traditional birth attendants may vary widely across settings. As with professional midwives in

geographically isolated clinics, traditional birth attendants require continuing education and supervision, and they need to be able to refer patients and help transport them to hospitals for second line care during delivery (Walraven and Weeks, 1999).

Studies demonstrating the high levels of maternal mortality and morbidity in developing countries and research identifying causes of maternal deaths have repeatedly emphasized the need for antenatal care and availability of trained personnel to attend to women during labor and delivery (Fauveau, Koenig, Chakraborty, and Chowdhury, 1988; Fortney, Susanti, Gadalla, Saleh, Feldblum, and Potts, 1988). The importance of tetanus toxoid injections given prior to child birth to reduce neonatal mortality has been documented as well (Bhatia, 1989). Since a large proportion of maternal and neonatal deaths occur within the first few days after delivery, safe motherhood programs have recently increased their emphasis on the importance of postnatal care.

In Ethiopia, the levels of maternal and infant mortality and morbidity are among the highest in the world. The maternal mortality rate in 2000 was 816 per 100,000 live births, and the infant mortality rate was 113 per 1,000 (CSA and ORC Macro, 2001). One explanation for poor health outcomes among women and children is the non-users of modern health care services by a sizable proportion of women in Ethiopia. Previous studies have clearly demonstrated that the utilization of available maternal health services is very low in the country. Several studies in the 1990s have shown that about 25 per cent of Ethiopian women received antenatal care and less than 10 per cent received professionally assisted delivery care

(Belay, 1997; CSA, 1993; Mekonnen, 1998; Mengistu and James, 1996; Mesganaw, Olwit, and Shamebo, 1990).

Traditionally, children in Ghana are delivered at home with the assistance of birth attendants or elderly mothers of the community (GSS, 2003). An important component of efforts to reduce the health risks of mothers and children is to increase the proportion of babies delivered under medical supervision. The level of assistance a woman receives during the birth of her child has important health consequences for both mother and child. Births delivered at home are more likely to be delivered without professional assistance, whereas births delivered at a health facility are delivered by trained medical personnel. Medically assisted deliveries continue to be low in Ghana, with less than 50% benefiting from professional delivery assistance over the past 15 years (GSS, 2003). Home delivery mostly prolongs labor and is a recipe for Obstetric Fistula.

Studies carried out in Western Kenya in 2002 indicate preventive interventions received by mothers during their Antenatal Clinics (ANC) were inadequate in spite of high (over 90%) ANC attendance. The norm should be that the high numbers of mothers attending the ANC clinics should translate to high numbers having skilled delivers or going to deliver from a health facility with the assistance of a skilled provider. Initial researches laid emphasis on the issues that consider training service providers on issues of Focused Antenatal Care so as to enhance their activities with an aim of getting mothers deliver from the health facility or with a skilled service provider. This is where reverting the maternal mortality will be achieved. The intervention was however not very successful.

A number of socio-demographic characteristics of the individual affect the underlying tendency to seek care (Addai, 2000). In this regard, good examples are mothers' age and parity, which have been examined as determinants of health care use repeatedly (Adekunle, 1990; Celik and Hotchkiss, 2000; Leslie and Gupta, 1989). The greater confidence and experience of the older and higher parity women, together with greater responsibilities within the household and for child care, have been suggested as explanatory factors for their tendency to use services less frequently (Kwast and Liff, 1988). Mothers' education has also been shown repeatedly to be positively associated with the utilization of maternity care services (Addai, 2000; Addai, 1998; Akin and Munevver, 1996; Beker, 1993; Celik and Hotchkiss, 2000; Ferdnandez, 1984; Stewart and Sommerfelt, 1991). Although, women in higher socioeconomic groups tend to exhibit patterns of more frequent use of maternal health services than women in the lower socioeconomic groups, factors such as education appear to be important mediators (Addai, 2000; Addai, 1998; Leslie and Gupta, 1989).

Another important factor in the utilization of maternal care services, especially in Africa, is the cultural background of the woman (Leslie and Gupta, 1989; Pelto, 1987). The cultural perspective on the use of maternal health services suggests that medical need is determined not only by the presence of physical disease but also by cultural perception of illness (Addai, 2000). In most African rural communities, maternal health services coexist with indigenous health care services; therefore, women must choose between the options (Addai, 2000). The use of modern health services in such a context is often influenced by individual perceptions of the efficacy of modern health services and the religious beliefs of

individual women (Adetunji, 1991). Moreover, in many parts of Africa, women's decision making power is extremely limited, particularly in matters of reproduction and sexuality. In this regard, decisions about maternal care are often made by husbands or other family members (WHO, 1998). Availability of women's time is also important. In developing countries, women spend more time on their multiple responsibilities for care of children, collecting water or fuel, cooking, cleaning, growing food and trade than on their own health (World Bank, 1994a) and formal employment as well.

In 2005, a research was carried out in Bungoma with the aim of comparing sites where service providers had been trained in issues of maternal child health and sites where no training had taken place. The training of service providers definitely yielded to pregnant mothers starting their ANC clinics early by the second trimester, a situation that was not the practice earlier on. It is however noted that this practice on mothers going for ANC clinics never addressed the problem under this study. Mothers were found not to access skilled deliveries as was expected, a situation that put the mother and the child at risk of maternal and child death. More over the research was inclined to improving the ANC service utility other than the core issues of home, unskilled deliveries. Inferring from the research conclusion, it came out evidently that in order to meet international goals of reducing maternal mortality in developing countries, alternative methods to improve antenatal and delivery care should be explored, hence the necessity of this academic study to inform the missing gap in the necessary knowledge that would be useful to both academicians and development players, (Paul 2002).

Study carried out on the effect of educational level and maternal delivery practices in Nepal revealed that low socio-economic status and mothers' illiteracy has an adversely effect on the birth outcomes. It has also showed that low literacy is associated with several adverse health outcomes, including low health knowledge, increased incidence of chronic illness and less than optimal use of preventive health services (Katz, 2003). So, unsafe delivery practice is one of the most important predictor for maternal and neonatal mortality. Illiterate mothers are more likely to deliver a baby with low birth weight compared with literate mothers and it is also observed that mothers from families with illiterate household head have more risk of having babies with low birth weight compared with literate one; risk analysis of delivery outcome (UNICEF, 2003).

1.2 Statement of the Problem

This study was carried out in the broad area of Maternal Child Health. Early and regular check-ups by health professionals are essential in assessing the physical status of a mother during pregnancy and ensuring appropriate interventions during delivery. In spite of the national and global effort to curbing maternal morbidity and mortality, through the safe motherhood initiative, the phenomenon is on the ascendancy in many developing countries (Weil and Fernandez, 1999). The consequences of unskilled deliveries are far reaching. So many mothers die due to child birth and Neonatal child health complications within 42 days after delivery. Despite the extensive awareness and care given at health facilities by the skilled health providers, so many mothers still deliver at home in the hands of Traditional Birth Attendants (TBAs) locally known as "Wakunga".

Butere District has experienced numerous complications related to high unskilled birth deliveries resulting to maternal and infant deaths, prompting this study on behavioral determinants of safe deliveries influencing mother's delivery in Butere District. Data drawn from the recently concluded APHIA II Western project indicate over 95% of mothers attending ante natal clinics with only 35% of the registered population delivering from the health facilities within the district. An average of 65.8% (Butere DHIR 2012) of mother who had been captured during ANC do deliver from home, away from skilled personnel, despite high levels of incentives have been put in place, say the "mama packs" by the private sector and direct payment subsidies from the government by the Ministry of Health Services as well as the Ministry of Public Health and Sanitation, but still the skilled deliveries still remain a challenge to most mothers (See Appendix 2).

This study will like to bring to book the reasons which the uptake of skilled deliveries is not a common practice among reproduce active are not keen on skilled deliveries. If skilled deliveries are increased in the region, we see reverting the ever increasing mortality rates. Loss of lives will be curtailed and family units contained. To attain the development agenda of this nation, all human live has to be put to a lime line. The human labour will be restored in the process as we give honor to the gift of live that might have been lost in situations that the persons assisting in the delivery are not knowledgeable. Life is precious and all necessary measures need to be taken to safeguard the same.

Majority of Butere's population live in rural areas where poor road networks make health care accessibility problematic and where the private providers of health care rarely provide health services. The poor landscape and topography of the area makes it difficult for government health services to be easily accessible (Census Report 2009)

1.3 Purpose of Study

The purpose of this study was to examine determinants of safe delivery practices among mothers in Lunza Division of Butere District in Kakamega County.

1.4 Objectives of Study

The study was guided by the following objectives:

1. To determine how educational levels influence safe delivery practices in Lunza Division, Butere district.
2. To establish how social-cultural practices influence safe delivery practices in Lunza Division of Butere District.
3. To investigate how income level of a mother influence safe delivery practices in Lunza Division, Butere District.
4. To determine the extent to which accessibility of health services influence safe delivery in practices Lunza Division in Butere District.

1.5 Research Questions

1. To what extent does education level influence the ability of a mother seeking safe delivery in Lunza Division, Butere District?

2. To what extent do social-cultural practices influence delivery safe seeking pattern among child bearing mothers in Lunza division of Butere District in Kakamega County?
3. In what ways can we attribute the influence of income level on safe delivery in Lunza Division, Butere District in Kakamega County?
4. To what extent does accessibility to health facility influence safe delivery in Lunza Division, Butere District?

1.6 Significance of the Study

Appreciating the decision making levels of women within reproductive age to deliver from a health facility setting or in the hands of a skilled personnel would be used as an indicator of a progressing country. This will also be used to measure enhancement of knowledge so gained during antenatal care clinic visitation and generally upholding basic health care systems.

One of the hallmarks of developing countries is high infant mortality rates of which about 50% is accounted for by neonatal mortality. Some of the causes of neonatal mortality include infections, prematurity/low birth weight and birth injuries (Chan, 1991; Stoll and Kliegman, 2000). Most of these deaths are preventable by good antenatal care and access to safe delivery centers. The study will also elicit out high risk pregnancies for possible referred to centers where such deliveries can be safely handled. It is estimated that only about a third of deliveries is supervised by a skilled birth attendant. It is also hoped that factors like age of the mother, educational level, income level, socio-cultural that affect maternal delivery will be

unearthed. It is also hoped that the findings of the study will be used by government and other stakeholders in the Ministry of Health on how to curb maternal and infant mortality rates. The findings will also be useful to researchers and academicians to probe further the factors that influence Maternal delivery in Kenya, Africa and globally.

1.7 Assumptions of the Study

The study was based on the following assumptions: The respondents would be cooperative and give accurate information voluntarily without being forced, all respondents would be honest, objective and would find appropriate time to participate in the interview exercise or could fill out the questionnaires on the part of the Service Providers and that the study team would share the findings and recommendations of the study to relevant stakeholders, that is hospitals, Ministry of Health(MOH), development partners and sponsors who have been funding reproductive health programmes like Maternal delivery.

1.8 Scope of the Study

Determinants of safe deliveries practices among mothers could not be covered in a single study. It is a broad discipline with its distinct components and thus this study was designed to investigate factors determining skilled maternal delivery in Lunza Division of Butere District in Kakamega County. The study concentrated on factors determining mothers of reproductive age range of 20-39 years to seek for skilled deliveries.

Butere District, where the study was carried out is found within Kakamega County. The district borders Khwisero to the east, Ikolomani to the north, Mumias to the west and Siaya to the south. The district has approximately a population of 139,780 people, with 66,669

males and 73,111 females (Census Report, 2009). The district has three divisions, that is, Shiatsala, Lunza and Butere. The numbers of locations in the district are nine. Shiatsala Division has three locations namely Manyala, Marama South and Shianda. Lunza has Marama North, Marama West and Lunza, while Butere has Butere Township, Shinamwenyuli and Marenyo. The study area has 25 sub locations and 790 villages. The health facilities are eight as follows: Butere district hospital, sub district hospital is Manyala; Health Centres are Shikunga, Shiraha and Shisaba. Dispensaries are Mabile, Shitsitwi, Shimukoko and Shisaba.

The study area has high maternal and child mortality rate yet it has health facilities and little or no research has been carried out on the research topic. These health facilities have a total staff of 59. Economic activities in Butere District are cane growing as a cash crop in most southern and western part of the district, maize, beans, ground nuts, as well as vegetables. The area is supplied with good murram road network courtesy of Mumias Sugar Company Ltd. There is adequate infrastructure of schools, churches and tertiary colleges run by sole proprietors.

1.9 Delimitations of the Study

This study was limited to Lunza Division of Butere District targeting those mothers who fall within the age of 19-45 years. The division has three locations, namely Marama North, Marama West and Lunza. The research considered Lunza Division which was taken as a representative of the rest of the region, since the district has a homogenous population stratum.

1.10 Limitations of the Study

The research team never experienced any challenges while collecting data. All the expected 110 Reproductive Age mothers and 20 Health Service Providers were available and voluntarily participated in the exercise. The study was carried out within acceptable stipulated ethical standards that guarded against non-confidentiality of respondents and the information so shared. This was communicated to the respondents well in advance. It was assumed that respondents in this area may be limited by their educational level and may give false and misleading answers which can affect the results of the study, say putting on falsehoods and some of the affected respondents giving answers based on emotions due to their dissatisfaction. To safe guard on the same, the study started with a pre-test conducted in Butere Township with 30 women respondents and 3 Health service Providers drawn from Butere District Hospital to verify the suitability, legibility and how well the data collection tools are understood by the 10 research assistants as well as the respondents.

1.11 Definition of Significant Terms used in the Study

Accessibility of health services: This refers to the probability that someone will receive an effective and appropriate healthcare service where necessary and with utmost ease.

Antenatal Checkups (ANC): The number of pregnant mothers attended by skilled personnel, for reasons related to the pregnancy, at least four times during their pregnancy period.

Caesarean section (caesarean delivery): A surgical intervention including abdominal and uterine incision for delivery of a baby carried out when birth via the cervix and vagina is impossible or dangerous

Home Delivery: Delivery that takes place at home.

Income levels: Refers to the receivable resources of the respondents as being low, average and adequate and how the income level affects maternal delivery.

Institutional /supervised Delivery: any delivery that occurs in a modern health facility and is assisted by medically trained professionals such as medical doctors, nurses and midwife/auxiliary midwife

Literate Person: A person who is able to read and write short and simple sentences related to daily life in his/her mother tongue or national language with understanding and who is able to communicate with others and perform simple tasks of calculation.

Maternal mortality: The number of women who die as they deliver or immediately after delivery within 72 hours.

Normal Delivery: Delivery in which the infant is born within 24 hours of the onset of labor, spontaneously via the cervix and vagina, in the vertex position (the head of the fetus

presenting), and between 37 and 42 completed weeks of gestation. After that, the mother and infant are in good condition.

Obstructed labor: A labor in which progress is arrested by mechanical factors, necessitating operative delivery

Safe Delivery: The environment in which the child birth process takes place. The safety that is provided by a trained personnel to the delivering mother.

Skilled health personnel (for delivery): Doctors (specialists or non-specialists) and persons with midwifery skills who can diagnose and manage obstetrical complications as well as normal deliveries

Skilled Maternal Delivery: Child delivery processes conducted by a person who is trained and has acquired enough skills and experience and can reduce maternal deaths that occur just before, during, or just after delivery.

Socio-cultural Factors: These are traditional, cultural and religious beliefs and practices of the respondents.

Traditional Birth Attendant (TBA): A person who assists mothers during childbirth and initially acquired her skills by delivering babies herself or through apprenticeship to other

TBAs. Includes family member designated by an extended family to attend births in that family.

Trained Traditional Birth Attendant (TTBA): A TTBA is a person who has successfully completed a recognized short period of instruction in the management of childbirth

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

Reviewed literature is organized under the following sub headings: influence of educational level on maternal delivery, socio-cultural factors on maternal delivery, income level education on maternal delivery, accessibility of health services on maternal delivery and summary of the study. Relevant reviews have been carried out using journals, publications and write up on thematic areas under the study.

2.2 Influence of Educational Factors on Skilled Maternal Delivery

Mothers' education is widely held to be a key determinant of fertility and infant health. Beginning with Becker (1960), an early literature emphasizes that these ideas are supported by an economic theory of fertility, in which mothers value the sum quality (Ahn, Hyungtaik and Powell, 1993), of all their offspring and optimize fertility and child investment choices accordingly. Several causal channels have been emphasized. First, education may raise a woman's permanent income directly through the earnings channel, tilting her optimal fertility choices toward fewer offspring of higher quality (Mincer 1963, Becker and Lewis, 1973). Second, positive assortative mating leads highly educated mothers to pair with highly educated men (Behrman and Rosenzweig, 2002), further raising household permanent income and altering optimal fertility choices. Third, education may directly improve an individual's knowledge of, as well as ability to process information regarding, fertility options and healthy pregnancy Practices (Grossman, 1972).

Mother's education has been shown to be positively associated with the utilization of maternity care services (Addai, 2000; Celik and Hotchkiss, 2000; Addai, 1998; Stewart and Sommerfelt, 1991). Although, in general, mothers in higher socioeconomic groups tend to exhibit patterns of more frequent use of maternal health services than mothers in the lower socioeconomic groups, factors such as education appear to be important mediators (Addai, 2000; Addai, 1998; Leslie and Gupta, 1989).

In broad terms, education may affect a woman's fertility and child-investment choices through either income or learning. Education increases a woman's income stream through the labor market. In addition to the income channel, education may improve a woman's stock of knowledge regarding contraceptive technologies or healthy pregnancy behaviors, either because it augments her knowledge directly (that is, educational curricula are important), or because it improves her ability to absorb and process information generally. We next describe each of these mechanisms in turn.

Research in the social sciences has long recognized mother's education as central determinants of maternal and childbirth, particularly in developing countries. In Nepal, around 48.9 per cent of pregnant women have one antenatal care visit, and 14 per cent have 4 or more visits. Around 30 per cent of deliveries occurred at health facilities. Many cultural practices during delivery have shown to be closely linked with maternal and neonatal morbidity and mortality, (Dharma and David, 2004). About one in two mothers who received antenatal care report having been informed about the danger signs associated with pregnancy complications among illiterate mothers (DHS, 2001).

Access to health information is a knowledge acquired whether through formal or informal education. Just like education, access to health information enables mothers to break away from tradition to utilize modern means of safeguarding the health of their children and themselves including institutional delivery (Cleland, 1988). In addition, it empowers them to make independent decisions regarding children's health resulting in greater utilization of modern healthcare facilities (Caldwell, 1979). Particularly, mothers who are educated have a greater understanding of where the health services are located and how to gain access to them (Nag, 1981).

Almost more than half of the married mothers of the reproductive age group in Nepal have poor or no literacy, which would cause them to have trouble finding pieces of information regarding health services. Those with poor reading skills are believed to have greater difficulty navigating the health care system and to be at risk of experiencing poor health outcomes (Nancy and Berkman, 2004). Education exposes mothers to new ideas, to new information, and to modern institutions. This exposure, it is thought, can impact on a mother's attitude toward disease and biomedicine, and can also improve her ability to communicate with health care professionals to make independent observation in the obstetric decision-making process (Vogle, 2004).

In terms of access to media or health information, mothers who access health information via television are more likely to increase institutional delivery by 17 percentage points. While Maternal who read Newspapers had the expected but insignificant association with institutional delivery, access to radio is inversely related to the phenomenon. Islam *et al.*

(2009) in a study on Bangladeshi Maternal found that television was the most significant form of mass media to disseminate family planning messages.

Education is a long-established determinant of the demand for health and health care. It was incorporated as a determinant of the production function of health in the early Grossman human capital model of health (Grossman 1972; Grossman 2000). In that model better education allows an individual to be more effective in converting health care and other health-enhancing goods into health. A recent study, by the same author, of the empirical effects of schooling on health found it to be the most important correlate of good health (Grossman and Kaestner 1997). A study of low- and middle-income countries considered to have achieved above average social development relative to income emphasized the need for a high education base as a prerequisite for high returns from health sector investment (Mehrotra, 2000).

Education of parents, particularly the mothers, is also important in determining child health status. Mothers schooling, for example, was found to be the most important determinant of infant survival in a study in Pakistan (Agha, 2000). Effects are wide reaching. Many studies report a positive effect of schooling on basic indicators of health such as infant, child, and maternal mortality. Yet there is also some evidence, from a study undertaken in Jamaica, that better education can reduce the probability of reporting chronic diseases (Handa, 1998). This could imply either a positive effect of education on lifestyles or the chances of getting chronic disease or improvements in the ability to manage such diseases.

Theoretically, education has an ambiguous impact on the demand for health care. The marginal productivity of health care is enhanced, which means that less medical intervention is required for a given level of education standard. At the same time better schooling or education may raise understanding, and appreciation of the benefits of health care, and hence demand for it. These effects are linked, particularly for primary education. Basic literacy, for example, enables students to read and understand health messages (e.g., anti-smoking) and also information on the appropriate use of health facilities.

The overall impact of education probably varies according to the type of health care. Better schooling might be expected to increase knowledge about effective self-treatment such as use of homemade oral rehydration solutions. It may also reduce the use of unnecessary treatments such as excess use of antibiotics and increase the use of contraceptives. Here the impact is confounded and exaggerated by the effect of schooling on income, particularly among females, where demand for children falls as women obtain employment.

One study distinguishes between three possible effects of education on maternal health: (1) formal education that teaches health knowledge to future mothers; (2) literacy and numeracy skills that assist future mothers in the diagnosis and treatment of child health problems; and (3) exposure to modern society that makes women more receptive to modern medical treatment (Glewwe 1997). The first two are ambiguous, while the third has a positive, effect on the demand for health care. Maternal education has been found to be one of the most important determinants of utilization of services (Cleland and Van Ginneken, 1988). Although

emphasis is often placed on primary education, one study in Thailand found that it was secondary education that led to increased use of delivery assistance (Raghupathy, 1996).

2.3 Influence of Social-Cultural Factors on Skilled Maternal Delivery

Another important factor in the utilization of maternity care services, especially in Africa is the cultural background of the woman (Leslie and Gupta, 1989). The cultural perspective on the use of maternal health services suggests that medical need is determined not only by the presence of physical disease but also by cultural perception of illness (Addai, 2000). In most African rural communities, maternal health services coexist with indigenous health care services; therefore, mothers must choose between the modern maternal health services or indigenous health care services (Addai, 2000). The use of modern health services in such a context is often influenced by individual perceptions of the efficacy of modern health services and the religious beliefs of individual Maternal (Adetunji, 1991).

Furthermore, in many parts of Africa, mothers' decision making power is extremely limited, particularly in matters of reproduction and sexuality. In this regard, decisions about maternal care are often made by husbands or other family members (WHO, 1998). Availability of mother's time is also important. In developing countries, mothers spend more time on their multiple responsibilities for care of children, collecting water or fuel, cooking, cleaning, growing food and commerce than on their own health (World Bank, 1994a).

In many countries where home delivery is the norm, midwives are only available in health facilities. In many cultures TBAs are respected members of their community, perform

important cultural rituals and provide essential social support to Maternal during childbirth (Chalmers, 1993; Chen, 1981; Aletor, 1981; Campero, 1998; Carney, 1996). However, in some cultures, for example in the Indian sub-continent, TBAs are low caste and lack influence. People believe that body fluids released at childbirth (liquor and blood) are polluting and employ a TBA to carry out polluting tasks on behalf of the rest of the family (Blanchet, 1984; Rozario, 1995; Bhatia, 1981). In all cases their beliefs and practices are influenced by local customs and sometimes by religion (Bullough, 2000).

Many cultural, religious, or social factors may impede the demand for health care. In communities where women are not expected to mix freely, particularly with men, utilization of health services from static facilities may be impeded. In some communities in Bangladesh, the restrictions of Purdah may prevent mothers from accessing medical treatment for themselves or their children (Rashid, Hadi, Afsana and Begum, 2001). The presence of male practitioners for obstetric and gynecological care has been shown to be an important reason for low use of these services by Asian women in Western Societies (Whiteford and Szilag, 2000). It is suggested that in the United Kingdom, the clustering of patients of the same ethnic origin in practices staffed by people with the same language and cultural background is one reason for the high registration and consultation rates with general practitioners in many predominantly South Asian communities (evidence cited in Goddard and Smith, 1998).

Cultural conventions on modesty are also important. The restrictions imposed on women by Purdah may themselves mean that the impact of travel time on utilization is much more important for women than for men. One study in India, for example, found that travel

and time costs had a much greater negative impact on female access to services than the direct user charges (Vissandjee, Barlow and Fraser, 1997). In Guatemala rural women were put off attending a hospital for obstetric care because they were required to remove their skirts in public and without proper regard to patient privacy (Anon, 1997).

Cultural and family opinion is particularly important in the demand for contraceptives and wider family planning advice. A study in Pakistan, for example, found that resistance by a husband and cultural unacceptability of contraception were more important determinants than fears of further pregnancy and knowledge of methods (Casterline, Sathar and Haque, 2001). Wide differences in social status between practitioner and patient may also inhibit utilization. This may be through feelings of inferiority or simply an inability to communicate properly. This is demonstrated in a range of societies from the use of midwives in Benin to the treatment of low-caste Makkumar women by higher caste doctors in Tamil Nadu (Whiteford and Szilag 2000; Ram, 1994).

Cultural conventions about proper treatment of health issues may also inhibit access. One paper reports that the women of the Alur people of Uganda may be thought weak if they receive help during delivery (Ndyomugenyi, Neema and Magnussen, 1998). A similar finding is reported for the Bariba tribe in Benin (Sargent, 1985). There is also evidence that women often accept illness with genito-urinary symptoms as part of life and may be embarrassed to seek medical care (Bhatia 2001). Another study, in Bolivia, found that women were put off by well-ventilated delivery rooms when their own understanding required warm conditions for the delivery to progress (Anon, 1997).

2.4 Influence of Income Level on Skilled Maternal Delivery

The role of income in health seeking is buttressed by the fact that poverty is generally associated with poor health (Abel-Smith and Leiserson, 1979). In the United Kingdom, McKeown, Brown and Record (1972) hold that mortality decline in the nineteenth century was closely related to improvement in living standards rather than medical breakthroughs. Arriaga and Davis (1965) reported similar findings in Latin America. Recent studies also confirm that households within the wealthiest quintiles are more likely to seek health care from appropriate providers (Steinhardt, 2008).

In India, Mathiyazhagan (2003) holds that health expenditure of household members of rural India is sensitive to changes in household income levels and the elasticity of health expenditure with respect to income is largest for high-income groups. Health status is a direct product of economic power. Sharma (2000), found that the higher the capacity of persons to purchase health and medical services, the greater the likelihood of better health status. Alternatively, the poorer section of the population suffers badly in the maintenance of health and treatment of ailment due to poor financial status.

Emerson *et al.* (2006) examined the relationship between household income and health status in children and adolescents in Britain and concluded that there is a significant relationship between household income and a range of health outcomes even after controlling for other socio-economic indicators. Warner (1995) investigated health expenditures of poor families and how it affects their nutritional status and thereby their health and the survival probability of maternal and children. Inability to seek institutional delivery by expectant

mothers can cause complications and lower their income earning potentials. Andy and Cassels (2004) emphasize that ill health can cause poverty via loss of income, catastrophic health expenditures and orphan hood. Thus appropriate health seeking for expectant mothers can make a substantial contribution to the realization of MGD1- which seeks to half the proportion of people earning less than a \$1 a day between 1990 and 2015.

In Brazil and Béhague(2002), found that mothers from families with higher incomes and higher levels of education had caesarian sections more often than other mothers with low or average income. Steinhardt (2008) also found significant relationship between higher income and utilization of health services. However, the strength of the income variables is in variance with that of Mpembeni, (2007) where socio-economic status had no significant statistical relationship with skilled attendance at delivery. The widespread imposition of user charges in many low- and middle-income countries resembles, for many, an important barrier to utilizing services. User charges are often justified on the grounds that there is little purpose in providing a free point-of-delivery service if the quality is poor and availability is low. Limited user charges, combined with targeted exemptions for the poor, have been seen as a way of improving the local revenue base, thereby increasing the availability of services. A further justification is that, since many people already pay unofficial charges, a replacement system of formalized charges should place no greater burden on patients but would make the system more transparent, thereby helping ensure that revenue benefits facilities instead of only a small group of health service professionals.

Evidence is widespread, for example, that exemption mechanisms frequently fail to identify and protect the most vulnerable. As a result, user fees can lead to delays in care seeking, reduction in attendance at facilities, particularly among the poor, and impoverishment of marginalized families (Gilson, 1997; Mbuga, Bloom and Segall, 1995). The malign effects of high costs have led South Africa, Uganda, and a number of other countries to abolish charges for all or some services. Some early evidence suggests that this has led to an increase in utilization (Wilkinson, Gouws, Sach and Karim, 2001). There is also evidence, for example in Niger, that where user charges are retained by facilities to improve the quality of care, the impact on service utilization can be positive, even among poorer households (Chawla and Ellis, 2000).

The literature on the impact of user charges is voluminous and well reviewed elsewhere (for example, Wood, 1997; Newbrander, Collins and Gilson, 2000; McPake, 1993; Shaw and Ainsworth, 1996). User charges influence both supply and demand since they operate at the nexus of the health care facility or practitioner and the consumer to ration services. They are as much associated with encouraging the supply of quality services as they are an influence on demand. Despite the importance of user charges, further exploration of their impact here would distract from the central intention of this study, focus on barriers to service use outside the facility or prior to obtaining treatment.

Some of the studies offer qualitative evidence that barriers are more important. One study in Vietnam, for example, finds that poorer households often have less access to quick and effective transportation (such as a bicycle) in the event of illness (Segall, Tipping, Lucas,

Dung, Tram, Vinh and Huong, 2000). Another study found that financial circumstances made it more difficult for women in remote areas to reach clinics in the event of an obstetric emergency (Souza, Peterson, Andrade, Gardner and Ascherio, 2000).

2.5 Influence of Accessibility of Health Services on Skilled Maternal Delivery

Accessibility of health services refers to the probability that someone will receive an effective and appropriate healthcare service if necessary. The decision to deliver in a supervised or institutional setting is influenced by a vector of factors including the availability of the requisite health institutions and accessibility *inter alia*. Since developed countries are endowed with the appropriate health facilities, the demand for institutional/supervised delivery is more of a developing country phenomenon. Even under special circumstances, home deliveries in developed countries are undertaken with the necessary medical logistics and supervision.

Accessibility of health services has been shown to be an important determinant of utilization of health services in developing countries. In most rural areas in Africa, one in three mothers lives more than five kilometers from the nearest health facility (World Bank, 1994b). The scarcity of vehicles, especially in remote areas, and poor road conditions can make it extremely difficult for mothers to reach even relatively nearby facilities. Walking is the basic mode of transportation, even for mothers in labor (Williams 1985; World Bank, 1994b). In rural Tanzania, for example, 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 (Bicego, George, Siân, Hendrik, Saidi, and Sylvester, 1997). Hospital levy fees reduce women's use of

maternal health services and keep millions of women from having hospital-based deliveries or from seeking care even when complications arise. Even when hospital levy fees are low or nonexistent, there may be other costs that pose significant barriers to women's use of services. These may include costs of transportation, drugs, food, or lodging for the woman or for family members who help care for her in the hospital (Gertler and van der Gaag, 1988; Gertler, Locay, and Sanderson, 1988).

Generally, distance from health facilities increases the cost of access to professional care; in that the time spent reaching the nearest facility may represent a significant negative opportunity cost. This is especially the case for those living in remote and isolated rural areas where distance tends to isolate the household from the benefits and externalities of access to information. Even in the urban settings, where transportation is more readily available, distance seems to matter. Buchmueller (2004) examined the effect of distance in an urban setting by exploring data on hospital closures. Among the key findings is that proximity to a hospital is an important determinant of access to health care for the most vulnerable residents—lower income and rural residents. This finding is supported by Currie (1998), who showed that distance to hospitals is associated with a lower probability of having checkups (medical examinations).

Location of health workers and facilities is another important dimension of the cost of care. A study in Burkina Faso, for example, suggested that transport costs accounted for 28 per cent of the total costs of using hospital services (Sauerborn, Ibrango and Nougbara, 1994). A recent delivery survey in Bangladesh found travel costs were the second most expensive

item (after medicines) in outpatient treatment (CIET Canada 2000). According to one review of postnatal deaths in North-East Brazil, in an estimated 25 per cent of cases, mothers reported that delays in transportation may have contributed to the death (Souza, Peterson et al. 2000). Distance as a barrier is not confined to low- and middle-income countries. A recent study of patients in Great Britain presenting for colorectal screening found that more than 27 per cent of the total cost of the procedure was accounted for in travel costs (Frew, Wolstenholme, Atkin and Whyne, 1999). The same study suggested that this cost fell disproportionately on poorer households.

Many studies reveal the unsurprising fact that household use of services tends to decline with distance. This is key reason urban citizens who are often also wealthier, use services more than their rural counterparts. Lower rural access, reported in many studies, may well be the impact of an interaction between longer distances and less knowledge of treatment. This is suggested in a recent study in Kazakhstan, although the link is not fully understood (Thompson, Miller., forthcoming). This result is a key driver behind the often-quoted finding of benefits-incidence studies that rich, urban citizens benefit more from public subsidies than those poor, rural citizens (Demery, 2000).

Location is a particularly critical factor in the uptake of obstetric, and especially delivery services. Access for emergency deliveries is clearly hampered by long distances. One study, in Zimbabwe, suggested that up to 50 percent of maternal deaths from hemorrhage could be attributed to the absence of emergency transport (Fawcus, Mbizvo, Lindmark and Nystrom, 1996). Yet, at the same time, distance is also cited as a reason women choose to

deliver at home rather than at a health facility (see for Philippines (Schwartz, Akin *et al.*, 1993), Uganda (Amooti-Kaguna and Nuwaha, 2000) and Thailand (Raghupathy, 1996)). In other words, women living farther away are less likely to choose a health facility for delivery, although their inferior access makes them the most vulnerable group in case of an emergency.

A parallel issue in industrial countries is the effect of distance on care following heart attack (Piette and Moos, 1996). According to one U.S. study, patients living more than 20 miles away from a hospital are much less likely to visit ambulatory services for follow up. The death rate in the first year is also much higher for this group although the relationship with treatment may not be causal. In Japan one study found that access to follow-up treatment following treatment for cerebrovascular disease was considerably influenced by access to suitable transportation (Tamiya, Araki, Kobayashi, Yamashita, Murata and Yano, 1996).

The impact of location is not limited to whether people present for treatment but also how long they wait before seeking treatment. According to a study in Vietnam, location was the main determinant of the delay between onset of illness and presenting for treatment (Ensor and San, 1996). Other factors such as price and income were the principal determinants of the type of facility visited health center, hospital, private practitioner, or drug-store.

The impact of distance is not ambiguously negative. Some studies have found that people will travel long distances to obtain treatment. In Uganda the poor were more likely than the better-off to spend time traveling to facilities where the quality was higher, possibly because the opportunity cost of their time (wages forgone) was lower (Akin and Hutchinson,

1999). In one study in Cameroon and another in India, where the better services were situated farther away from much of the population, quality of care appeared to increase utilization despite the costs of travel (Tembon, 1996; Ganatra and Hirve, 1994).

An important result of the India study was that although the effect of distance on use of public facilities for childhood respiratory illness was positive or insignificant, the impact of distance to the nearest private facility on use of public facilities was unambiguously positive (Ganatra and Hirve, 1994). In other words, if a private facility is close by, a household prefers it to a public facility. The result is particularly important given the "essential and primary" nature of the disease studied, for which government facilities might be expected to have a comparative advantage. Similar interactions are found in Kerala for general use of private facilities (Shenoy, Shenoy and Krishnan, 1997). One study in India found that women would travel long distances to obtain private care, perceived to offer better quality than public services (Bhatia, 2001).

People residing close to cities are often willing to bypass local facilities, traveling to higher level facilities in urban areas which are perceived as better quality. This result, found in a number of countries including Bangladesh (Ensor, Hossain, Ali, Begum and Moral, 2001), Burkina Faso (Develay, Sauerborn and Diesfeld, 1996), suggests that arbitrary subsidies for transport are likely to be counter-productive in promoting bypass of basic facilities. It also suggests that, unless health facilities are seen to provide good quality services, people will continue to avoid them even if transport is financed.

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2.6 Empirical Literature

Recent research carried out by Graham, Bell and Bullough (2001) demonstrates that delivery by a skilled birth attendant (SBA) serves as an indicator of progress towards maternal mortality worldwide whereby estimates between 13% - 33% of maternal deaths could be averted by the presence of a skilled birth attendant. Analysis of Demographic Health Survey (DHS) data from 44 countries (1999-2004) showed that the proportion of deliveries assisted by TBAs is extremely variable within and across countries, being highest in rural areas. This illustrated that SBA were more effective than TBAs during delivery. Therefore, improving coverage and quality of skilled birth attendants is therefore prioritized in current approaches to maternal health (Fauveau, 2008). Adequate numbers of skilled health providers are essential where core competencies are a pre-requisite to ensuring best practices and improved quality of maternal healthcare.

According to Jayaraman, Chandrasekhar and Gebreselassie (2008), the number of antenatal visits by a pregnant woman has a bearing on where they deliver. In general, the more antenatal visits, the higher the chance of the birth occurring in a health facility. The World Health Organization (WHO) recommends at least four antenatal care visits throughout the pregnancy. For example in 2005 they found the percentage (69%) of women with over 3 antenatal visits who delivered in a health facility to be greater than the percentage (31%) who delivered at home without assistance. In 1992, 18 percent of women with no education gave birth at health facility compared with 30 percent of women with primary education and 66 percent of women with above primary education who delivered at a health facility. They

further found that in 1992, 59 percent of women whose husband had completed at least primary education delivered in a health facility while in 2005 this statistic was at 56 percent. Therefore, the data pooled data revealed the strong association between number of antenatal visits and place of delivery. In summary, 86 percent of women who had no antenatal visits delivered at home without assistance, and only 8 percent in a health facility. In line with expectation, likelihood of seeking delivery assistance in a health facility increases with increasing level of education of the woman. In addition, a woman whose husband has educational attainment above the primary level is more likely to deliver in a health facility.

The study findings by Shen and Williamson (1999) and Magadi (2001) established that antenatal visits combined with the use of skilled attendant during delivery are associated with the reduction of maternal mortality. In Rwanda, female-headed households are more vulnerable and often have lower socioeconomic status than households headed by men and thus are less likely to have access to health care. Also, the independent effect of work status on delivery at health facility could be due to socio-economic conditions rather than work participation. Supply side factors including availability and quality of services, access, and costs of seeking health care are important Jayaraman (2008).

The study done by Ram Jat, Nawi Ng and Sebastian (2011) on the factors affecting the use of maternal health services in Madhya Pradesh state of India revealed the following: women living in urban areas tended to use the maternal health care services more than those living in rural areas. Levels of the utilization of maternal health services were low in the districts with high percentage of tribal population. Household socio-economic status was the

strongest factor associated with the use of the three maternal health service indicators. Mother's level of education was the second most influential factor for the use of maternal health services. Results of the univariate model and the multilevel analysis showed that household socio-economic status and mother's education were the strongest individual level factors related to the use of antenatal services. The results of the multilevel model showed that women from richest quintile had 4.53 times more likelihood of receiving ANC during pregnancy in comparison with women from the poorest quintile of the society.

2.7 Critique of Literature Review

By and large, it is clear that most of the reviewed literature and studies already done in the study area have concentrated on issues of; stress on TBAs trainings, promotion of ANC uptake with the hope that it will translate to skilled deliveries, comparison of skilled delivery seeking vis a vis number of ANC attained by a mother within a gestation period, rate of skilled deliveries against reported and the influence of Service Provider attitude towards mothers. One major achievement with all the above studies is the aspect of empowering some of the TBAs to get trained and transit into being Community midwifery. The Government of Kenya three years ago also came up with a strategy of bringing on board retired nurses and community enrolled nurses to be further trained in skills required in child delivery so that they are able to assist mothers in the neighborhoods attain the birth delivery assistance and help reduce the complications that are associated with child delivery. The above strategy has not worked to the expectation levels, a factor that necessitates the study at hand.

Quarterly and annual reports generated by a USAID funded APHIA Western Project as well as the Ministry of Medical Services (MOMS) and Ministry of Public Health and Sanitation (MOPHS) clearly show that the western province ANC uptake is as high as 96.4% in most of the health facilities, while the skilled deliveries in the same region rates at 35%. This shows there is absolutely no correlation between reinforcing ANC attendance with the hope that mothers will seek skilled deliveries at the end of their pregnancy. The above sentiment puts this study at a prime line to attempt to unveil the really reasons that remain as hindrances to skilled deliveries in most of our rural areas, taking an example of Butere District.

2.8 Conceptual Framework

The conceptual framework below shows how the independent variables relate to the dependent variables.

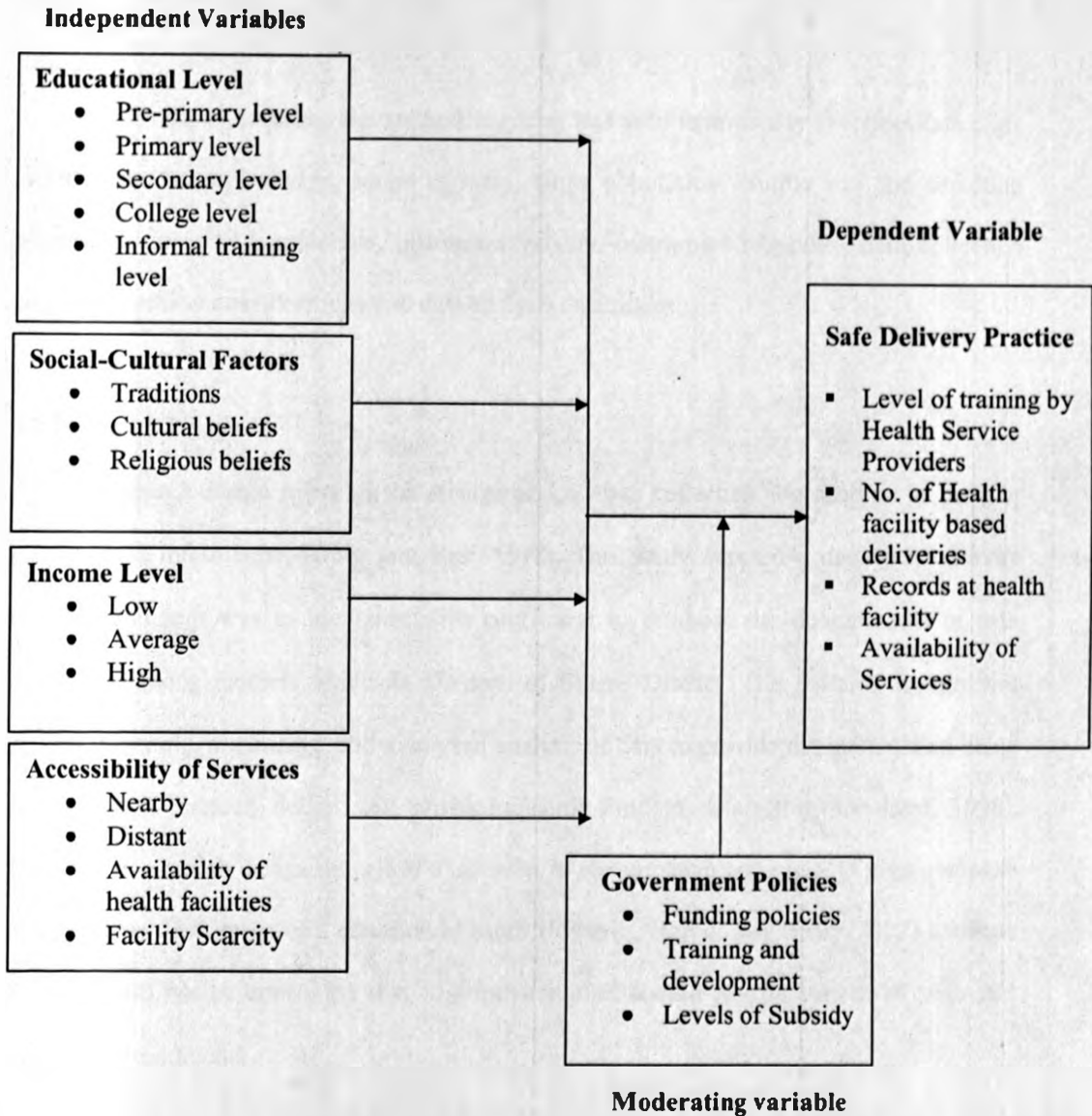


Figure 1: Conceptual Framework Showing illustration of Independent and Dependent Variables in the Study

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter describes the methodology that was used in this study to collect data. This included the research design, scope of study, target population, sample size and sampling procedures, research instruments, instrument validity, instrument reliability, data collection procedure, ethical considerations and data analysis techniques.

3.2 Research Design

Research design refers to the arrangement of data collection and analysis to provide the required information, (Borg and Best, 1998). This study adopted a descriptive survey design because it was to use correlation coefficient to establish the determinants of safe deliveries among mothers Shiatsala Division of Butere District. The research design will involve planning, organizing, collecting and analysis of data to provide the information being sought. Each research design will produce specific kind of data (Borg and Best, 1998). Descriptive research design described a situation or phenomenon and seeks to give complete and accurate description of a situation at hand. However, Harper and Boyd (2002) cautions that it would not be concluded that descriptive studies should just be concerned with fact gathering expeditions.

Descriptive research is preferred by the research to other methods in this study because it will enable direct generation of information hence create an opportunity for in-depth response that provide a good understanding of the factors influencing skilled maternal delivery. Peil (2005) says that descriptive research is preferred for the study which rests in ability to give room for probing for more exploration of new ideas and to generate a lot of information on emerging concerns on the line of thought.

Yin (1993) noted that descriptive design rests on the fact that human beings live by interpreting phenomenon. The researcher believes that the method will enable every open interaction on the phenomenon under study. This research design will be suitable for interpreting and establishing the relationship between the variables and their significance due to its descriptive nature.

3.4 Target Population

The district has approximately a population of 139,780 people, with 66,669 males and 73,111 females. It is further noted that the district has a total of 16,243 women within reproductive age in the rural regions of Butere District (Census Report, 2009). The district has a total population of 59 skilled staff working in eight health facilities. Target population refers to the population which the researcher would like to generalize the results of the study, (Mugenda and Mugenda, 2003). The study will be conducted in Butere District of Western Province in Kakamega County. Therefore, the target sample population was 110 derived from the total population of women which stand at 22, 548 and 20 out of 59 Health Service Providers in rural areas of Butere District. The main characteristics of the respondents in the

target population will include educational level, age brackets, socio-economic status and experience. All the women respondents will be interviewed (owing to differences in literacy levels) for uniformity in data collected while the Health Service Providers will be given questionnaires to fill out.

3.5 Sample Size

A part of the population under study is called a sample. It is a proportion of the population, a slice of it, a part of it and all its characteristics. A sample is a scientifically drawn group that actually possesses the same characteristics as the population. A sample size refers to elements or individuals drawn from a large group known as the population. According to Best and Kahn, (1998) an ideal sample should be large enough to serve as adequate representation of the population which the researcher wishes to generalize and small enough to be selected economically in terms of subject availability, expense in time and money, and complexity of data analysis. Gay, (1981) suggests that for correlation studies, 30% or more samples are required for descriptive studies. In this study, a sample size of 110 reproductive women and 20 Health Service Providers were interviewed randomly selected.

3.6 Sampling Procedure

Sampling procedure refers to the process used to scientifically capture study respondents from the larger population to be applied for generalization. Given the number of women in Lunza Division of Butere stand at 16,243 women, women who fall within the study target of reproductive age range of 19 – 39 years, hence will comprise the study population.

The sample size of reproductive women was obtained using coefficient of variation. Nassiuma (2000) asserts that in most surveys or experiments, a coefficient of variation in the range of $21\% \leq C \leq 30\%$ and a standard error in the range $2\% \leq e \leq 5\%$ is usually acceptable. We will therefore use a coefficient variation of 21% and a standard error of 2%. The lower limit for coefficient of variation and standard error will be selected so as to ensure low variability in the sample and minimize the degree of error.

$$S = \frac{N(Cv^2)}{Cv^2 + (N-1)e^2}$$

Where S = the sample size

N = the population size (16,243)

Cv = the Coefficient of Variation

e = standard error

Therefore, the selected sample size was attained as:

$$S = \frac{16,243 (0.21^2)}{0.21^2 + (16,243-1) 0.02^2} = 109.5 = 110 \text{ women}$$

Identification of the 110 women respondents was done with the guide of Community Health workers, Opinion Leaders and Provincial Administration working jointly in Lunza. The above categories of persons have a well-defined good grasp of all the households and persons staying in their locality. A simple random sampling was employed where the community own

resource persons mentioned guided the study assistants on a 3rd respondent for an interview, where there was a skip of the 4th and 5th and head for the 6th person. This meant, the study assistant took the first household with a potential respondent, then skips two of such mothers and pick the 3rd mother. This was to be systematic through the division as had been scheduled. A special mark was performed on the door of the respondent with their permission to ensure there are no chances of repeating the households with potential mothers who have passed through the listings.

Simple random sampling method was used to identify the 20 respondents of the HSP whose population is 59 persons. We used a simple random method for listing out all the HSP from the 1st to the 59th person. To get a good representation of 20 persons, we picked every third (3rd) person to participate. The first 19 respondents were gotten using this method. In the last facility, we tossed a coin between the last two HSP to get our 20th respondent.

3.7 Research Instruments

The study used questionnaires to collect data from 20 HSP respondents. The structured (closed-ended) and unstructured (open-ended) questionnaires were used so as to get the uniform responses from respondents. The closed-ended questions provided a greater uniformity and more easily processed (China and Oteng'i, 2007). The structured questionnaire was accompanied by a list of all possible alternatives from which respondents selected the suitable answer that describes their situation or by simply ticking (Mugenda and Mugenda, 2003). The advantage of using this type of instrument was the ease that it accords the researcher during the analysis.

The 110 women respondents were interviewed by a study assistant for the purpose of collecting uniformly posed questions to the respondents. This followed diverse educational levels, a factor under study and the ability of the respondents to read and write as it was required. The tools generated both qualitative and quantitative data, with a majority being descriptive qualitative in nature.

3.8 Validity of the Instruments

Instrument validity refers to the success of study instrument in measuring what it purports to measure (Mugenda and Mugenda, 2003). Harper (2002) noted that if questionnaires are to produce useful results, the questions must be valid; where validity refers to whether the instrument is actually able to test what it is supposed to test. In this study, validity refers to content validity. Content validity of the instruments was established in three stages; the researcher critically considered each item to see if it contained a real representation of the desired content and if it measured what was supposed to be measured after considering the constructs to be measured.

The developed instruments were presented to the supervisors and research experts to evaluate their applicability and appropriateness of the content, clarify and adequacy of the construction of the instrument from a researcher perspective.

3.9 Reliability of the Instruments

Reliability refers to the extent to which research instrument is consistent each time it is administered to same individuals. The researcher employed a test retest method in order to test reliability of the research instruments. The instruments were pretested on sample of 10 respondents who were not be used in the final analysis (Mulusa, 1990). The pretest method helped point out deficiencies in the instruments. In this study the respondents were requested to respond to questionnaires a second time after two weeks and the correlation between the two sets of scores computed. A Pearson product moment formulae was administered and a correlation coefficient calculated and found to be, $r = 0.75$, which was above $r = 0.5$ as recommended by Mugenda and Mugenda (2003). The research instruments were therefore found reliable.

3.10 Data Collection Procedures

Data collection procedures refer to the techniques used in collecting both primary and secondary data. Before proceeding to conduct the study, the researcher was able to obtain an introductory letter from the University of Nairobi which enables him to get a permit from the Kenya National Council for Science and Technology and further to the Butere District Commissioner, Butere District Education Officer and the Butere District Medical Officer of Health.

The Research Assistants were selected with an academic qualification of diploma students on vacation or under graduate students who were still in persued of their degrees on vacation or any other such person who had participated in qualitative research work at

regional or national level. The team was taken through a training sessions held at Butere PAG Church hall which looked at areas such as; study purpose and objective, study area, the population under study, the targets set and time frame, reviewing the tools together to gauge their understanding and considered the ethical dimensions in study activities, especially now that we were having human beings involved. The training took one day. The next one day was used for a pre-test of the tools and adopting corrections as appropriate.

The Research Assistants were introduced to the Community Health Workers, Opinion Leaders and the Provincial Administration team at the grass root level who took a leading and guiding role to homesteads where the mothers we are interested in lived. Filled out questionnaire accruing from interviews and HSP response was collected by the researcher after every two days. The 10 research assistants worked as team and that is, mobilized the community, identified respondents and gave and collecting questionnaires from respondents for the purpose of HSP and contacted interviews with the women at their homes. This was done with very closely with the guidance of the community own resource persons and the researcher. Completed questionnaires were cross checked by the researcher to ascertain whether they were appropriately and fully responded to. In case of non-response the researcher used the available responses to analyze data (Moser, 1998). All the sampled 110 Reproductive women and 20 Health Service Providers were reached and interviewed and answered questions respectively, giving 100% respondent turn up.

3.11 Data Analysis Techniques

The data generated by the questionnaires was considered as raw data. This data required cleaning and arranging it so that it makes sense; it's in a sequence form and can easily be analyzed. Codes were assigned to particular responses anticipated in the questionnaire, especially the closed ended questions that require a Yes or No answer, where a YES was coded 1 (one) and a NO coded 0 (zero). In some situations where an interval or ratio scale answers were required, the range of answers were to correspond to assigned coders that depict the range in question since responses had been given in particular categories. Coding is the conversion of data into numerical codes (Mugenda 2003).

In open ended questions, the respondents had a wide range of responses to give. The responses were classified in various categories as per the responses. Each of the category was assigned a numerical figure that could be compared against other available categories.

In this study, both qualitative and quantitative data analysis was employed. The study was interested in analyzing information in a systematic way in order to make informed conclusions about the real level of determination the religious, cultural and levels of income and age; and how they influence decisions to have skilled deliveries. Quantitatively, keen consideration was laid to establish the distribution of scores of the quantifiable variables like the educational level, economic status and the degree of relationship with skilled deliveries.

In analyzing the data, percentages and ratios have been calculated to allow the use of qualitative data. Results have been presented in frequency tables. The second level of data

analysis will involve inferential statistics where Pearson coefficient of correlation has been used to establish the relationship among the variables.

3.12 Ethical Considerations

The researcher ensured that respondents are treated with utmost respect. Any data collected will remain confidential. The researcher will seek approval and permission at the National Council for Science and Technology (NCST) as well as the Butere District Commissioner, Butere District Education Officer and Butere District Medical Officer of Health for consent to conduct the study. The information collected will at no time be pegged to a particular individual; instead it will be treated with anonymity and privacy.

Table 1: Summary of Operational Definition of Variables

Objective	Variable	Measurement Scale	Analysis Technique
1. To determine the influence of educational level on skilled maternal delivery in Butere District in Kakamega County	Independent: Educational level: pre-primary, primary, secondary and college levels Dependent: Skilled Maternal Delivery: skills acquired, experience, knowledge, attitudes	Ordinal, Interval and Ratio	Inferential statistics like Pearson correlation, Chi Square and ANNOVA
2. To establish influence of social-cultural factors on maternal delivery in Butere District in Kakamega County	Independent: Social-cultural factors: traditions, cultural beliefs and religious beliefs Dependent: Skilled Maternal delivery: skills acquired, experience, knowledge, attitudes	Nominal and Ordinal	Chi Square, ANNOVA, simple and multiple regressions

<p>3. To investigate the influence of income level on maternal delivery in Butere District in Kakamega County</p>	<p>Independent: Income level: low , average and high Dependent: Skilled Maternal delivery: skills acquired, experience, knowledge, attitudes</p>	<p>Ordinal, Interval and Ratio</p>	<p>Pearson correlation, simple and multiple regression and Chi Square tests</p>
<p>4.To find out the influence of accessibility of health services on maternal delivery in Butere District in Kakamega County</p>	<p>Independent: Accessibility of health services: distance and inaccessibility Dependent: Skilled Maternal delivery: skills acquired, experience, knowledge, attitudes</p>	<p>Interval and Ratio</p>	<p>Pearson correlation, simple and multiple regression</p>

CHAPTER FOUR

DATA ANALYSIS, PRESENTATION AND INTERPRETATION

4.1 Introduction

This chapter presents results and discussions based on the following four study objectives: to determine the influence of educational level on skilled maternal delivery in Butere District in Kakamega County; to establish influence of social-cultural factors on skilled maternal delivery in Butere District in Kakamega County; to investigate the influence of income level on skilled maternal delivery in Butere District in Kakamega County and to determine the extent to which accessibility of health services on skilled maternal delivery in Butere District in Kakamega County. The chapter looks at the data collected with from the 110 reproductive women and 20 Health Service Providers. We had a 100% response rate from all the sampled respondents in the research area.

4.2 Socio-Demographic Characteristics of Respondents

The study sought to find out the background information of the respondents, their gender, ages, marital status, working experience, religion, educational level and their main occupation.

4.2.1 Age of Respondents

The study sought to find out the age distribution of reproductive women and health attendants in the rural areas of Butere District. The respondents were asked to indicate their age and the results were recorded in Table 2.

Table 4; 2: Age distribution of Respondents Lunza Division of Butere District

Age distribution	Reproductive Women		Health Attendants	
	Frequency	%	Frequency	%
18-24 years	38	34.5	1	5.0
25-34 years	38	34.5	13	65.0
35-47 years	30	27.3	6	30.0
Above 48 years	4	3.6	0	0.0
Total	110	100.0	20	100.0

Results in Table 2 above, show that most reproductive women were in the age brackets of 18-47 years with a score of 96.4% and those above 48 years had 3.6%. Majority of health attendants were in the age bracket of 25-47 years with a score of 95% and very few (5%) in the age bracket of 18-24 years. From this statistics it is clear that majority of the respondents were in the age bracket above 25 years. This meant that majority of the respondents were mature middle aged people. This is the age group carrying the highest proportion of the population that is actively engaged in the skilled maternal delivery and therefore, understood the determinants influencing skilled maternal delivery in rural areas of Butere District in Kakamega County. The population below 20 years is mostly composed of school going children who may not actively participate in the skilled maternal delivery (Amarasinghe, 2009).

4.2.2 Marital Status of Reproductive Women

The study sought to find out the marital status of the respondents and aimed at determining the number of respondents who were married and those who were singles. The marital status would show whether the husbands would influence decisions made by their spouses. The respondents were asked to indicate whether they were married or not. The results are shown in the following table.

Table 4; 3: Marital status of Reproductive Women in Lunza Division of Butere District

Marital status	Reproductive Women		Health Attendants	
	Frequency	%	Frequency	%
Single	17	15.5	5	25.0
Married	93	84.5	15	75.0
Total	110	100.0	20	100.0

According to the results in Table 3 above, a majority of the reproductive women (93%) and health attendants (75%) were married. This meant that majority of the respondents had acquired some experience in skilled maternal delivery and therefore understood the determinants influencing skilled maternal delivery in rural areas of Butere District in Kakamega County. This indicated that membership status and marital status were significantly associated. The information gathered from the interview schedules also confirmed that marital status played a significant role in influencing skilled maternal delivery in rural areas of Butere District in Kakamega County. The females participated more than males in the skilled maternal delivery being affected by cultural factors.

Many women in poor developing countries will continue to deliver without skilled attendance for the foreseeable future. An impact on maternal mortality may however be possible with improved mechanisms for referral. Those settings in which skilled attendance is not negatively correlated with maternal mortality raise major questions about the quality of care, and bring us back to the question of the definitions. Skilled attendance implies competent attendants and an enabling environment (Loudon 1992a).

4.2.3 Working Experience of Health Service Providers

The study sought to find out the working experience of Health Service Providers in Butere District. The studies aimed at determining the number of years health service providers had worked in the health facilities and in turn know how much experience they had been exposed to concerning skilled maternal delivery in rural areas of Butere District in Kakamega County. The respondents were asked to indicate how long they had been members of the group. The results are recorded in Table 4.

Table 4; 4: Working Experience of Health Service Providers in Lunza Division of Butere District

Years	Frequency	%
One year	3	15.0
Two years	7	35.0
Three years	6	30.0
Four or more years	4	20.0
Total	20	100.0

In reference to Table 4, the results show that 85% of reproductive women had worked in the health facilities for more than two years while 15% had worked for one year. Therefore, the respondents had to some extent acquired some experience concerning the determinants of skilled maternal delivery in rural areas of Butere District in Kakamega County. Competencies can be thought of as the state or quality of being well qualified to perform a task. A person gains competency through education, training, experience, or natural abilities. Klemp (1980) defined competence as "an underlying characteristic of a person which results effective and/or superior performance on the job." While a more detailed definition is "a cluster or related knowledge, skills, and attitudes that reflects a major portion of one's job (a role or responsibility), that correlates with performance on the job, that can be measured with well-accepted standards, and that can be improved with training and development (Parry, 1996)." Therefore, a person's experience increases with the number of years spent on the job.

The study findings were supported by Bott (2003) regarding job performance and job experience. The findings showed that job experience impacts on task and contextual performance in distinct ways. Based on the assumption that task performance reflects proficiency in carrying out tasks detailed in a formal job description, it will increase as employees obtain specific job knowledge that allows them to perform the tasks at a higher level (Hatrup, 1998). Conversely, contextual performance includes Practiseslike helping work colleagues with a heavy workload, cooperating, following rules with enthusiasm, or volunteering for non-formal duties (Borman and Motowidlo, 1997; Hatrup, 1998). The learning of these behavioral conducts is also developed through various experiences that occur

before commencing professional activity and in activities outside the job, being then transferred to the individual's job experiences (Bott, 2003).

4.3 Educational Level and Skilled Maternal Delivery

The study sought to find out formal educational levels of the respondents in the rural areas of Butere District. This was to determine the level of understanding of the purpose, benefits and challenges of skilled maternal delivery in rural areas of Butere District in Kakamega County. To help understand this, respondents were asked to state their formal educational level. The results are recorded in Table 5.

Table 4; 5: Educational Level of Reproductive Women and Health Service Providers in Lunza Division of Butere District

Educational level	Reproductive Women		Health Attendants	
	Frequency	%	Frequency	%
Pre-primary education	3	2.7		
Primary	89	80.9	2	10.0
Secondary education	18	16.4	2	10.0
Diploma	-	-	13	65.0
Graduate	-	-	3	15.0
Total	110	100.0	20	100.0

From Table 5, 80.9% of reproductive women had primary education level, 16.4% had secondary education, and 2.7% had pre-primary education. The results further showed that 65% of health attendants had diploma education level, 15% were graduates and 10% had primary and secondary education levels respectively. Therefore, health attendants had higher educational levels. This was an indication that the respondents had attained educational level to some extent to understand the influence of skilled maternal delivery in rural areas of Butere District in Kakamega County. Majority of the health attendants were more educated than reproductive women. These study findings were in line with what Jackson *et al* (1991) found out. They noted that group members who had a university degree used the knowledge for problem solving and group coordination. Hence in this study, respondents with high levels of education were likely to understand the determinants of skilled maternal delivery in rural areas of Butere District in Kakamega County. From the interviews, it was also established that some reproductive women with lower educational levels did not fully utilize the services offered by skilled maternal delivery in hospitals. Therefore, education levels of respondents played a key role in determining utilization of skilled maternal delivery services.

The research has shown that mother's education is positively associated with the utilization of maternity care services (Addai, 2000; Celik and Hotchkiss, 2000; Addai, 1998; Stewart and Sommerfelt, 1991). Although, in general, mothers in higher socioeconomic groups tend to exhibit patterns of more frequent use of maternal health services than mothers in the lower socioeconomic groups, factors such as education appear to be important mediators (Addai, 2000; Addai, 1998; Leslie and Gupta, 1989). Therefore, mothers' education is widely held to be a key determinant of skilled maternal delivery (Becker, 1960). In broad

terms, education may affect a woman's fertility and child-investment choices through either income or learning. Education increases a woman's income stream through the labour market. In addition to the income channel, education may improve a woman's stock of knowledge regarding contraceptive technologies or healthy pregnancy behaviors, either because it augments her knowledge directly (that is, educational curricula are important), or because it improves her ability to absorb and process information generally. We next describe each of these mechanisms in turn (Mincer 1963, Becker and Lewis, 1973).

4.3 Social-Cultural Factors and Skilled Maternal Delivery

This section looks at socio-cultural factors like traditions, cultural and religious beliefs and their influence on skilled maternal delivery. Their results were tabulated in Table 6.

Table 4; 6: Socio-Cultural Factors and Skilled Maternal Delivery

Variables	SA %	A %	NT %	D %	SD %
Cultural and traditional beliefs do not permit women to deliver at the hospital	3.6	21.8	8.2	47.3	19.1
I deliver at home because I trust TBAs	8.2	24.5	1.8	51.8	13.6
TBAs are friendly and understanding during labour and delivery	13.6	42.7	11.8	20.9	10.9
Many expectant mothers prefer delivering at the hospitals than at home	14.5	49.1	11.8	21.8	2.7
Women are not expected to mix freely, therefore I prefer to deliver at home other than at the hospital	6.4	20.0	10.9	48.2	14.5
Women are put off by well-ventilated delivery rooms when their own understanding required warm conditions for the delivery to progress	4.5	32.7	10.9	41.8	10.0

Key: SA = strongly agree, A = agree, U = not sure, D = disagree and SD = strongly disagree

In reference to the results in Table 6, the majority of respondents (66.4%) disagreed that cultural and traditional beliefs did not permit women to deliver at the hospital, 8.2% were not decided and 25.4% of the respondents agreed. Same sentiments were echoed by 65.4% of respondents who disagreed that expectant women deliver at home because they trusted TBAs, while 32.7% agreed that indeed expectant women deliver at home because they trusted TBAs. When respondents were asked whether TBAs were friendly and understanding during labour and delivery, 56.3% of respondents agreed to the fact that TBAs were friendly and understanding during labour and delivery, 11.8% were not sure and 31.9% were disagreed. On the question asked whether many expectant mothers would prefer delivering at the hospitals than at home, 63.6% of respondents agreed, 11.8% were not sure and 24.5% disagreed and preferred delivering at home than in hospitals. When the respondents were asked whether women were not expected to mix freely, therefore preferred to deliver at home than at the hospital, 62.7% of respondents disagreed, 10.9% were not sure and 26.4% agreed to the fact that women were not expected to mix freely, therefore preferred to deliver at home than at the hospital. The question on whether women were put off by well-ventilated delivery rooms when their own understanding required warm conditions for the delivery to progress, 37.2% of respondents agreed, 10.9% were not sure while 51.8% of respondents disagreed. These results point out that the reproductive women in Lunza Division had mixed reactions on the questions asked on the socio-cultural factors concerning skilled maternal delivery.

Table 4; 7: Socio-Cultural Factors and Skilled Maternal Delivery

Socio-Cultural Factors' Variables	Pearson Correlation Coefficient, <i>r</i>
Cultural and traditional beliefs do not permit women to deliver at the hospital	-0.090 (0.350)

I deliver at home because I trust TBAs	-0.103 (0.286)
TBAs are friendly and understanding during labour and delivery	-0.030 (0.756)
Many expectant mothers prefer delivering at the hospitals than at home	0.081 (0.401)
Women are not expected to mix freely, therefore I prefer to deliver at home than at the hospital	-0.128 (0.182)
Women are put off by well-ventilated delivery rooms when their own understanding required warm conditions for the delivery to progress	0.024 (0.800)
People regard women as weak if they deliver at the hospital	-0.064 (0.507)

Constant/predictor variable: Socio-Cultural Factors

Dependent Variable: Skilled Maternal Delivery

Levels of significance, p-value for correlation coefficients are in parentheses.

Correlation results in Table 7 above, between socio-cultural factors and skilled maternal delivery showed that majority of the socio-cultural factors with an exceptions of many expectant mothers prefer delivering at the hospitals than at home ($r = 0.081$, $p \geq 0.05$) and women are put off by well-ventilated delivery rooms when their own understanding required warm conditions for the delivery to progress ($r = 0.024$, $p \geq 0.05$) negatively influenced skilled maternal delivery, although the p-values were not significant: cultural and traditional beliefs ($r = -0.090$, $p \geq 0.05$), I deliver at home because I trust TBAs ($r = -0.103$, $p \geq 0.05$), TBAs being friendly and understanding during labour and delivery ($r = -0.030$, $p \geq 0.05$), women were not expected to mix freely, therefore I preferred to deliver at home than at the hospital ($r = -0.128$, $p \geq 0.05$) and people regard women as weak if they deliver at the hospital ($r = -0.064$, $p \geq 0.05$). Therefore, to some good extent socio-cultural factors negatively

influenced skilled maternal delivery by forming negative opinions and beliefs that hindered optimum utilization of best services offered by hospitals as also observed by Leslie and Gupta (1989) that an important factor in the utilization of maternity care services, especially in Africa is the cultural background of the woman. The use of modern health services in such a context is often influenced by individual perceptions of the efficacy of modern health services and the religious beliefs of individual mothers (Adetunji, 1991).

In many countries where home delivery is the norm, midwives are only available in health facilities. In many cultures TBAs are respected members of their community, perform important cultural rituals and provide essential social support to mothers during childbirth (Chalmers, 1993; Chen, 1981; Aletor, 1981; Campero, 1998; Carney, 1996). In all cases their beliefs and practices are influenced by local customs and sometimes by religion (Bullough, 2000).

4.4 Income Level and Skilled Maternal Delivery

This section looks at the income levels of respondents, whether high, average or low and how income levels of respondents influence skilled maternal delivery. Their results were tabulated in Table 8. The results on the income level of respondents in relation to utilization of skilled maternal delivery, averagely, 57.2% of respondents were of the view that it was not expensive to deliver at the hospital, 0.9% were not sure and 41.8% of respondents said hospital services were expensive and this explained why 41.8% of reproductive women did not benefit from the services offered by skilled maternal delivery in hospitals. Majority of respondents (70%) disagreed that health services were offered free of charge, 0.9% of

respondents, 29.1% agreed that the health services offered were free of charge. On the question asked on whether households with higher income access and utilized health services more than those who had lower income, 80% of respondents agreed, 3.6% were not sure and 16.3% of respondents disagreed. The results also illustrated that fees charged at the health facilities led to delays in care seeking, reduction in attendance at facilities by 59.1% of respondents agreeing, 8.2% were not sure and 32.7% of respondents disagreed.

Table 4; 8: Income Level and Skilled Maternal Delivery

Variables	SA %	A %	NT %	D %	SD %
It is expensive to deliver at the hospital	10.9	30.9	0.9	44.5	12.7
Health services are offered free of charge	12.7	16.4	0.9	56.4	13.6
Households with higher income access and utilize health services more than those who have lower income	22.7	57.3	3.6	12.7	3.6
Fees charged at the health facilities can lead to delays in care seeking, reduction in attendance at facilities	11.8	47.3	8.2	30.9	1.8

Key: SA = strongly agree, A = agree, U = not sure, D = disagree and SD = strongly disagree

Results on correlation analysis revealed that it was expensive to deliver at the hospital and this negatively and significantly influenced skilled maternal delivery ($r = 0.261^{**}$, $p \leq 0.05$), while the health services offered were free of charge ($r = -0.121$, $p \geq 0.05$) and fees charged at the health facilities led to delays in care seeking, reduction in attendance at facilities ($r = -0.005$, $p \geq 0.05$) negatively influenced skilled maternal delivery.

Table 4; 9: Income Level and Skilled Maternal Delivery

Income Level Variables	Pearson Correlation Coefficient, r
It is expensive to deliver at the hospital	-0.261** (0.006)
Health services are offered free of charge	-0.121 (0.209)
Households with higher income access and utilize health services more than those who have lower income	0.275** (0.004)
Fees charged at the health facilities can lead to delays in care seeking, reduction in attendance at facilities	-0.005 (0.957)
Constant/predictor variable: Income Level	
Dependent Variable: Skilled Maternal Delivery	

**** Correlation is significant at the 0.01 level (2-tailed).**

*** Correlation is significant at the 0.05 level (2-tailed). Levels of significance, p-value for correlation coefficients are in parentheses.**

The results on households with higher income access and utilized health services more than those who have lower income pointed out that a positive significant influence on skilled maternal delivery ($r = 0.275^{**}$, $p \geq 0.05$). Recent studies also confirm that households within the wealthiest quintiles were more likely to seek health care from appropriate providers (Steinhardt, 2008). In India for example, Mathiyazhagan (2003) holds that health expenditure of household members of rural India is sensitive to changes in household income levels and the elasticity of health expenditure with respect to income is largest for high-income groups. Health status is a direct product of economic power. Sharma (2000), found that the higher the capacity of persons to purchase health and medical services, the greater the likelihood of better health status. Alternatively, the poorer section of the population suffers badly in the maintenance of health and treatment of ailment due to poor financial status. Therefore, these

study findings showed that income levels of respondents negatively influenced skilled maternal delivery services offered by hospitals in the rural areas of Butere District. Similarly, in Brazil, Béhague (2002) found that mothers from families with higher incomes and higher levels of education had caesarian sections more often than other mothers with low or average income. Steinhardt (2008) also found significant relationship between higher income and utilization of health services.

According to Gertler and van der Gaag (1988) and Gertler, Locay, and Sanderson (1988), hospital levy fees reduce women's use of maternal health services and keep millions of women from having hospital-based deliveries or from seeking care even when complications arise. Even when hospital levy fees are low or nonexistent, there may be other costs that pose significant barriers to women's use of services. These may include costs of transportation, drugs, food, or lodging for the woman or for family members who help care for her in the hospital.

4.5 Accessibility of Health Services and Skilled Maternal Delivery

This section looks at the accessibility of health services of respondents, whether nearby, distant or inaccessible and how accessibility of health services of respondents influence skilled maternal delivery. Their results were tabulated in Table 10 below.

Table 4; 10: Accessibility of Health Services and Skilled Maternal Delivery

Variables	SA %	A %	NT %	D %	SD %
I do not attend Antenatal Clinics and Post natal clinic regularly because of the distance	6.4	57.3	0.9	16.4	19.1
Distance and income level of the household do not affect maternal delivery	12.7	16.4	0.9	56.4	13.6
Accessibility of health services is good	13.8	22.5	0.9	50.9	11.8

Key: SA = strongly agree, A = agree, U = not sure, D = disagree and SD = strongly disagree

According to the results in Table 10 on the accessibility of health services and skilled maternal delivery, 63.7% of respondents agreed to the fact that they did not attend antenatal clinics and post natal clinic regularly because of the distance, 0.9% were not sure and 35.5% of respondents disagreed that distance did not affect accessibility of antenatal clinics and post natal clinic regularly. Distance and income level of the household did affect skilled maternal delivery as agreed by most of respondents (70%) and 29.1% of respondents disagreed to the fact that distance and income level of the household did affect maternal delivery. The results on the accessibility of health services was not good as a higher percentage (62.7%) disagreed while 36.3% of respondents were of the opinion that accessibility of health services was good.

Table 4; 11: Accessibility of Health Services and Skilled Maternal Delivery

Accessibility of Health Services	Pearson Correlation Coefficient, r
I do not attend Antenatal Clinics and Post natal clinic regularly because of the distance	-0.062 (0.523)
Distance and income level of the household do not affect maternal delivery	0.185 (0.053)
Accessibility of health services is good	-0.273** (0.000)

Constant/predictor variable: Accessibility of Health Services

Dependent Variable: Skilled Maternal Delivery

**** Correlation is significant at the 0.01 level (2-tailed).**

*** Correlation is significant at the 0.05 level (2-tailed). Levels of significance, p-value for correlation coefficients are in parentheses.**

Correlation results revealed that distance and income indeed negatively influenced attendance of antenatal clinics and post natal clinics ($r = -0.062, p \geq 0.05$). Therefore, distance was also a major factor negatively influencing accessibility of skilled maternal delivery services in the rural areas of Butere District by quite a number of women (63.7%) choosing where to deliver, at home or at the hospital. These study findings were in line with what World Bank, (1994b) found out on the accessibility of health services. Accessibility of health services has been shown to be an important determinant of utilization of health services in developing countries. In most rural areas in Africa, one in three mothers lives more than five kilometers from the nearest health facility. The scarcity of vehicles, especially in remote areas, and poor road conditions can make it extremely difficult for mothers to reach even relatively nearby facilities. Walking is the basic mode of transportation, even for mothers in labor (Williams, 1985; World Bank, 1994b). In rural Tanzania, for example, 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 (Bicego, George, Siân, Hendrik, Saidi, and Sylvester, 1997).

CHAPTER FIVE

SUMMARY OF FINDINGS, DISCUSSION, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This chapter presents the summary of the study finding. It also presents the conclusions drawn from the study, recommendations of this study based on the study objectives, its contribution to the body of knowledge and areas of further research.

5.2 Summary of the Findings

The study had four objectives which were: to determine the influence of educational level on skilled maternal delivery in Butere District in Kakamega County; to establish influence of social-cultural factors on skilled maternal delivery in Butere District in Kakamega County; to investigate the influence of income level on skilled maternal delivery in Butere District in Kakamega County and to determine the extent to which accessibility of health services on skilled maternal delivery in Butere District in Kakamega County.

The study indicated that most reproductive women were in the age brackets of 18-47 years. This meant that majority of the respondents were mature middle aged people. This is the age group carrying the highest proportion of the population that is actively engaged in the skilled maternal delivery and therefore, understood the determinants influencing skilled maternal delivery in rural areas of Butere District in Kakamega County.

Majority of the reproductive women and health attendants were married. This meant that majority of the respondents had acquired some good experience in skilled maternal

delivery and therefore understood the determinants influencing skilled maternal delivery in rural areas of Butere District in Kakamega County. Results further showed that 85% of reproductive women had worked in the health facilities for more than two years while 15% had worked for one year. Therefore, the respondents had to some extent acquired some experience concerning the determinants of skilled maternal delivery in rural areas of Butere District in Kakamega County.

Results on the influence of educational levels revealed that health attendants had higher educational levels. This was an indication that the respondents had attained educational level to some extent to understand the influence of skilled maternal delivery in the rural areas of Butere District in Kakamega County. Majority of the health attendants were more educated than reproductive women. Study findings also established that some reproductive women with lower educational levels did not fully utilize the services offered by skilled maternal delivery in hospitals. Therefore, education levels of respondents played a key role in determining utilization of skilled maternal delivery services.

Study findings on socio-cultural factors like traditions, cultural and religious beliefs negatively influenced skilled maternal delivery by forming negative opinions and beliefs that hindered optimum utilization of best services offered by hospitals. The results on income level and skilled maternity delivery revealed that hospital expenses negatively and significantly influenced skilled maternal delivery while the health services offered were not free of charge and fees charged at the health facilities led to delays in care seeking, reduction in attendance at facilities negatively influenced skilled maternal delivery. Income levels of respondents,

therefore, had a significant role on determining the use of skilled maternal delivery services in the rural areas of Butere District in Kakamega County.

The results on accessibility of health services and skilled maternal delivery showed that majority of the respondents did not attend antenatal clinics and post natal clinic regularly because of the distance. Distance and income level of the household did affect skilled maternal delivery. Correlation results revealed that distance and income indeed negatively influenced attendance of antenatal clinics and post natal clinics. Therefore, distance was also a major factor negatively influencing accessibility of skilled maternal delivery services in the rural areas of Butere District.

5.3 Conclusions

The study had the following conclusions:

- i) The study findings indicated that educational levels revealed that the respondents had attained educational level to some extent to understand the influence of skilled maternal delivery issues in Lunza Division of Butere District in Kakamega County. Therefore, education levels of respondents played a key role in determining utilization of skilled maternal delivery services.

- ii) Socio-cultural factors like traditions, cultural and religious beliefs negatively influenced skilled maternal delivery by forming negative opinions and beliefs that hindered optimum utilization of best services offered by hospitals.

iii) Income levels of respondents had a significant role on determining the use of skilled maternal delivery services in the study area; therefore, low income levels of respondents negatively influenced skilled maternal delivery services offered by hospitals in the rural areas of Butere District.

iv) Results revealed that distance and income indeed negatively influenced attendance of antenatal clinics and post natal clinics. Therefore, distance was also a major factor negatively influencing accessibility of skilled maternal delivery services in the rural areas of Butere District.

5.4 Recommendations

The following recommendations were made based on the findings and the conclusions of the study in regard to increase significantly the uptake of skilled delivery services as provided for by Health Service Providers as per the Government of Kenya within the both Ministries of Health Services and Public Health and Sanitation:

- i) Skilled maternal delivery is one of the core indicators recommended by WHO and UNFPA as a routine indicator in all maternal health programs. It is now a recommended indicator to track progress toward the MDG for reduction of maternal mortality by 2/3 by 2015. Therefore, reproductive women should be educated on its benefits.
- ii) Full investment in human resources including a cadre of skilled midwives and birth attendants who can be present before, during and after birth.

- iii) There should Educational activities such as the organization of conferences, seminars and workshops, publication of training manuals, case studies and best practices, and provision of technical and financial assistance should also be conducted.
- iv) The Government should ensure that the health systems are strengthened with emphasis on ensuring access and referral networks that do not imply major opportunity costs for women to access. There is need for high level of political commitment towards improving maternal health

5.5 Suggestions for Further Research

The following suggestions were made for further research:

- (i) A study should be conducted in Kakamega County to establish the determinants of skilled maternal delivery.
- (ii) A similar study should be carried out in health facilities to determine the influence of the role of Government in provision of health services in Kakamega County.
- (iii) A study should be conducted to establish the influence of socio-economic factors on skilled maternal delivery in Kakamega County.
- (iv) A study should be carried out to determine the role of Training Traditional Birth Attendants in health institutions in Kakamega County

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APPENDICES

APPENDIX 1: THE ROLE OF TRADITIONAL BIRTH ATTENDANTS IN RURAL COMMUNITIES.

A traditional birth attendant (TBA), also known as a traditional midwife, community midwife or lay midwife, is a pregnancy and childbirth care provider. Traditional birth attendants provide the majority of primary maternity care in many developing countries, and may function within specific communities in developed countries. Traditional midwives provide basic health care, support and advice during and after pregnancy and childbirth, based primarily on experience and knowledge acquired informally through the traditions and practices of the communities where they originated (WHO, 2010). They usually work in rural, remote and other medically underserved areas. TBAs do not receive formal education and training in health care provision, and there are no specific professional requisites such as certification or licensure (Occupational licensing of a credence good, 2011). They often learn their trade through apprenticeship or are self-taught; in many communities one of the criteria for being accepted as a TBA by clients is experience as a mother. Many traditional midwives are also herbalists, or other traditional healers. They may or may not be integrated in the formal health care system. They sometimes serve as a bridge between the community and the formal health system, and may accompany mothers to health facilities for delivery.

Since the Safe Motherhood conference in Nairobi in 1987 increasing attention has been given to the problem of maternal mortality in low-income countries. Several major international meetings, including the International Conference on Population and Development (ICPD) in Cairo in 1994, have produced commitments to reduce maternal mortality (FCI 1994). The goal of reducing maternal mortality by 75% by 2015 has been adopted as an International Development Target (IDT) (OECD 2000). The challenge now is identifying and implementing effective and affordable interventions so that progress towards the goal becomes a reality. One intervention, of which there is now many years of experience in numerous countries is that of training traditional birth attendants (TBAs) in parts of the world where skilled professional attendants are scarce.

Traditional birth attendants are often older mothers, respected in their communities. They consider themselves as private health care practitioners who respond to requests for service. The focus of their work is to assist mothers during child delivery and immediately through post-partum period. Frequently their assistance includes helping with household chores (UNPF, 1996). However, TBAs have no modern training on how to attend to pregnant mothers, including how to recognize and respond appropriately to complications of pregnancy. For this reason, the way many conduct their deliveries is risky for mothers and their babies, leading to poor health outcomes and even death (World Vision, 2011).

It is being increasingly recognized that TBAs may have a role to play in improving health outcomes in developing countries because of their access to communities and the relationships they share with mothers in local communities, especially if a mother is unable to access skilled care (MHTF, 2011). Some countries, training institutes and non-governmental agencies are initiating efforts to train TBAs in basic and emergency obstetric care, family planning, and other maternal health topics, in order to enhance the links between modern health care services and the community, and to improve the chances for better health outcomes among mothers and babies. There are some findings that targeted interventions for training TBAs can lead to reduced perinatal mortality.^[8] However, there is little evidence of large scale effectiveness of such programmes, as they are rarely integrated within a general strategy for improving maternal and child care.^[3]

TBAs are found in most communities of the world although their nature and function vary considerably. The World Health Organization definition of a TBA is 'a person who assists the mother during childbirth and who initially acquired her skills by delivering babies herself or by working with other TBAs' (Leedam, 1985). TBAs are often older mothers and are generally illiterate (UNFPA, 1997). For families, TBAs are a cheaper option than domiciliary professional midwives and will often accept payment in kind.

The workload of TBAs varies considerably from place to place and among individuals. Some TBAs may only attend family members and thus conduct only 2 or 3 deliveries a year while

others have a wider clientele and a higher number of deliveries. It is unusual for TBAs to deliver more than 20 mothers in a year (WHO, 1997).

The study carried out on Amassoma Community, in Niger Delta showed that one of the factors influencing patronage of TBAs for delivery and newborn care was that TBAs promote their culture. This agrees with Ajayi (2006) who reported that TBAs were important; the key people in the community that provide pregnancy and child care. They believed that their psychological needs were easily met; share the same language, customs, norms and beliefs with them. This is also a reason why most communities in the sub-Sahara patronize TBAs. Other factors responsible for the patronage of TBAs include attitude of health care providers in modern facilities towards their clients as affirmed by 76% respondents. This agreed with the United Nations Population Fund (UNFPA, 1996) study where mothers reported reluctance to seek care from health centers because health staffs were described as rude, impersonal and arrogant, whereas TBAs were friendly, homely and treat their patients with dignity and respect. This finding is similar to the report of Sreeramady, (2006) in Bolivia where Maternal interviewed stated that they preferred TBAs as they were afraid of Doctors, because doctors treat them badly, leave them alone while in labour, undress them in front of others and sometimes they shave and cut them (giving an episiotomy).

APPENDIX 2: TABLE SHOWING THE REGISTRATION OF ANC AND SAFE DELIVERY ADMISSIONS IN BUTERE DISTRICT HEALTH FACILITIES

Year/ Month	Registered ANC mothers	Registered safe delivery admissions	Monthly drop outs on safe delivery	Percentage drop out
January 2009	499	178	321	64
February 2009	921	340	581	63
March 2009	994	360	631	63
April 2009	806	300	506	62
May 2009	991	311	680	68
June 2009	971	349	622	68
July 2009	1112	359	753	67
August 2009	879	343	536	60
September 2009	873	438	435	49
October 2009	887	398	489	55
November 2009	851	380	471	55
December 2009	1003	356	647	64
January 2010	1046	311	735	70
February 2010	1006	251	755	75
March 2010	620	190	430	69
April 2010	556	169	387	69
May 2010	699	297	402	57
June 2010	896	356	540	60
July 2010	680	365	315	46
August 2010	675	300	377	55
September 2010	770	332	444	57
October 2010	616	192	424	68
November 2010	690	196	497	71
December 2010	663	186	477	71
January 2011	710	184	526	74
February 2011	751	161	590	70
March 2011	638	190	440	70
April 2011	551	193	358	64
May 2011	677	187	480	70
June 2011	813	165	640	79
July 2011	719	155	567	70
August 2011	748	203	545	72
September 2011	712	220	492	69
October 2011	749	202	547	73
November 2011	662	170	492	74
December 2011	651	162	489	75

APPENDIX 3: LETTER OF INTRODUCTION

UNIVERSITY OF NAIROBI
P.O BOX 30197
NAIROBI
4th July, 2012

Dear Sir/Madam,

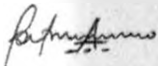
RE: FILLING IN OF THE QUESTIONNAIRE

I am a postgraduate student in the Department of extra-mural studies pursuing a Masters of Arts degree in Project Planning and Management from the University of Nairobi. I am carrying out a research on "*Determinants of Safe Delivery Practices in Lunza Division, Butere District in Kakamega County*". I therefore wish to request for your permission to be considered as one of the persons to be interviewed. If you accept my request, please answer the questions as will be asked to the best of your understanding.

I wish to assure you that the answers you provide will be treated very confidentially and used only for the purpose of this study. In case you have any additional information not sought in the questionnaire, put it down in blank spaces at the back of each page. Do not give your name.

Thank you in advance,

Yours faithfully,



Peter Yamboko Maero

**APPENDIX 4: QUESTIONNAIRE FOR REPRODUCTIVE WOMEN
"FACTORS INFLUENCING MATERNAL DELIVERY IN RURAL AREAS OF
BUTERE DISTRICT IN KAKAMEGA COUNTY"**

INTRODUCTION

I will take some time to keenly read the question slowly so that you can respond to the same. I will encourage that you remain attentive and patient till all the questions as answered. This will take like 20 – 30 minutes of your total time.

SECTION A: DEMOGRAPHIC CHARACTERISTICS

1. What is your marital status?

Married [] Not Married [] Single Mother [] Separated []

2. What is your location?

3. Please indicate your age bracket?

18-24 yrs []
25-34 yrs []
35-47 yrs []
Above 48 yrs []

4. State the number of years you have worked in the organization.

Less than one year []
One year []
Two years []
Three years []
Four or more years []

5. Please indicate your education level

Pre-primary []
Primary []
Secondary []
College []
Any Other

.....

6. Kindly indicate your religion

Christianity []

- Muslim []
- Hindu []
- Others (specify) []

1. Occupation

- (a) Housewife []
- (b) Civil servant []
- (c) Agriculture (wage labor) []
- (d) Business/trade []
- (e) Others (Specify).....

2. Have you ever (if respondent has small children)/ do you attend (if pregnant) Antenatal Clinic? If yes, how many times.....

Section B: Factors Affecting Maternal Delivery

In this section please tick (√) the most appropriate response for each of the questions in the table below. **Strongly agree (5), Agree (4), Not sure (3), Disagree (2), Strongly disagree (1)**

Q.	QUESTION	Strongly Agree (5)	Agree (4)	Not sure (3)	Disagree (2)	Strongly Disagree (1)
1.	I deliver at home because I trust TBAs					
2.	Its expensive to deliver at the hospital					
3.	TBAs are friendly and understanding during labour and delivery					
4.	Cultural and traditional beliefs do not permit me to deliver at the hospital					
5.	I do not attend Antenatal Clinics and Post natal clinic regularly because of the distance					
6.	Health services are offered free of charge					

Q.	QUESTION	Strongly Agree (5)	Agree (4)	Not sure (3)	Disagree (2)	Strongly Disagree (1)
7.	Many expectant mothers prefer delivering at the hospitals than at home					
8.	Women are not expected to mix freely, therefore I prefer to deliver at home than at the hospital					
9.	People regard women as weak if they delivered at the hospital					
10.	Discomfort and other complications were noticed during ANC/PNC					
11.	Women are put off by well-ventilated delivery rooms when their own understanding required warm conditions for the delivery to progress					
14.	Households with higher income access and utilize health services more than those who have lower income					
15.	Fees charged at the health facilities can lead to delays in care seeking, reduction in attendance at facilities					
16.	Educational level of the mother can affect maternal place of delivery					

Q.	QUESTION	Strongly Agree (5)	Agree (4)	Not sure (3)	Disagree (2)	Strongly Disagree (1)
17.	Culture, traditions and religion of the household can affect maternal delivery					
18.	Distance and income level of the household do not affect maternal delivery					

19. In this area, where do expectant mothers prefer to deliver from?

.....

.....

.....

20. What are some of the things that could make a mother to deliver from :

A) Home?

.....

.....

B) Hospital?

.....

.....

APPENDIX 5: QUESTIONNAIRE FOR HEALTH ATTENDANTS

“Factors Influencing Maternal Delivery in Rural Areas of Butere District in Kakamega County”

INTRODUCTION

This study is aimed at documenting the knowledge cap that exist to explain why we have mothers still deliver in the hands of unskilled health personnel. We explore the government interventions in the areas of maternal child health for better understanding of the government initiative, subsidies and procedures that could be in place or would be recommended in future to fully address the issue. Your response to the following questions will therefore be handy in the study.

Please tick (√) within the brackets provided to indicate your preferred choice and in case there are no choices, answer as appropriate as possible. Please do not write your name in this questionnaire.

SECTION A: DEMOGRAPHIC CHARACTERISTICS

1. Please state your gender

Male [] Female []

2. Please indicate your age bracket?

18-24 yrs []
25-34 yrs []
35-47 yrs []
Above 48 yrs []

3. State the number of years you have worked in the organization.

Less than one year []
One year []
Two years []
Three years []
Four or more years []

4. Please indicate your education level

- Primary []
- Secondary []
- Diploma []
- Graduate []
- Anyother

5. Religion

- Christianity []
- Muslim []
- Hindu []
- Others (specify) []

6. Do women attend Antenatal and Postnatal clinics regularly in your health facility?.....

...

7. What is the mode of delivery at your health facility?
.....

Section B: Factors Affecting Maternal Delivery

In this section please tick (✓) the most appropriate response for each of the questions in the table below. **Strongly agree (5), Agree (4), Not sure (3), Disagree (2), Strongly disagree (1)**

Q.	QUESTION	Strongly Agree (5)	Agree (4)	Not sure (3)	Disagree (2)	Strongly Disagree (1)
1.	Many women prefer to deliver at home than at hospitals					
2.	Its expensive to deliver at the hospital than at home					
3.	Many maternal and neonatal cases are saved at hospital delivery					

Q	QUESTION	Strongly Agree (5)	Agree (4)	Not sure (3)	Disagree (2)	Strongly Disagree (1)
4.	Cultural and traditional beliefs do not permit me to deliver at the hospital					
5.	Women do not attend Antenatal and Post natal clinics regularly because of the distance, hospitals are not easily accessible					
6.	Health services are cost effective					
7.	Many expectant mothers who attend ANC and PNC are monitored and complications are easily attended to.					
8.	Women are not expected to mix freely, therefore prefer to deliver at home than at the hospital					
9.	People regard women as weak if they delivered at the hospital					
10.	Distance and costs hinder women accessing health services					
11.	Women are put off by well-ventilated delivery rooms when their own understanding required warm conditions for the delivery to progress					

Q.	QUESTION	Strongly Agree (5)	Agree (4)	Not Sure (3)	Disagree (2)	Strongly Disagree (1)
14.	Households with higher income access and utilize health services more than those who have lower income					
15.	Fees charged at the health facilities can lead to delays in care seeking, reduction in attendance at facilities					
16.	Educational level of the mother can affect maternal place of delivery					
17.	Culture, traditions and religion of the household can affect maternal delivery					
18.	Distance and income level of the household do not affect maternal delivery					

19. Do expectant mothers prefer to deliver at home or hospital?

.....

20. What are some of the factors that can affect a mothers' delivery place (home/hospital)?

.....

.....
.....

(b) What is the government doing to reduce maternal and neonatal deaths?

.....
.....
.....
.....
.....

APPENDIX 6. LETTER OF AUTHORIZATION BY THE NATIONAL COUNCIL
FOR SCIENCE AND TECHNOLOGY

REPUBLIC OF KENYA



NATIONAL COUNCIL FOR SCIENCE AND TECHNOLOGY

Telephone: 254-020-2213471, 2241349
254-020-310571, 2213123, 2219470
Fax: 254-020-318245, 318249
When replying please quote
secretary@ncst.go.ke

P.O. Box 30623-00100
NAIROBI-KENYA
Website: www.ncst.go.ke

Our Ref: **NCST/RCD/12A/012/122**

Date: **11th July 2012**

Peter Yamboko Macro
University of Nairobi
P.O.Box 30197-00100
Nairobi.

RE: RESEARCH AUTHORIZATION

Following your application for authority to carry out research on "*Determinants of safe delivery behaviors among mothers in Lunza Division of Butere District*," I am pleased to inform you that you have been authorized to undertake research in Butere District for a period ending 31st August, 2012.

You are advised to report to the District Commissioner, the District Education Officer and the District Medical Officer of Health, Butere District before embarking on the research project.

On completion of the research, you are expected to submit two hard copies and one soft copy in pdf of the research report/thesis to our office.


A handwritten signature in black ink, appearing to read 'M. K. Rugutt'.

DR. M. K. RUGUTT, PhD, HSC.
DEPUTY COUNCIL SECRETARY

Copy to:

The District Commissioner
The District Education Officer
The District Medical Officer of Health
Butere District.

APPENDIX 7. RESEARCH AUTHORIZATION CARD BY THE NATIONAL COUNCIL FOR SCIENCE AND TECHNOLOGY

PAGE 2	PAGE 3
<p>THIS IS TO CERTIFY THAT: Prof./Dr./Mr./Mrs./Miss/Institution Peter Yamboko Maero of (Address) University of Nairobi P.O.Box 30197-00100, Nairobi. has been permitted to conduct research in</p>	<p>Research Permit No. NCST/RCD/12A/012/122 Date of Issue 11th July, 2012 Fee received KSH. 1,000</p>
<p>Location Butere District Western Province</p>	
<p>on the topic: Determinants of safe delivery behaviors among mothers in Lunza Division of Butere District.</p>	<p><i>(Signature)</i> Applicant's Signature</p>
<p>for a period ending: 31st August, 2012.</p>	<p><i>(Signature)</i> Secretary National Council for Science & Technology</p>

APPENDIX 8. RECOMMENDATION LETTER BY THE BUTERE DISTRICT
EDUCATION OFFICER

REPUBLIC OF KENYA



MINISTRY OF EDUCATION

Telephone: Butere 020-2634996
When replying please quote Our

Our Ref No: **BTR/ED/GA/34/151**
Your reference:

DISTRICT EDUCATION OFFICE
BUTERE DISTRICT
P.O. BOX 295, BUTERE

DATE 19th JULY, 2012

TO WHOM IT MAY CONCERN

**RE : RESEARCH IN SPECIAL STUDY PAPER AUTHORIZATION -
PETER YAMBOKO MAERO.**

This is to certify that the bearer stated above is undertaking a research on behalf of determinants of safe delivery behaviours among mothers in Lunza Division of Butere District for a period ending 31st August 2012.

Kindly accord him the necessary assistance in order to accomplish the assignment.

Thank you in advance

A handwritten signature in black ink, appearing to read 'Nyphry'.

For: DISTRICT EDUCATION OFFICER
BUTERE DISTRICT

NYPHRY MANGWANA
FOR : DISTRICT EDUCATION OFFICER
BUTERE DISTRICT