FACTORs AFFECTING ACCESS TO MATERIAL HEALTH CARE IN KENYA: A CASE STUDY OF MACHAKOS COUNTY.

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A RESEARCH PROJECT SUBMITTED TO THE SCHOOL OF MANAGEMENT AND LEADERSHIP IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE AWARD OF THE BACHELORS DEGREE IN DEVELOPMENT STUDIES OF THE MANAGEMENT UNIVERSITY OF AFRICA

SEPTEMBER, 2016
DECLARATION

This project is my original work and that it has not been presented in any other university or institution for academic credit.

Signature........................................ Date...........................................

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BDS/6/00032/1/2014

SUPERVISOR:

This project has been submitted for examination with my approval as the appointed University Supervisor.

Signature: ------------------------------------ Date: ------------------------------------

Ms. Dorcas Kibachio

The Management University of Africa
DEDICATION

With tremendous love, I dedicate this work to my entire family for their financial, moral, spiritual, and continued support they have rendered to me towards my education. May the Almighty God richly bless them, I love you all
ACKNOWLEDGEMENT

First and foremost, I am very grateful to the Almighty God for seeing me through my undergraduate studies and indeed through this research project. Secondly, I want to express my sincere gratitude to Ms. Dorcas Kibachio for his dedicated supervision and support right from research project conceptualization to completion. I am also highly indebted to my dear parents, guardians, and relatives for instilling in me the value of education and for their moral support. Further, I do acknowledge and express my sincere gratitude to my colleagues, and all those people who assisted me in one way or another, I say thank you and God bless you
ABSTRACT

The purpose of this study was to establish the factors affecting access to material health care in Kenya with reference to Machakos County as case study, there are many factors that influence health and health care seeking. Although many of these factors are similar across populations, exactly how they interact and influence the actions of people is often unique to a population in the context of the environment they live in. The study will add to the body of literature and researches shall be able to use this research study as a reference to what they will do in future not forgetting that it will be used as a source of literature review to their studies. This study adopted a descriptive research design. The populations of this study were the staff of Machakos County. Stratified Random Sampling method was used to select a sample of 300 respondents. The study used both primary and secondary data. Primary data was collected with semi-structured questionnaire. The questionnaires were personally administered by the researcher to the respondents. Secondary data was collected from other already existing sources and previous research. This will be through reading relevant literature available in the library, various documents, publications and reports including, journals, and magazines. Descriptive statistics such as mean, standard deviation and frequency distribution will be used to analyses the data. Data presentation was done by the use of charts, graphs, percentages and frequency tables. Inferential statistics were used in drawing conclusions. Maternal health services need to continuously sensitize to the community so that the number of pregnant mothers delivered in health facility increased to attain the National target and reduced maternal morbidity and mortality. Based on these findings, increase the utilization of health facility for delivery by improving education among girls, increase accessibility to health facility and promote early booking and regular visits to ANC by women have been recommended.
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# ABBREVIATIONS AND ACRONYMS

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<thead>
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<tr>
<td>AIDS</td>
<td>Acquired Immune Deficiency Syndrome</td>
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<tr>
<td>ANC</td>
<td>Antenatal Clinic</td>
</tr>
<tr>
<td>HF</td>
<td>Health Facility</td>
</tr>
<tr>
<td>HIV</td>
<td>Human Immune Deficiency Virus</td>
</tr>
<tr>
<td>IMR</td>
<td>Infant Mortality Rate</td>
</tr>
<tr>
<td>MMR</td>
<td>Maternal Mortality Rate</td>
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<tr>
<td>TBAs</td>
<td>Traditional Birth Attendants</td>
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<tr>
<td>UNDP</td>
<td>United Nations Development Program</td>
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<tr>
<td>UNFPA</td>
<td>United Nations Population Fund</td>
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<td>UNICEF</td>
<td>United Nations Children’s Funds</td>
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<td>WHO</td>
<td>World Health Organization</td>
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DEFINITION OF TERMS

Maternal Health: Refers to health of a woman during delivery, childbirth and postpartum period.

Utilization: Means the extent to which a given group of people uses particular service in a specific period of time.

Recent Delivered Women: In this study means women who had a deliver within the period of 2 years during the period of data collection?

Maternal Death: Is the death of a woman while pregnant or within 42 days of termination of pregnancy, irrespective of the duration and site of the pregnancy, from any cause related to or aggravated by the pregnancy or its management but not from accidental or incidental causes.

Skilled Attendants: Refer to people with midwifery skills (midwives, doctors and nurses with additional midwifery education) who have been trained to proficiency in the skills necessary to manage normal deliveries and diagnose, manage or refer obstetric complications’ (WHO).
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CHAPTER ONE
INTRODUCTION

1.0 Introduction
The Chapter presents background of the study which explores factors affecting access to material health care in Kenya with reference to Machakos County. Moreover, the Chapter outlines the statement of problem, research objectives, and research questions, significance of the study and the scope of study.

1.1 Background of the Study

It is estimated that 150,000 African women die each year from causes related to pregnancy and childbearing, and that the lifetime risk of dying from maternal causes for African women is in the order of one in twenty five. In Kenya, an estimated 7,700 women die each year as a result of pregnancy-related causes (Republic of Kenya, 2010). Maternal mortality and morbidity can be reduced through access to appropriate health care during pregnancy and delivery however in sub-Saharan Africa women continue to face limited access to such services (Essendie et.al, 2011). In order to reduce the risk of maternal and infant morbidity and mortality, especially in places where the general socio-economic status is low, access and utilization of the obstetric services is an effective means (Ochako, et.al, 2011). Lack of access to appropriate obstetric care, especially during labor, compounds the risk of adverse fetal outcomes such as death or disability (Lule, et.al, 2005). Improving maternal and infant health continues to be a major challenge such that a woman living in sub-Saharan Africa has a 1 in 31 chance of dying during pregnancy or childbirth, as compared to 1 in 4,300 in a high-income country (Zereet, 2011).

Approximately 1000 women die each day worldwide from pregnancy related causes, 99% of them in developing countries and more than 50% in sub-Saharan Africa (WHO, 2008) with most deaths concentrated around the time of delivery. An estimated 2.65 million stillbirths occurred in 2008 worldwide while 3 million new-borns do not survive the first month of life worldwide annually (WHO, 2010) . Skilled assistance during childbirth, readily accessible appropriate care in case of complications and effective postnatal care within the first 24 hours of delivery are strategies that can improve perinatal outcomes for mothers and babies (Filippi, et al., 2006). A key strategy to reducing maternal and neonatal deaths is the ‘health-centre intrapartum care strategy’, where qualified skilled workers manage labour, effectively manage complications and
are supported with effective referral systems for specialized care when needed, and an effective postnatal care package (Filippi, et al., 2006).

In developing countries, less than 50% of deliveries occur in health facilities therefore skilled birth assistance is not utilized in such deliveries. Access to and use of health services is low in Africa, and this is reflected in the poor maternal health indicators (Kayongo et al., 2006). It still has the highest proportion of under-five deaths, with 1 in 91 children dying before their fifth birthday (UNDP, 2009).

A significant proportion of mothers in developing countries still deliver at home unattended by skilled health workers (Koblinsky, Matthews, & Hussein, 2006). In diverse contexts, individual factors including maternal age, parity, education and marital status, household factors including family size, household wealth, and community factors including socioeconomic status, community health infrastructure, region, rural/urban residence, available health facilities, and distance to health facilities determine place of delivery and these factors interact in diverse ways in each context to determine place of delivery (Gabrysch, Cousens, Cox, & Campbell, 2011). Van Eijk (2007) looked at antenatal care and delivery care among women in Western Kenya and demonstrated that older women, high parity, lower socioeconomic status, low education levels and more than an hour walking distance were associated with delivery outside health facilities (van Eijk, et al., 2007).

Studying poor urban dwellers in Nairobi, Fotso, Ezeh, and Essendi, (2009) found from bivariate analyses that wealth, education, parity, place of residence were associated with place of delivery (Fotso, Ezeh, & Essendi, 2009). Ochako, Fotso, Ikamari, and Khasakhala (2003) had previously demonstrated that these factors together with marital status and age at birth of last child determined use and timing of first Antenatal Care (ANC) visit and type of delivery (Ochako, Fotso, Ikamari, & Khasakhala, 2003). There are also wide variations in the reasons women give for delivering at home between and within countries. For Kenya, recent studies looking at the degree of effect of such factors are lacking.

In Kenya, maternal mortality rate has not reduced over recent years, and may even have increased from an estimated 380/100000 live births in 1990 to 530/100000 live births in 2008 (WHO, 2008). Although a number of factors may have contributed to this, including improved
identification of maternal deaths, health facility delivery remained low at 44% and 42.6% in the early 1990s and in 2008 respectively (Kenya National Bureau of Statistics, 2010). Recent evidence on determinants of place of delivery in Kenyan utilizing a nationally representative data and controlling for all factors is lacking, yet understanding the influences on place of delivery in Kenya is crucial to identifying key priority areas for policy and practice to increase the prevalence of skilled assisted deliveries. Data from the 2008/2009 Kenya Demographic and Health Survey (KDHS) and linked them with a 2008 Kenyan Health Facility Database, that provides Global Positioning System (GPS) coordinates for distance analysis, to describe the factors that influence where women deliver in Kenya, and the reasons that women give for delivering at home.

1.2 Statement of the Problem

Delivery in health facilities is still challenging in developing countries in which higher number of women attend antenatal clinic but about half of them they deliver home without assistance of skilled professional low delivery in health facilities as a result of many factors leads to high morbidity and maternal mortality therefore proper interventions must be taken to increase delivery in health facilities. Home delivery if not conducted by professionals increase the risk of transmission of HIV/AIDS to relatives or traditional birth attendants who conduct deliveries without protective equipment’s.

Several studies have been done worldwide including Kenya regarding factors affecting delivery in health facilities, The factors that have been studied include Socio demographic factors, socio economic factors, availability of health services, accessibility, behavior and attitudes of health care providers and socio cultural issues.(Mrisho et al 2007, Manuela D et al 2009, Bezant E 2008, Shankwaya S 2008, Magoma M 2010, Moore 2011). It is argued that differential access to health care facilities between the rural-urban areas is an important factor for lower maternal healthcare services particularly for institutions delivery assistance by health personnel in rural areas.

In Kenya about fifty percent of women deliver in health facilities with marked variation among regions in rural areas major perceived barriers to women access to health care services are lack
of money, distance to health facilities, Not willing to go alone, while some women cite obtaining permission as big problem (WHO, 2010).

No study has been done in Machakos region to explain why they have low prevalence of delivery in health facilities. This study is therefore meant to find out factors that hinder delivery in health facilities’ and knowing these factors will help to improve delivery in health facilities at Machakos district which is situated in Machakos County.

1.3 Objectives of the Study
The main objective of this study was to determine factors affecting access to material health care in Kenya with reference to Machakos County as reference case.

1.3.1 Specific Objectives
i. To determine the extent to which literacy affect access to maternal health in Machakos County.
ii. To find out if level of education affect access to maternal health in Machakos County.
iii. To establish how regular income affect access to maternal health in Machakos County.
iv. To find out if distance to facility affect access to maternal health in Machakos County.

1.4. Research Questions
i. Does literacy level affect access to maternal health in Machakos County?
ii. Does level of education affect access to maternal health in Machakos County?
iii. To what extent does regular income affect access to maternal health in Machakos County?
iv. To what extent does distance to facility affect access to maternal health in Machakos County?
1.5 Significance of the Study

The study will be of great importance to the following:

1.5.1 County Government of Machakos:

The research will assist the County government of Machakos when formulating policies on maternal health care so as to assist them build holistic policies that will include all stakeholders in the county to eradicate child mortality.

1.5.2 Government

Government will understand factors that hinder delivery in health facilities are particularly important in order to narrow the existing gaps among regions and improve quality of health service delivered to pregnant mothers to reduce maternal morbidity, mortality and disabilities that are related to pregnancy and childbirth.

1.5.3 Researchers

The study is of much significance to research institutions, students and other researchers who would get the findings useful in their investigation in the area of study. To academicians and scholars, the findings of this study will be useful to forming the basis for future research on the subject, providing a critical examination of the field.

1.6 Scope of the Study

This study was confined to Machakos County in Machakos County. The researcher believes that gave enough ground to generalize the findings and provided adequate population and sample for the study and therefore gave reliable results and findings. However, the study was carried out during the month of March 2016 to June 2016.

1.7 Chapter Summary

This chapter has explored the background basis upon which this study was carried out based on the topic of study. By identifying the objectives of the study, research questions which are the fundamental variables that guided the study. This chapter therefore is to guide as the principle upon which literature is reviewed, research carried out and analysis made.
CHAPTER TWO
LITERATURE REVIEW

2.0 Introductions
This chapter reviews the literature from other researchers who have studied in the same field on access to material health care. According to Mugenda and Mugenda (2003), review of literature involves the systematic identification, location, and analysis of documents containing information related to the research problem being investigated. Moreover, literature review helps determine new approaches and stimulates new ideas. The chapter covers; theories related to the concept of material health care. The chapter further presents theoretical orientation, empirical literature, the conceptual framework of the study and operations of variables.

2.1 Theoretical Literature Review

2.1.1 The Multinomial Logit Model

In a multinomial logit model, an individual is assumed to know all the provider-specific attributes and to choose the alternative that maximizes his utility. The observed choice is determined by the differences in utility across alternatives, rather than in levels of utility. This implies that the visit decision involves a comparison of the utility obtained from each option. A MNL model is specified as: \( y_i = j = e^{\beta_j V_i} \Sigma (e^{\beta_j V_i}) j = 1 \cdots j = 1 \cdots \). Because \( \Sigma j = 1 y_i = 1 \), a restriction is needed to ensure model identification and the usual restriction is that \( \beta 1 = 0 \). While in a conditional logit values of Xs are used as deviations from their means in a multinomial logit deviations in coefficients are used to compute marginal benefits expected at alternative source of treatment. The facility with the highest benefit is chosen where the utility comparison is expressed as \( V_{ij} = (V_{ij} > V_{ik}) \) for all \( j \neq k \). Where, \( V_{ij} \) is the perceived benefit of visit to facility \( j \) by individual \( i \) while \( V_{ik} \) is the benefit of visit to facility \( k \) by the same individual \( i \). \( V_{ij} \) are the benefits of medical treatment that individual \( i \) expects at facility \( j \) (\( j = 1 \cdots J \)).

The random utility model associated with a visit to a health provider under the above specification and which is estimated is
Vij = V(Xi, Zj, Ii) + e.j

Where,

Xs are individual specific variables like sex, age, occupation, education, assets, household size, and trust; Zs are the facility attributes like distance, quality and user fees while I is the information index that individual i associates with health facilities.

2.1.2 Feminist Theory

Feminist theory shares a dynamic affiliation with political ecologies of health as many feminists argue the goals of both perspectives are mutually reinforcing and ultimately involve the development of worldviews and practices based not on domination but on uncovering equality and parity within society (Warren, 1996). Radford (1975) argues that there can be no liberation for women or no solution to the ecological crisis within a society that continues a fundamental model of domination. The demands of the women’s movements must be united with those of the ecological movement to envision a radical reshaping of the basic socioeconomic relations and the underlying values of this [modern industrial] society (Ruether, 1975).

The theoretical basis for this work is rooted in the feminist movement which signifies a shift from a purely demographic/epidemiological approach to one based on gender equality (Wang, 2010). This focus on gender equality is used to understand variables of women’s reproductive health and argues that women’s reproductive rights are intrinsically important in and of themselves, exclusive from any demographic or population health goals (Wang, 2010). Women have the right to self-determination regarding reproductive health and the state is obliged to provide women with the social, economic, and political means of enabling women to achieve their individual choices (Wang, 2010). Additionally, aligned with the PEH model, this approach recognizes that these decisions are not strictly medical, and cannot be removed from the social, political, and economic realities of women and their access and control to achieve reproductive self-determination (Wang, 2010).

Feminist theory, of which the Gender Equality Approach is rooted, challenges the prevailing expectations of women’s reality, and strives to expose and challenge the flawed assumptions of women which are pervasive among disciplines (Cook, 1993). This has profoundly impacted the perception of women and positively challenged the assumed normative roles of females in
society. In order to challenge these societal constructions of females in society, international human rights law must be accountable to provide effective, preventative, and curative measures to protect women’s reproductive health and to provide women the capacity for reproductive self-determination (Cook, 1993). The increased awareness surrounding women’s rights and wellbeing has ignited much international development and partnerships which address a variety of human rights issues and concerns. In this sense, the “Gender Equality Approach” to maternal health issues is a part of a larger international trend towards “Rights Based” health care. The UN General Assembly adopted the Convention on the Elimination of All Forms of Discrimination against Women (CEDAW) in 1979 and has been commonly associated as the international bill of rights for women, “condemning discrimination (Article 2, CEDAW, United Nations Entity for Gender Equality and the Empowerment of Women). This increased attention towards a “Rights Based” health approach has provided greater attention towards measures to eliminate discrimination against women in the field of health care to ensure equality in access to health care services.

The goal of CEDAW is to reduce maternal mortality and morbidity, enhance the dignity of women, their reproductive determination (Cook, 1993) and address the disadvantaged position of women. Greater attention towards Rights Based health needs has generated international recognition towards equality for both women and men in access to civil and political civil liberties, not only including the right to marry and found a family, but the economic, social, and cultural rights, such as the right to health care (Cook, 1993). The Convention recognizes that women are not only subject of specific inequalities but are also subject to pervasive, ubiquitous forms of oppression that are bound to economic, social and cultural rights. Avoidable death in pregnancy or childbirth is the most obvious violated human rights abuse which abuses a women’s right to life itself. A woman’s right to life entitles her access to basic reproductive health services, and laws impeding such access violate international human rights provisions. Women’s right to life must include not only her medical condition, but the threat which comes from her membership in a group at high risk of maternal mortality or morbidity due to pregnancy (Cook, 1993).
2.1.3 The Health Belief Theory

The theory contains several primary concepts that predict why people will take action to prevent, to screen for, or to control illness conditions; these include susceptibility, seriousness, benefits and barriers to behaviour and cues to action (Glanz et al., 2008). The HBM suggests that preventive action taken by an individual to avoid a disease is due to the perception that they are susceptible and the occurrence of the disease would have some severe personal implications (Cockerham, 2012). Thus, women may only seek maternal health care services if they deem that the pregnancy they are carrying may have a likelihood of affecting them. HBM makes an assumption that by taking a particular action, susceptibility (likelihood) would be reduced. However, the perception of the threat posed by disease is affected by modifying factors which are demographic, socio-psychological and structural variables that can influence both perception and the corresponding cues necessary to instigate action (Cockerham, 2012).

Action cues are required because while an individual may perceive that a given action will be effective in reducing the threat of disease, the action may not be taken if it is further defined as too expensive, too unpleasant or painful, too inconvenient, or perhaps too traumatic (Cockerham, 2012). The women may seek for health care because by so doing they feel that they have reduced the likelihood of them experiencing difficulties during the entire period of pregnancy. The likelihood of action involves a weighing of the perceived benefits to action contrasted to the perceived barriers. Therefore it is believed that a stimulus in the form of an action cue is required to “trigger” the appropriate behaviour. Such a stimulus could either be internal (perception of bodily states) or external (interpersonal interaction, mass media communication, or personal knowledge of someone affected by the health problem) (Cockerham, 2012).

Women may also decide to take or not to take action depending on the benefits they will get as opposed to the barriers they will experience. The model assumes that if a person regards himself/herself susceptible to a condition, believes that the condition would have potentially serious consequences, believes that a course of action available to them would be beneficial in reducing either their susceptibility to or severity of the condition, and believes the anticipated benefits of taking action 26 outweigh the barriers to (or costs of) action, one is likely to take action he or she believes will reduce their risks (Glanz et al., 2008). Additionally, it is important
to note that health seeking behaviour has been observed to be based upon the value of the perceived outcome (avoidance of personal vulnerability) and the expectation that preventive action would result in that outcome (Cockerham, 2012). Finally, the theoretical framework informs this particular study on the basis of the five constructs that make up the HBM. Thus, women may only utilize maternal health care services if they feel that the pregnancy they are carrying may have a likelihood of affecting their wellbeing and that by so doing they feel that they will reduce the likelihood of them experiencing difficulties during the entire period of pregnancy. Women may also decide to take or not to take action depending on the benefits they will get as opposed to the barriers they will experience.

2.2 Empirical Literature Review

Current literature recognizes the importance of the processes which may determine our health and “the interconnected nature of people’s complex lives and contextualizes biological health in its social, economic, cultural and psychological dimensions”. The ‘life span’ approach acknowledges human health and illness as an accumulation of conditions that begin early in life and sometimes even before birth, and recognizes these as dynamic and on a continuum of risk over the entire course of a lifetime (Institute of Medicine, 2006). Health, as such, is the sum of genetic determinism and a combination of physiological, psychological and environmental factors. And it is a statistical fact that people in less affluent countries experience higher rates of death and disease than those in richer countries (World Bank, 2009).

With the increasing emphasis on globalization, demographic and epidemiologic change and more accessible technologies, developing countries are experiencing new dimensions of health and ill-health (Andrews, 2001; Correa-Rotter et al., 2004; Institute of Medicine, 2006). These dimensions are reflected in social, cultural and environmental change and the experience of the kinds of chronic health problems that come as a result of this change (Andrews, 2001; Bicknell & Parks, 2009).
2.2.1 Literacy

Mother’s literacy level is also an important determinant of place of delivery as those with non-formal education tend to deliver at home, and those educated tend to give birth’s in health facilities. Study conducted in Nepal show that there is a relationship between education and place of deliver as those with poor education are more like to deliver at home compared to educated women who tends to deliver at health facilities (Belam, 2006). Another study from Cambodia noted that women who attend at least seven years of school are six times more likely to deliver in health facilities compared to those who did not attended (Yanagasawa, 2006).

It has also been suggested that there may be community effects of education, with more highly educated communities organizing themselves and demanding better public services and higher position for health on the political agenda (Grosse, 2009). In contrast, better awareness of poor quality in many facilities and higher confidence in self-care may delay care seeking among educated women. Education is likely to be associated with wealth and even residence (Bolam, 2006). The age and parity are also determinants for the place of delivery, Study done in Zambia shows that 55% of women delivery in health facilities is younger and out of that 65% are those having the first baby. Women with 35 years and above with more than five children tend to deliver home because they consider themselves as having experience so they don’t need assistance from skilled workers. This is evidenced by study conducted by Mrisho in southern part of Tanzania and study conducted in Nepal both documented that multi para and older women tend to deliver home than young women. These young women they have no experience in child births and they tend to fear complications related to pregnancy and child birth (Shankwaya, 2008; Mrisho, 2007).

Several literatures shows that level of education were strongly associated with delivery in health facility where by more educated women tends to deliver in health facility compared to non-educated, therefore increased enrolment of girls to secondary education and above could help to improve delivery in health facility. Inequities in a country can often be gauged by the health of populations, particularly the most vulnerable groups. As a determinant of health care seeking behaviour, literacy is intimately tied to gender, education level, and regular income and is
considered an indicator of socio-economic status (Bharmal, 2010; Sudha et al., 2003). Male literacy levels are consistently higher than female, particularly in developing countries (Institute for Statistics Literacy and Non Formal Education Sector, 2012). It is currently estimated that female literacy has increased from 54% of the male rate to 74% (World Health Organization, 2008). Literacy is used as an indicator for dimensions of poverty and female literacy and education levels are often used by the World Bank and United Nations organizations among others to assess the mortality rates of children less than five years of age (Moore et al., 2003; Shimouchi, Ozasa, & Hayashi, 1994).

Some of the direct effects of low literacy levels are for instance, the inability to access health information presented in print form, to read labels and instructions for medications, or even safety advice. Low levels of literacy are not just a phenomenon of developing countries. A Canadian study found low literacy skills correlated with low quality housing, living in unsafe areas with higher rates of pollution and environmental hazards, and that those with low levels of literacy were less likely to request care early on in their illness (Perrin, 1998).

In recognition of the effect of low literacy levels on health, the term health literacy has become a way of describing the particular influence literacy has on the health status of individuals and families. Newer fields of study about health literacy seek to define the causal pathways and social constructs which affect the utilization of health services and overall health status (Lee et al., 2004). While even at the macro level, improvements in the level of literacy are seen to increase media participation and improve economic and political developments (Sonaike, 1988).

2.2.1.1 Education

A key socio-cultural determinant of health is education (Kickbusch, 2001). Again it is difficult to separate education from literacy and other indicators that are regularly used as convenient markers of socio-economic status. Available data in all countries points to the relationship between the risk of disease and lower levels of education (Mackenbach & Howden-Chapman, 2003; Marmot, 2009). Occurrence of illness is significantly lower in groups with higher education, especially among men, but there was no difference between occupational and economic groups in Vietnam (Giang & Allebeck, 2003). Buor (2003) finds that in Ghana “…higher education resulted in higher utilization…” of health facilities (p. 308). While in Africa
generally, While there has been an increase in formal education levels in sub-Saharan Africa in recent years (Adamchak & Ntseane, 1992), levels of education are generally lower for women than men in developing countries (United Nations Development Programme, 2001), as they are also for minority groups in developed countries (Cooper, 2012), immediately creating health equity issues.

Education is tied to gender, culture, social status, occupation and economic wellbeing. It is difficult to make any definitive statements about education without including socio-economic status. The World Bank views the two as interlinked and regard the “economic and social benefits of education for girls and women as a form of human capital investment” (cited in Moss, 2012, p. 650) as well as poverty reduction, specifically in Africa (Nduru, 2009). Secondary or higher education consistently correlates with modern family planning practices and contraceptive use (Magadi & Curtis, 2003; Nash Ojanuga & Gilbert, 1992; National Council for Population and Development (NCPD), Central Bureau of Statistics (CBS), Office of the Vice President and Ministry of Planning and National Development (Kenya), & Macro International Inc., 2009; No author, 1994; Sarkar, 1995; Tuoane, Diamond, & Madise, n.d.), and negotiation of these with a partner (Greig & Koopman, 2003; Lagarde et al., 2001) may be the single most important factor to influence women’s health (Heiberg, 1996). According to the National Council for Population and Development in Kenya “one of the most important determinants of a woman’s social and economic status is her education level” (2009, p.20). It is evident that education level and socioeconomic status are related, as is gender, when examining health inequalities in minority groups that live in developed countries with access to a national health service (Cooper, 2012). Therefore it is not surprising to find that education and socio-economic status directly affect women’s access to healthcare, specifically in developing countries (Soucat et al., 1997) and that education and economic status of the household are positively related with choosing to act and seek health care when ill in Zambia (Hjortsberg, 2003), even a women’s perception of her social status and increased self-esteem is positively related to her education level (Fallon, 2009). Level of education is viewed as important in the creation and maintenance of health inequalities through socio-economic differences in the labour market (Cooper, 2012).
2.2.2 Regular Income

Income is used in this study as a determinant for health care seeking behaviour, and has been used in previous studies to determine not just health seeking behaviour, but risk factors associated with health outcomes (Colin, Adair, & Popkin, 2004), barriers to seeking health care (Taffa & Chepkeno, 2005), types of treatment (Nyamongo, 2012) and delays in service use (Johansson, Long, Diwan, & Winkvist, 2010) for example. Income is one of the factors used as a measure of socio-economic status and it is socio-economic status that is often used as an indicator of health. There is a large body of literature regarding health status and health outcomes as a result of socio-economic status. These studies are measured in many ways often using indicators that are convenient such as education achieved, literacy level, and employment.

According to Buor (2003) the ability to pay determines the use of health services. A lack of finances seriously affects health care seeking (Taffa & Chepkeno, 2005), so although the willingness to pay for services may be there (Foreit & Foreit, 2003), the means to do so, may not. Not surprisingly low income has been found to be a barrier to health seeking and can create an overwhelming financial burden for some (Gotsadze, Bennet, Ranson, & Gzirishvili, 2005).

Income, as a limiting factor to seeking health care (Atkinson et al., 2009; Onwujeke & Uzochukwu, 2005; Peterson et al., 2004; Soucat et al., 1997), is not just relative to the cost of the actual treatment (Nyamongo, 2012). It is also the cost of physically accessing treatment (Buor, 2003), or the tradeoff between loss of income as a result of being ill versus seeking treatment (Nyamongo, 2012). The major reason given for self-treatment in a study in Zambia was that people did not have enough money to seek health care and this included not only the cost of the treatment from hospital outpatient departments, but the fact that people had to travel there one time to make the appointment and return for the actual appointment at another time (Atkinson et al., 2009) hence incurring the costs of transport and loss of income.

In terms of the actual costs of health care services, one of the reasons there is such controversy over the introduction of cost-sharing and cost-recovery programs in developing countries is the affect these programs have on the lower income groups. A bibliographic review by Oliveira-Cruz (2003) showed that this method merely brought further disadvantage to the more vulnerable
groups. Other arguments regarding costrecovery by charging for services state it only negatively impacts on the more vulnerable groups (Sepehri & Chernomas, 2001) and assumes people know enough about their needs to assess if a medical or health condition is serious. Proponents of cost recovery schemes use the argument that the cost to more vulnerable groups would be offset by the quality of the service provided (Soucat et al., 1997). However, in Bulgaria, Pavlov, Groot and van Merode (2003) found that although clinical quality was the most important consideration for use of health care facilities, the importance of size of payment was inversely related to those with progressively lower education and lower income. This finding is not unexpected and similar pragmatism is found in multiple studies, particularly in Africa of shopping around for health care services (de-Graft Aikins, 2005) and balancing cost with quality and severity of illness (Taffa & Chepngen, 2005).

In general, those of a lower income bracket were more likely to experience ill health and to battle health inequalities. Correlations exist in the data between low levels of education and income and levels of health, where individuals are more exposed over a lifetime to factors that may promote ill-health (Mackenbach & Howden-Chapman, 2003), for example geographic challenges or losing more person-ill days (Onwujeke & Uzochukwu, 2005). There is a range of literature that confirms women being in inferior jobs with lower wages in developed and underdeveloped countries and how this greater material deprivation stresses health inequalities between men and women (Cooper, 2012).

2.2.3 Access to Facility
This determinant is concerned with which type of health facility is more available to prospective users. This would include the level of expertise and treatment that could be assumed from the type of facility, that is a hospital versus a dispensary, or if public facilities are limited and not accessible, so private facilities have filled the gap, as is the case in Vietnam (Ha et al., 2012; Tuan, Dung, Neu, & Dibley, 2005), or Uganda (Birungi, Mugisha, Nsabagasani, Okuonzi, & Jeppsson, 2001; Witter & Osga, 2004), or India (Rajeswari et al., 2012; Sudha et al., 2003). Accessibility issues for those living in rural areas are well documented, whether it be in developed countries (Andrews, 2001), or developing countries (Mehrotra & Jarrett, 2012). This is not the only issue facing those in rural areas, where there may be questions about the quality of
the service, capacity or the facilities of the nearest service. Perhaps there are few options for residents of that area, and with limited choices they are bound to use any health facility, over taking no action at all. Or perhaps instead they turn to alternative therapies (Eisenberg et al., 1998), traditional methods and/or self-medications (McCombie, 2012).

However, what happens when it is not the case that services are free, or close by, there are limited medications for treatment and/or the service providers are corrupt, inexperienced or have otherwise compromised their ethics (Birungi et al., 2001). In many countries, developed and developing, health systems have faced crises due to poor economic performance and political upheaval (Birungi et al., 2001) and have responded to it in different ways, with differing degrees of success. In Kenya, there is a lack of essential drugs supplied to the public facilities (Agwanda, Kwamanga, & Kiugu, 1996), a growth in the informal retail drug sector (Amin, Marsh, Noor, Ochola, & Snow, 2003) and subsequent proliferation of self-treatment (Geissler et al., 2010) even for childhood malaria (Nyamongo, 2009) and the continuation of traditional medicine, which still remains the most widely available form of health treatment in the country (Good & Kimani, 1980), although perhaps not the most sought after (Munguti, 1998) for some treatments. The question asked here is whether the public health care system is able to cope with health services or is private industry taking over, and with what type of health facilities and with what expertise are each able to respond? Medical pluralism and ‘shopping’ for health care are areas of research in their own right (Nyamongo, 2012; Smith, 2004; Whitaker, 2003) as are self-medication and self-treatment (Geissler et al., 2010).

2.2.4 Health services factors and delivery in health facility

Unreliable transport is also a barrier to access skilled delivery in rural areas, failure to plan in advance for transport cause higher number of women to deliver in their homes even if they had planned to deliver in health facilities (Mrisho, et al 2007; Magoma, 2010). Similar findings have been documented by study done at Nepal where by women who planned to deliver in health facilities 18% delivered in home due to lack of transport (Bolam, et al 1998). In a rural Tanzania for instance 84% of woman who give birth at homes are intended to deliver in health facility but due to transport problem and long distance to health facilities they end up delivering home (Bicego, et al 1995).
Inadequate knowledge and skills for health workers on management of obstetrics cases can be the barrier for delivery in health facilities, several study found that health workers tend to unnecessary refer pregnant mother to higher level because they don’t know to use partogram which monitor the progress of labour and the woman end up deliver normally. This woman will never come back to that facility due to unnecessary referral to other health facility.(Shankwaya, 2008)

Lack of privacy is also documented as a barrier for delivery in health facilities because some older women they don’t want to be attended by younger midwives at health facilities who they think there are like their daughter or younger women they fair to be attended by male health workers during delivery. In other health facilities there is no special room for delivery; women are just delivering in OPD. This condition hinders women to deliver in health facilities (Mrisho, et al 2007, Shankwaya, 2008). Health provider behavior and attitudes are also determinant factor for a choice of place of delivery for pregnant mother, some of the health workers are very rude, using abusive language and refusing to assist the patients, these attitudes prevent the women to deliver in health facilities however positives attitudes of health workers attract women to deliver in health facilities. This encourages the women to deliver in health facilities. Improves skills and knowledge among health providers and increase access of health services in rural areas will increase access to pregnant mother to deliver in health facility.

2.2.5 Socio economic factors and delivery in health facility

House hold financial capacity is one of the major factors in the determination of place of delivery, and this depends on mother occupation and husband occupation. Women who are working and earning money may be able, to save and decide to spend it on a facility delivery. Several studies find that farming women are less likely to have skilled attendance at delivery than women in other occupations (Addai, 2009). This may be due to limited financial resources and health services in rural areas. Wives of husbands with higher status occupations could be more able to use facilities for delivery. High status occupations are associated with greater wealth, making it easier for the family to pay costs associated with skilled delivery care. A limited ability to pay and high hospital costs have been identified as the major barriers for the
rural poor wishing to access health care, due to economic difficulties in rural areas women are not able to afford costs related to deliveries even if the services in some places are free of charge they unable to pay for transport in case of referral or the facility is away from home (WHO 2007).

High socio economic status is associated with delivery in health facility and sometimes is confounding with level of education as those with higher education have better jobs and earning higher, so women are encouraged to participate to income generating activities in order to rise their economic status.

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2.2.7 Socio demographic factors and delivery in health facility.
Mother’s literacy level is also important determinant of place of delivery as those with non-formal education tend to deliver at home, and those educated tend to give birth’s in health facilities. Study conducted in Nepal show that there is relationship between education and place of deliver as those with poor education are more like to deliver at home compared to educated women who tends to deliver at health facilities (Belam, 2006). Another study from Cambodia noted that women who attend at least seven years of school are six times more likely to deliver in health facilities compared to those who did not attended (Yanagasawa et al 2006).

It has also been suggested that there may be community effects of education, with more highly educated communities organizing themselves and demanding better public services and higher position for health on the political agenda (Grosse, 2009). In contrast, better awareness of poor quality in many facilities and higher confidence in self-care may delay care seeking among educated women. Education is likely to be associated with wealth and even residence (Bolam, 2006).

The age and parity are also determinants for the place of delivery, Study done in shows that 55% of women delivery in health facilities is younger and out of that 65% are those having the first baby. Women with 35 years and above with more than five children tend to deliver home because they consider themselves as having experience so they don’t need assistance from
skilled workers. This is evidenced by study conducted by Mrisho in southern part of Tanzania and study conducted in Nepal both documented that multi para and older women tend to deliver home than young women. These young women they have no experience in child births and they tend to fear complications related to pregnancy and child birth (Shankwaya, 2008).

Several literatures shows that level of education were strongly associated with delivery in health facility where by more educated women tends to deliver in health facility compared to non-educated, therefore increased enrolment of girls to secondary education and above could help to improve delivery in health facility.

2.2.8 Antenatal clinic attendance and delivery in health facility
Insufficient counselling during antenatal visit is another factor for low delivery in health facility, minimal time used by health workers for counselling pregnant mothers during antenatal clinic is the missed opportunity to educate women importance of health facilities delivery. Also information that all pregnancy carry risk and labour complications are unpredictable are not communicated during antenatal clinic visit .In some places provider are not informing pregnant mothers the meaning of expected date of deliver as the result they interpretation as the exactly date of deliver and when the labour pain start early before that date they end up delivering in their homes even if they were interested to deliver in health facilities. According to Pembe and Urassa (2010) majority of women who attended antenatal clinic they had low awareness about the danger signs of obstetric complications. These lacks of adequate information about danger signs and complication related to delivery are the factors for low delivery in health facilities. (Pembe, 2010; Magoma, 2010).

Pregnant mothers are encouraged to attend antenatal clinic at least four visit according to WHO recommendations as they received more information on the status of their pregnancy which in turn informs their decisions on the place to deliver.

2.8 Cultural factors and delivery in health facility.
Perceived quality of care, which only partly overlaps with medical quality of care, is thought to be an important influence on health care-seeking and place of delivery. Assessment of quality of
services is largely depends on personal experience with health system. (Duong, 2004). Elements such as less waiting times, satisfaction with the service received including staff friendliness, availability of supplies and waiting times are perceived as good quality. In many cases, the medical 'culture' may clash with the woman's, for example, when family members are not allowed to be present, supine birthing position is imposed or privacy not respected; this may lead to perceptions of poor quality (Thaddeus S 1994). Some studies mention that women report better quality of care in private facilities but that cost deters them from using those services (Meskon, 2003; Mrisho, 2007).

Perceived interpersonal quality of care overlaps to some extent with traditional beliefs and possibly sometimes with ethnic discrimination. The Concern about quality of services sometimes interacts with other barriers, for example with distance or cost. Perceived quality of services plays a major role in choice of place of delivery. In some areas women decided to go to private health facilities, where they pay instead of going to government health facilities which are closer to their homes and services are provided free (Mrisho, 2007).

Community beliefs on health facilities delivery are important on the choice of place of delivery. In other places they believe that normal delivery should be conducted at home and delivery at health facilities are beneficial for those with complications only (women identified with problems and risk factors during antenatal clinic). The availability of delivery assistance by TBAs has been reported to be associated with non-utilization of a health facility for delivery in rural areas, Study conducted in northern part of Tanzania shows that traditional births attendants are the ones who determine the place of delivery among Masai tribe and they also arrange for the kind of diet required by the women after deliver, in order to improve health facilities deliveries TBAs must be involved, well informed and full participated (Shankwaya, 2008; Magoma, 2010).

They believe that TBAs and relatives are affordable and able to meet their expectation during delivery and postpartum period, these services cannot provide at health facilities (Magoma, 2010). In Zambia it is believed that placenta must be buried in certain manner for a women to continue bearing children, this is contrarily to health facilities where placenta is burned by
incinerator (Shankwaya, 2008). Different ethnicities have different cultural values and these cultural values may prevent women to access health facility for delivery. Knowing these values and addressing them in the community could improve delivery in health facilities.

2.3 Conceptual Framework

Figure 2.1: Diagram showing the relationship between model, independent and dependent variables

2.4 Chapter Summary

This review has provided an outline of the development of the literature on health seeking and health care seeking. As there are many determinants that could be discussed a number have been singled out from the literature. Each has been presented in a discussion of its significance to this study and why it was chosen as a determinant. These factors reflect two different aspects of health care seeking: the socio-demographic characteristics of the individual; and their ability to access health care services.

As this study is specifically concerned with the use of health and medical services, the types of services and treatment that are available to the participants of the study have been reviewed.
These were divided into formal and informal services, and private and public services. As the intention of the study is to use the information to improve the health situation of the surveyed populations, the study objective is to determine if the need for health care service use is being met. This will be a subjective measure according to the perceptions of the study participants. The literature involving unmet health needs discusses the importance of the attitudes and perceptions of individuals. The following sections present the methodology used to obtain the required information to determine which factors influence the use of health care services and unmet health needs in this rural African population.
CHAPTER THREE

RESEARCH DESIGN AND METHODOLOGY

3.0 Introduction
This chapter outlines the research methodology which offers an explanation into what type of research this study is all about. It also defines the population of the study and the specific sampling techniques to be used, methods of data collection and data analysis. This chapter is organized along the following subsection: research design, target population, sample size and sampling procedures, research instruments, data collection procedures and data design, data analysis and research ethics.

3.1 Research Design
Research design is the general plan of how one goes about answering the research questions. Orodho (2005) defines a research design as the scheme; outline or plan that is used to generate answers to research problems. This research problem was studied through the use of a descriptive research design. According to Cooper and Schindler (2008) a descriptive study is concerned with finding out the what, where and how of a phenomenon. Mugenda and Mugenda, (2003), suggest that the descriptive design method is appropriate for studies that have specific issues where problems have been defined. The issues in the study being factors affecting access to material health care in Kenya: a case study of Machakos County. Are thus geared to address the essential why, who, when, what, and how questions in the research. The study seeks to describe a situation through the study of variable relationships. The researcher attempts to describe and define a subject, often by creating a profile of group of problems (Cooper & Schindler, 2008).

3.2 Target Population
Borg and Grall (2009) described target population as a universal set of study of all members of real or hypothetical set of people, events or objects to which an investigator wishes to generalize the result. The target populations of this study were residence of Machakos County. Mugenda and Mugenda (2003) explained that the target population should have observable characteristics
to which the study intents to generalize the result of the study. This definition assumes that the population is not homogeneous.

**Table 3.1: Research Study Target Population**

<table>
<thead>
<tr>
<th>Category</th>
<th>Target population</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kangudo</td>
<td>200</td>
<td>20</td>
</tr>
<tr>
<td>Yatta</td>
<td>200</td>
<td>20</td>
</tr>
<tr>
<td>Masinga</td>
<td>200</td>
<td>20</td>
</tr>
<tr>
<td>Kathiani</td>
<td>200</td>
<td>20</td>
</tr>
<tr>
<td>Machakos Town</td>
<td>200</td>
<td>20</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>1000</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

**3.3 Sample Design**

A sample is defined as subject of a population that has been selected to reflect or represent characteristics of a population (Kothari, 2008). A stratified proportion sampling is employed to obtain a suitable unit representative of analysis. This is because of the heterogeneity of the population and respondents all had equal opportunity of participation. (Kothari, 2008) argues that a stratified proportional sample increases a samples statistical efficiency and provides adequate data for analyzing the various populations. This method is cost effective, fast track data collection, and access to the unit of analysis and elements of the study. The researcher used stratified random sampling technique to select the respondents.

According to Mugenda and Mugenda, (2003), in stratified random sampling, subjects are selected in such a way that the existing sub-groups in the population are more or less reproduced in the sample. Kerlinger (1973) observed that sample drawn randomly is unbiased in a way that no number of populations has any chance of being selected more than the other. From each
stratum, 30 percentage respondents were selected and be used to gather the required information. Was calculated using the formula below.

The following formula has been used to estimate the population sample size.

\[ t^2 * p * (1-p) \]

Minimum Sample Size (n) = \[ \frac{t^2 * p * (1-p)}{m^2} \]

Where:

n = required sample size (minimum size)

t = Confidence level at 95% (standard value of 1.96)

p = Estimated fractional population of each branch

m = Margin of error at 5% (standard value of 0.05)

3.4 Data Collection Techniques

The study used questionnaires to collect data; primary data was collected through research tools such as interviews observations and brainstorming as outlined by (Kothari, 2008). A questionnaire is a research instruments consisting of a series of questions. The researcher used questionnaires which are more efficient and economical tool for descriptive and preventive research for the sample size that is chosen. This way it was easier to identify the level by which the respondent agreed or disagreed. (Kothari, 2008).

Secondary data was collected from documented sources such as library books, annual reports, magazines, journals and internet literature. For the main purpose of this research, the study collected primary data but relied on the secondary data for the literature review.

3.5 Pilot Testing

The purpose of the pilot testing aims to establish the validity and reliability of the research instruments and hence enhance face validity (Joppe, 2010). Content validity was employed by
this study to measure the degree to which data was collected using a particular instrument represents a specific domain or content of a particular concept. The pilot testing was conducted using the questionnaire on 5 staff members of Telkom Kenya. The pilot group was done through stratified random sampling. According to Connelly (2008), extant literature suggests that a pilot study sample should be 10% of the sample projected for the larger parent study.

3.5.1 Validity
According to Mugenda and Mugenda (2003) validity is the accuracy and meaningfulness of inferences, based on the research results. One of the main reasons for conducting the pilot study is to ascertain the validity of the questionnaire. The study used both face and content validity to ascertain the validity of the questionnaires. Content validity draws an inference from test scores to a large domain of items similar to those on the test. Content validity is concerned with sample-population representativeness. Gillham (2008) stated that the knowledge and skills covered by the test items should be representative to the larger domain of knowledge and skills.

3.5.2 Reliability
Reliability is concerned with the question of whether the results of a study are repeatable. A construct composite reliability co-efficient (Cronbach alpha) of 0.6 or above, for all the constructs were considered to be adequate for this study. The acceptable reliability coefficient is 0.6 and above (Rousson, Gasser & Seifer, 2012). Cronbach Alpha was used to test the reliability of the research instrument.

3.6 Data Analysis and Presentation
The data was analyzed by use of descriptive statistics. Specifically, means, averages and percentages were employed by the researcher. The data analysis tools were simple tabulations and presentations of the report using spread sheets. The data is presented using tables, charts and graphs. Data was analyzed using both qualitative and quantitative methods. Data was first coded and organized into concepts from which generalization was made of entire population. Data was then tabulated and frequencies calculated on each variable under study and interpretations made from the field findings. Percentages were then calculated and interpretation made.
3.7 Ethical Consideration
The researcher undertakes various steps to ensure that the study adheres to research ethical standards. Research authorization permit was obtained from the permission was sought from the participating institutions, Management University of Africa and County government of Machakos.

3.7.1 Voluntary Participation
The researcher sought consent from the management of the organization before administering the questionnaires. Participants were asked to verbally consent to participate in the research, for which they were free to participate or not to. The researcher explained to them that the information that they gave will be used only for the study. The researcher explained that meaningful data for this study will be achieved if they contribute their views about research topic.

3.7.2 Informed Consent
Borrowing from Oliver (2004) the researcher ensured that through the principle of informed consent, complex as it is, and the respondents will be devoid of hang-ups that come with lack of clear expectations of the research. As Oliver points out, some respondents may be impressed by the status of the researcher, or even by the word research has used and may agree to participate without having a good idea of what the research is all about.

3.7.3 Confidentiality
The researcher explained to the respondents that the data that will be gathered in this study will be treated in confidence and that the findings will be meant for a project of Management University of Africa. The researcher explained to the respondents that the data will be coded and no one, whatsoever, related the data to the respondents for both external and internal audiences of the project.

3.7.4 Anonymity
The researcher accorded the respondents their due respect while at the same time ensuring that they answer the questions to the expectations of the study, interjecting questions, intelligibly.
The researcher picked respondents without any discrimination. This helped the researcher to receive truly anonymized respondents even to the researcher herself. This was achieved through self-administered questionnaires with an anonymous method of return.

3.8 Chapter Summary
This chapter explores how the research was carried out. It sets out various stages and phases that were followed in completing the study. It involves a blueprint for the collection, measurement and analysis of data. In this stage, most decisions about how research was executed and how respondents were approached, as well as when, where and how the research was completed. Specifically the following subsections have been included; research design, population, sample, data collection, data analysis, reliability and validity and finally how data is presented.
CHAPTER FOUR
DATA ANALYSIS, RESULTS AND DISCUSSIONS

4.0 Introduction
This chapter presents the findings of the study, which was to determine the factors affecting access to material health care in Kenya: a case study of Machakos County. The chapter has been sectioned into; response rate, respondent’s background, and the factors affecting access to material health care.

4.1: Presentations of Research Findings

Table 4.1: Table Showing Social demographic characteristics

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Frequency</th>
<th>(%)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Age Groups</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>15-24</td>
<td>75</td>
<td>27</td>
</tr>
<tr>
<td>25-34</td>
<td>109</td>
<td>39</td>
</tr>
<tr>
<td>35-44</td>
<td>65</td>
<td>23</td>
</tr>
<tr>
<td>45-54</td>
<td>29</td>
<td>10</td>
</tr>
<tr>
<td><strong>Education of respondents</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Doctorate</td>
<td>10</td>
<td>4</td>
</tr>
<tr>
<td>Post graduate</td>
<td>30</td>
<td>11</td>
</tr>
<tr>
<td>Graduate</td>
<td>42</td>
<td>15</td>
</tr>
<tr>
<td>College</td>
<td>80</td>
<td>29</td>
</tr>
<tr>
<td>Secondary education</td>
<td>112</td>
<td>40</td>
</tr>
<tr>
<td>Primary education</td>
<td>34</td>
<td>12</td>
</tr>
</tbody>
</table>

Although delivery in health facilities depends on social demographic characteristics, like occupation of the respondent, parity, family size and age of the respondent, in this study there were no statistically significant between delivery in health facility and these characteristics. On the other hand religion, marital status and education of the respondent were highly associated with delivery in health facility (P-value of 0.025, 0.01 and 0.01 respectively), where by more
than eight percent of women with secondary education delivered in health facilities compared with non-educated women.

Table 4.2: Table showing antenatal clinic attendance

<table>
<thead>
<tr>
<th>Category</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>235</td>
<td>85</td>
</tr>
<tr>
<td>No</td>
<td>43</td>
<td>15</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>278</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

Among 278 respondents, (85%) had attended antenatal clinic (ANC) at least once during the period of pregnancies and only (15%) of respondents they never attended antenatal as shown in table 4.2 above and figure 4.1 below.

Figure 4.1: Figure showing antenatal clinic attendance
Table 4.3: Table Showing Antenatal clinic attendance

<table>
<thead>
<tr>
<th>Category</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>12</td>
<td>5</td>
</tr>
<tr>
<td>2</td>
<td>42</td>
<td>18</td>
</tr>
<tr>
<td>3</td>
<td>47</td>
<td>20</td>
</tr>
<tr>
<td>More than 4</td>
<td>134</td>
<td>47</td>
</tr>
</tbody>
</table>

| Total        | 235       | 100        |

Out of 235 of women attended antenatal clinic 47% attended more than four visits while 20% attended just 3 visits, 18% attendant 2 visits and 5% attended once as shown in table 4.3. Not attending clinic and the reasons behind were; two third, 60% they didn’t see any importance of attending antenatal clinic while, (40%) the health facilities were too far from their settlement as shown in table 4.3 above and figure 4.2 below

Figure 4.2: Figure showing antenatal clinic attendance
Table 4.4: Table showing distribution of respondents by place of delivery

<table>
<thead>
<tr>
<th>Category</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Own home</td>
<td>41</td>
<td>15</td>
</tr>
<tr>
<td>TBA’s home</td>
<td>72</td>
<td>26</td>
</tr>
<tr>
<td>Health facility</td>
<td>150</td>
<td>54</td>
</tr>
<tr>
<td>On the way</td>
<td>13</td>
<td>5</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>278</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

On one hand, Out of 278 women 54% had skilled worker deliveries in health facilities and 5% deliveries were conducted by unskilled personnel 26% deliveries conducted by Traditional birth attendants and 15% occurred at home without any assistance of skilled personnel while only one delivery occurs on the way to health facility. All women who had never attended antenatal clinic delivered at home.

Figure 4.3: Figure showing distribution of respondents by place of delivery
Table 4.5: Table showing reasons for that made respondent to deliver the place they had delivered

<table>
<thead>
<tr>
<th>Category</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lack of transport to health facility</td>
<td>108</td>
<td>39</td>
</tr>
<tr>
<td>Long distance to health facility</td>
<td>94</td>
<td>34</td>
</tr>
<tr>
<td>Sudden onset of labour</td>
<td>14</td>
<td>5</td>
</tr>
<tr>
<td>Bad behavior of health workers</td>
<td>17</td>
<td>6</td>
</tr>
<tr>
<td>Poor services at health facility</td>
<td>30</td>
<td>11</td>
</tr>
<tr>
<td>Poor belief to modern medicine</td>
<td>14</td>
<td>5</td>
</tr>
</tbody>
</table>

| Total                           | 278       | 100        |

99% of respondents who had delivered without assistance of skilled attendants they intended to deliver in health facilities except only four who delivered home. Reasons given by respondents 39% of the respondents they deliver in other places because they failed to afford the transportation cost to health facilities and 34% was due to long distance from home to health facilities. Others response were as follows; 11% poor services at health facility, 6% unfriendly services due to bad behavior of healthcare provider, 7% presence of traditional birth attendants, and only one had no anybody to escort her to health facility.
Figure 4.4: Figure showing reasons for that made respondent to deliver the place they had delivered

Table 4.6: Table showing means of transport when a pregnant mother preferred

<table>
<thead>
<tr>
<th>Category</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Own transport</td>
<td>234</td>
<td>84</td>
</tr>
<tr>
<td>Public transport</td>
<td>30</td>
<td>11</td>
</tr>
<tr>
<td>Ambulance</td>
<td>14</td>
<td>5</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>278</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>
84% of the respondents preferred own transport means of transport when being taken to health facility in the County and 11% preferred public transport while 5% preferred ambulance. Out of 234 women attended antenatal clinic, 54% delivered in health facilities and 100% of women who had never attended antenatal clinic at least once they all deliver without assistance of skilled personnel. The association between antenatal clinic visits and delivery in health facilities is significant as women who attends antenatal clinic are more likely to deliver in health facilities compared to those who do not attend.

**Figure 4.6: Figure showing means of transport when a pregnant mother preferred**

<table>
<thead>
<tr>
<th>Means of Transport</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ambulance</td>
<td>5%</td>
</tr>
<tr>
<td>Public transport</td>
<td>11%</td>
</tr>
<tr>
<td>Own transport</td>
<td>84%</td>
</tr>
</tbody>
</table>

Regarding the time taken to reach health facility more 73% of the respondents spent one hour or less to reach health facility, that means they lived less than five kilometres from health facility and about 27% of the women spent more than one hour to reach health facility that means they lived more than five kilometres from health facility. There is strong association between deliveries in health facilities with the distance as women who lived more than 5 kilometres from health facilities tend to deliver in other places compared to those who lived within 5 kilometre from health facility.
More than half 52\% of the women are not satisfied with the services provided at health facilities while 48\% of the respondents are satisfied with the services provided at health facilities. The main reasons for not satisfied with the services at health facilities were; shortage of medicines and supplies 65\%, bad behavior of health workers 24\%, Charged for RCH services including normal deliveries 10 5\%. Other reasons were as follows; Shortage of staff 2\%, Lack of privacy 2\%, Poor services at health facilities 1\% and long waiting time 5\%.

Reasons given by respondents on why women are not delivering in health facilities 27.7\% were sudden onset of labour, 22\% presence of TBAs who are competent and provide friendly services, 22\% were due to long walking distance to health facilities 12\% Negative attitude of health workers to pregnant mothers and 6\% of the women they don’t know why women are not delivering in health facility.

The larger proportion of the respondents 97\% reported that there is no any cultural issue concerning delivery or any traditional medicine that must be taken before or after delivery. Only 3\% of the respondents reported that traditionally women before delivery must take traditional medicine to enhance the process of delivery and they were given by traditional birth attendants. 22\% of respondents said availability of traditional birth attendants in their areas whom they believed are capable of conducting delivery makes them to deliver at home

4.2 Limitations of the study
The scope of the study was limited by poor access to the study area, which affected the mobility and safety of the researcher as well as accessibility by the researcher to respondents. The respondents’ level of education was low which led to delay in data collection as the questionnaire was being translated to them.

4.3 Conclusion

House hold financial capacity is one of the major factors in the determination of place of delivery, and this depends on mother occupation and husband occupation. Wives of husbands with higher status occupations could be more able to use facilities for delivery. High status occupations are
associated with greater wealth, making it easier for the family to pay costs associated with skilled delivery care. Associations that found to be significant in the analysis at a p-value <0.05 were included in the multivariate analysis to determine which factors best explained or predicted delivery in health facility. Included variables were marital status, religion, head of household, husband occupation, woman education level, frequency of antenatal clinic attendance, distance from home to health facility and socio economic factors. After controlling for other factors, marital status, religion, head of household and husband occupation were not found to be significant and were excluded in the subsequent steps of analysis.
CHAPTER FIVE
SUMMARY OF FINDINGS, RECOMMENDATIONS AND CONCLUSION

5.0 Introduction

This chapter presents a summary of the findings, as regards to the main objectives of the study. Based on these findings the conclusions were drawn and some recommendations on the way forward made. The main objective of this study was to determine factors affecting access to material health care in Kenya Machakos County as a study case.

5.1 Summary of Findings

A response rate of 80% was achieved which was favorable for the study. Mugenda and Mugenda (2003) indicate that for generalization purposes, a response rate of 50% is adequate, while that of 60% is good but a response rate of 70% as excellent. The response rate of over 80% for this study was therefore excellent and acceptable.

The results of the analysis are based on a few selected variables, to examine the reasons why pregnant mothers do not patronize health facilities especially in rural areas of Machakos. The result shows that the educational attainment by women in Machakos is very poor with slightly above half of the population having only secondary education. Respondents with no schooling, those having primary level account for about 27% and 18.2 % respectively. Nevertheless, a negligible number of the respondents had attained above secondary level education). This is serious in view of the importance of education as a vital force in shaping the whole gamut of an individual’s life particularly mother’s empowerment.

Several studies show that women age, marital status, parity, level of education, family size, women occupation, husband occupation and head of household can influence the choice for place of delivery. Study in Kenya shows that women with more than one child and older were more likely to deliver at home compared to young women and with single parity, The same finding with the study done in Zambia where by 55% of women delivering in health facilities are young and 65% are those having their first baby (Shankwaya S 2008). In this study although about 52% of the women having their first baby delivered in health facilities compared to 48% of multiparous women, the difference is not statically significant. The same happen to the age of respondent, in which the finding show there is no relationship between maternal age and delivery
in health facility, similarly in Uganda study after multivariate analysis the results showed that age, parity of the mother were not significant influence the place of delivery when compared with father’s occupation.

Maternal education is the most important determinants for health services use (Ensor and Cooper 2004), it is argued that better educated women are more aware of health problems, know more about the availability of health care services, and use this information more effectively to maintain or achieve good health status. Various studies noted that more educated women are more likely to use skilled birth attendants than not educated women.

In this study 87.5% of the women with secondary education delivered in health facilities compared with 34.4% of the women who had never went to school, Further findings shows that after adjusted for confounders by multivariate analysis women with secondary education are six times more likely to deliver in health facilities compared to uneducated women (AOR=6.149, 95%CI=1.105-34.232).

The findings were consistency with other studies done in different areas, study done by Mrisho in Southern Tanzania showed that mothers with primary and higher education were more likely to deliver in health facilities compared to uneducated mothers, Also Lwelamira found that women with higher education in Bahi district they tend to deliver in health facility compared with those with primary or formal education (Mrisho, 2007; Lwelamira, 2012).

Marital status may influence the choice of delivery place, probably via its influence on female autonomy and status or through financial resources. Single or divorced women may be poorer but enjoy greater autonomy than those currently married. In this study findings show that married women were four times less likely to deliver in health facility than single mothers, Similar findings have been found by the study done in Botswana on the factors associated with non-use of maternal health services in which married women utilizes less health facility during delivered (Letamo, 2003), this might be due to, Young single mothers may be cared for by their natal family, which may encourage skilled attendance, especially for a first birth and on other hand married women cannot decide on their own to seek care, but have to seek permission from a husband or mother-in-law and majority of them they lack power of controlling resources.
Wives of husbands with higher status occupations could be more able to use facilities for delivery. High status occupations are associated with greater wealth, making it easier for the family to pay costs associated with skilled delivery are. (Gabrysch & Campbell 2009).

Distance to the health facility is also a major retarding factor in accessing health services in Machakos County. Most of the residents have health facility within two kilometers distance from their homes; a reasonable proportion of these respondents have to walk beyond three–five kilometers distance to access health services. This is a problem, especially as the road network is poor or virtually not in existence and lack of transportation. A pregnant mother will prefer to visit the next door traditional birth attendant rather than to walk for kilometers to the health centre where she has no confidence in the service. The low status of women is manifested on who decides where the household including pregnant mother should go for treatment as well as the payment of the treatment costs. These are exclusively the domain of the husband especially in African countries where culturally, male dominance and women subjugation are normal ways of life.

A number of socio-cultural beliefs and practices in Machakos limit the ability of women to take independent decisions about their own lives, including the decision to seek appropriate health care. The decision-making power often lies with the husband or their male relatives. The awareness of place of antenatal care (ANC) is fascinating as overwhelming proportion of the respondents admitted knowledge of place of ANC treatment. However, the common reasons hindering attendance or registration for antenatal care is high cost of ANC service. Only one-tenth agreed that what they spend at health centres is convenient (cheap) for them. However, majority believes that stated and expensive charges respectively. Cost may reduce women’s use of maternal health services from having hospital–based deliveries or seeking care even when complications arise. Statistics revealed that even when formal fees are low or free, other informal costs such as buying complete delivery items, drugs, food, etc pose barrier to utilization of available health services.

The assistants during pregnancy and child birth are identified to be nurses/midwives, doctors and traditional birth attendants and relatives. The worrisome aspect of this is the high proportion of mothers patronizing home delivery at the hands of these non-medical personnel in Machakos and other parts of the country. The occupational status indicates that larger proportion of the
residence in Machakos is into trading). This is followed by unskilled/laborers, farming and artisans. On the other hand, mothers who are fulltime housewives account for the least 10% similarly, the husband’s occupational status indicates that larger proportion of the women husbands are into unskilled jobs majority, and this is followed by trading, artisans and farming. Nevertheless, 10 per cent of husbands are unemployed. Other motivating forces are the availability of ambulance services and referral facility. Respondents will patronize health centre’s with the above facilities as the journey of pregnancy and child birth is not a smooth one in this part of the globe.

However assertion on the provision of or existence of ambulance and referral arrangement registered 29% and 60% respectively. Feeling is an internal mechanism that drives one to his or her directional behaviour. When the feeling is not right, the propensity to patronize will be lacking. The general feeling of respondents about the services the health center provides is considered in this study. While others who feel satisfied with the services account for some percentage it seems that a few feel otherwise account for bothersome proportion. It is equally interesting to note that while over half of the respondent’s patronize non-modern facility, slightly three-fifths of them stated that their husbands do not perceive pregnancy as risky journey. This relates to the causal treatment given to pregnant women in the study area.

5.3 Recommendations
Women empowerment: advocate the need for women empowerment through education, increasing employment opportunities for women and young girls, establishing and supporting programs that will provide sustainable income generation for women as these will help to eliminate structural barriers to access to maternal healthcare caused by poverty and gender inequality, reduce maternal mortality in Machakos and improve maternal and wellbeing of women. I recommend policies that will increase the opportunity for women to have more years of education as this would have effective impact on utilization of healthcare in terms of number of antenatal visits. Continuing education professional development and safe delivery procedure should be organized periodically for mothers. Safe motherhood initiatives should be propagated and made accessible to all mothers of child bearing age. Mothers should be educated on the factors responsible for both infant and maternal mortality and ways to prevent them
Effort should be made to train the traditional birth attendants to refine their operations and lessen the havoc caused by them. As we know that the use of modern health services is often influenced by individual perception or feelings of the efficacy of the services. Orientation should be conducted for health workers on how to uphold the ethics of the profession and on rudimentary principles of human relations to make better friendly services. County Government should revitalize rural health operations and establish mid-way service delivery points to reduce the problem of distance and further bring grass roots health care services closer to the rural population.

It is recommended that the national government come up with a policy that will ensure that maternal health care services are provided in most public health care facilities on a daily basis and not on specific days so that expectant women can access the services whenever they need them.

Further, deliberate policy should be formulated to encourage county governments to have ANC facilities at sub county levels. Alternatively, it can be a matter of policy, especially at the county government level that most health facilities should have at least a delivery room and trained personnel to provide an opportunity for expectant women to access professional ANC services and deliver under the care of professional staff. Such a policy will enhance women delivery under professional care reducing maternal morbidity and mortality and that of their new born babies.

It is recommended through the Ministry of Education, Science and Technology that the government strengthen affirmative action as a matter of policy to ensure that girl child education is prioritized in order to improve educational standards of women. This is envisioned as a long term policy strategy that will provide them with avenues and opportunities of acquiring information about use and importance of utilizing maternal health care services.

5.4 Suggestion for Further Study

This study was carried out in a rural set up therefore there is need to undertake similar research in urban and Peri urban for comparison.
5.5 Conclusion

Physical access to health facilities due to lack of access to timely and appropriate transport, and economic considerations, are important barriers for women to deliver at health facilities in Kenya. Many women do not perceive a need to seek health facility delivery and increasingly deliver their subsequent children at home. We conclude that subjective valuation of the need deteriorates with subsequent births.

Different factors affect maternal healthcare services at various levels in Machakos County. These factors could be individual, household, community or state. Intervention measures should target the underlying individual, household, community, state and policy level factors and interventions should also reflect the roles of the various underlying factors. The findings from the review show that Women in the Machakos town seem to have more access to maternal healthcare use than women in the rural areas of Machakos due to regional differences in educational attainment, religion, mother's age, educational level, place of residence and religion, availability of prenatal care and quality and professional care at delivery. Educational level, employment, mother's age, (i.e. early marriage), religion, cultural beliefs, distance to health care facilities and place of residence were also seen as major factors that determine the utilization of maternal healthcare services in the Machakos County. It is pertinent to note that programs that are targeted towards improving access and utilization of maternal healthcare services especially for women with low level of education and those that come from a very low economic background will be of high benefits to women in town areas of Machakos. For women living in the rural areas, it is also necessary to develop a more reliable means of improving availability and accessibility to maternal healthcare services since reducing maternal mortality and complication arising from childbirth is dependent on detecting and improving the services that are necessary to the reproductive health of women in Machakos.

There are several implications on strategies to promote skilled assisted deliveries in Kenya. Improving physical access by facilitating access to appropriate and affordable transport during labour, and improving the experiences and outcomes of mothers seeking health facility delivery may increase its uptake. This should be augmented by health education interventions that improve the attitudes and subjective value placed on health facility delivery by pregnant mothers,
lowering its opportunity cost and hence increasing demand. Mechanisms to ensure services are affordable at point of service delivery will be an important adjuvant to this strategy.

In Kenya, about 53% of deliveries take place outside health facilities despite more than 88% of mothers living less than five kilometers from a health facility and 93% of pregnant women having at least one ANC visit during pregnancy. Higher levels of education, low parity, optimally attending ANC services and having insurance cover increase the likelihood of delivering in a health facility. Place of delivery also varies significantly among different ethnic groups, regions of residence, and with the type of health facilities mothers use. Distance from a health facility did not significantly predict place of delivery. Difficulty in physically accessing health facilities is the most reported reason for not delivering in a health facility but about 60% gave a reason other than distance and/or lack of transport including 20% of mothers who reasoned that delivering in a health facility was not necessary. This pattern was regardless of wealth, parity, education or rural/urban residence. Women living near a health facility were slightly more likely to report delivering at home due to abrupt delivery and high costs.
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APPENDIX I

LETTER OF INTRODUCTION

Dear Sir/Madam,

RE: REQUEST FOR RESEARCH DATA

I am a student at Management University of Africa, in partial fulfillment of the award of bachelor’s degree in development Studies, I am conducting a study on “FACTORS AFFECTING ACCESS TO MATERIAL HEALTH CARE IN KENYA WITH REFERENCE TO MACHAKOS COUNTY.”

For the purpose of facilitating this research work, I wish to collect data through questionnaire. I shall be grateful if you would kindly extend your kind gesture to have this questionnaire completed. This information is purely for the purpose of my research work and therefore it shall be treated with strict confidentiality. A copy of the final report shall be given to you on request.

Thank you in advance, I look forward to your assistance.

Yours Faithfully,

ANNASTACIA WAYUA

BDS/6/00032/1/2014
APPENDIX II

RESEARCH STUDY QUESTIONNAIRE

Instructions

Tick the appropriate response. Where the question is opened, write in the space provided

SECTION A: BACKGROUND INFORMATION

1. What is your age group
   a) 18-23 Years ( )
   b) 24-29 Years ( )
   c) 30-35 Years
   d) 36-41 Years ( )
   e) 42 years and above ( )

2. What is your highest level of education? (Tick one)
   Primary ( )
   Secondary ( )
   College ( )
   Graduate ( )
   Post graduate ( )
   Doctorate ( )

3. Have you ever attended Antenatal clinic in your last pregnancy?
   a) 1. Yes ( )
   b) 2. No ( ) (If no skip to question 6)

4. If yes, how many times did you attend Antenatal clinic in the last pregnancy? ……………

5. If no why?
   a. I didn’t see any importance of antenatal clinic
   b. Long distance to health facility from home.
   c. High cost of services.
   d. Bad behavior of health workers
   e. Other specify ………………..

6. Where did you deliver your last baby?
   a. Own home
   b. TBA’s home
   c. Health facility
   d. Other specify ………………..

7. Was that the place you intended to deliver?
   a. Yes (if yes skip to question number 13)
   b. No

8. If no where did you intended to deliver?
   a. Own home
b. TBA’s home  
c. Health facility  
d. Other specify …………………

9. What are the reasons that made you to deliver the place you had delivered?  
   a) Lack of transport to health facility  
   b) Long distance to health facility  
   c) Sudden onset of labour  
   d) Bad behavior of health workers  
   e) Poor belief to modern medicine  
   f) Other specify …………………….

10. What is the means of transport when a pregnant mother referred to County?  
   a. Own transport  
   b. Public transport  
   c. Ambulance  
   d. Other specify ………………..

11. Are you able to afford the cost of transport when referred to another health facility?  
   a. Yes  
   b. No  

12. If yes what will you do to get money to reach a required health facility?  
   a. Borrowed money from neighbor/ friend  
   b. Sell property  
   c. Sell a piece of land  
   d. Refuse referral  

13. On average how far is the health facility from your home?  
   1. Kilometers……………  2. Hours ……………..  

14. Are you happy with the services provided at your health facility?  
   a. Yes (If yes skip to question 19)  
   b. No  

15. If no, what things make you unhappy with the services provided at your facilities?  
   a. No drugs and supplies  
   b. Bad behavior of health workers  
   c. Lack of privacy  
   d. Other specify …………………

16. What makes women not deliver in the nearby health facility?  
   a. Sudden onset of labour  
   b. Bad behavior of health workers  
   c. Long distance to health facility  
   d. Presence of TBA’s  
   e. Other specify ……………..  

17. What is your recommendation for improving services in your health facility?
a. Increase number of health workers
b. Improve availability of drugs and supplies
c. The health workers should respect the women
d. We need ambulance
e. Other specify ……………………………..