ASSESMENT OF SOCIAL ECONOMIC FACTORS ON THE ACCESS OF MATERNAL AND CHILD HEALTH SERVICES, A CASE OF LAINI SABA, KIBERA, NAIROBI COUNTY, KENYA.

NYANGAU JACQUELINE B.

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DECLARATION:

DECLARATION BY CANDIDATE

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Sign---------- Date: ----------

JACQUELINE NYANGAU

SPH / PGH / 1019/ 09

DECLARATION BY SUPERVISORS

This thesis has been submitted to Moi University with our approval as University supervisors

1. Dr. Simon. K Ruttoh.

   Department of Health Policy and Management

   School of Public Health

   Moi University, Eldoret.

Sign ---------- Date----------

2. Dr. Samuel.K Tororei.

   Department of Health Policy and Management

   School of Public Health

   Moi University, Eldoret.

Signature---------- Date----------

DEDICATION:

To all mothers in marginalized areas that deserve better.

ABSTRACT

Background: Access to health services and the quality of care administered at all levels of health care have been considered as the central determinants of health outcomes. Efforts to eliminate inequalities in the access of basic health care services have been emphasized for the overall improvement of health in developing countries through the Ministries of Health and globally the World Health Organization. In 2013 the Government of Kenya enforced a policy for free maternal health services across all government healthcare institutions in its quest to reduce maternal morbidity and mortality rates and to improve the survival rates of their children in a run up to the attainment of SDG 3.

Objective : To assess the role of social economic factors (maternal occupation, education and income) among women of reproductive ages 15-49 living in Laini Saba of the Kibera, Nairobi County Urban-informal settlement in accessing maternal child health services.

Methodology: The study was a descriptive cross sectional study in which a total of 272 women were randomly sampled. An interviewer administered semi structured questionnaire was used for data Collection. Data analysis was performed using SPSS version 20 and a Chi- test at 95% CI was used to test significance of associations. Data was presented in prose, tabular and graphical form.

Results: Of the 272 respondents, 115(42.32%) had primary education and over a third 101(37.3%), had a secondary education and 45(16.62%) with tertiary level of education. Unemployed women were 101(38.5%) while 88(33.6%) were self employed and the employed were 73(27.9%). The average income per month was KES 5,890.40 and the mode was KES5, 000. A $p < 0.001$ showed that there was a significant difference in the different levels of education and income. The minimum amount of money spent on healthcare per month was KES 50 and the maximum KES 30,000 with a mean of KES 989.20. Participants who reported to access maternal child healthcare services were 100 (36.6%) while 172 (63.4%) did not. A $p<0.018$ revealed that level of education was statistically significant in relation to healthcare access. Consequently a $p<0.055$ for time spent to access the service and that for income at $p>0.137$ were found not to be statistically significant.

Conclusions: The study revealed that there was a significant association between education and access, while there was no associated significance between income and access contrary to the perception that income plays a major role in the access of healthcare. The nature of occupation also did not reveal any relationship with access to healthcare services.

Recommendations: The Kenyan government through the Nairobi county government should step up its efforts to ensure that the necessary infrastructure (road network, easily accessible public health centers with affordable services) are available in slum urban settlements. Additionally the livelihood of the women could be improved through creation of employment and self-sustenance programs and projects in this setting.

LIST OF ABBREVIATIONS

AIDS - Acquired Immune Deficiency Syndrome

APHRC - African Population Health Research Centre

HIV -Human Immune Virus

IHME - Institute for Health Metrics and Evaluation

KDHS -Kenya Demographic and Health Survey

MCH -Maternal Child Health

MMR -Maternal Mortality Ratio

PRO -Public Relations Officer

SES -Socioeconomic Status

STI -Sexually transmitted infections

SDGs -Sustainable Development Goals

TB -Tuberculosis

UN -United Nations

UNICEF -United Nations Children's Educational Fund

UNFPA -United Nations Population Fund

USAID - United States Agency for International Development

US -United States

WHO -World Health Organization

DEFINITION OF OPERATIONAL TERMS

Access- in this research context refers to the entry into or use of the Health care system in relation to its availability, accessibility, accommodation, affordability and acceptability.

Child health- is concerned with the health of infants, children and adolescents, their growth and development, and their opportunity to achieve full potential as adults. In the study my emphasis is on children under five years.

Maternal child health services- various facilities and programs organized for the purpose of providing medical and social services for mothers and children.

Maternal health- is the health of women during pregnancy, childbirth, and the postpartum period.

Reproductive Health- deals with the awareness, prevention and treatment of reproductive health issues in women to include child bearing, family planning and contraception use.

Social classes- are the hierarchical arrangements of people in society as economic or cultural groups. Class is an essential object of analysis for sociologists, anthropologists, political economists and social historians. In the social sciences, social class is often discussed in terms of 'social stratification.

Socioeconomic status (SES) - is a combined economic, sociological measure of an individual's work experience or family's economic and social position relative to others based on income, education, and occupation.

Sustainable Development Goals (SDGs) – a UN initiative adopted to tackle various aspects globally that affect human life. This includes ending poverty, to fight inequality and injustice and to tackle climate change by 2030.

Utilization- is to make use of or extent to which an individual or group makes use or uses a particular service.

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CHAPTER ONE: INTRODUCTION

1.1 Introduction

Maternal and child health services are facilities and programs organized for the purpose of providing medical and social services for mothers and children. These include prenatal and postnatal services, family planning care and pediatric care in infancy (Mosby medical dictionary 2012). Maternal health is the health of women during pregnancy, childbirth and the postpartum period. It encompasses the health care dimensions of family planning, preconception, prenatal and postnatal care in order to reduce maternal mortality and morbidity

Maternal and child health over the years has become of great concern due to the increasing numbers in maternal and child mortality. Healthy mothers in turn will give birth to healthy children and are able to care for them during their infancy years. However mothers living in urban poor settlements face a great challenge in matters of healthcare and access to these services compounded by poor living conditions and low income.

The high number of maternal deaths in some areas of the world reflects inequities in access to health services, and highlights the gap between rich and poor. According to World Health Organization 2015, almost all maternal deaths (99%) occur in developing countries. More than half of these deaths occur in sub-Saharan Africa and about one third occur in South Asia. More than half of maternal deaths occur in fragile and humanitarian settings

Although high-quality and accessible health care has made maternal death a rare event in developed countries, where only 1% of maternal deaths occur, complications are often fatal in the developing world (WHO, 2009). This is because the most important interventions for safe motherhood is to make sure that first; a trained provider with midwifery skills is present at every birth and that transport is available to referral services and that quality emergency obstetric care is available. In 2008 alone, 342,900 women worldwide died during pregnancy or from childbirth (World Health Organization, 2009).

Healthy mothers are the pillars to their families as they contribute to national economic growth. With a good education they become empowered to make important life changing decisions especially health related matters. Maternal health, therefore, becomes an important issue in a woman's life as they strive to perform their individual roles as mothers, citizens and members of a wider community (Babalola and Fatusi, 2009).

1.2 Background of the Study

Laini Saba is a sub location of the larger Kibera urban informal settlement in Nairobi County. It is a cosmopolitan slum dwelling having its residents originating from different parts of the country. Poverty and unemployment levels here are high as most of the residents live below the poverty line and most of the residents engage in low paying casual jobs. Healthcare services in Laini saba are also poor. The terrain is rugged and the infrastructure wanting.

Key to this study is the United Nations Sustainable Development Goal 3 (SDG), which in Part focuses on Maternal and Child health. Significant progress has been made globally in reducing mortality in children below 5 years of age. In 2013, 6.3 million children below 5 died, compared with 12.7 million in 1990. Between 1990 and 2013, under-5 mortality declined by 49%, from an estimated rate of 90 deaths per 1000 live births dropping down to 46. The global rate of decline has also accelerated in recent years – from 1.2% per annum during 1990–1995 to 4.0% during 2005–2013(Lozano, Wang, Foreman, Rajaratnam, Naghavi, Marcus, Dwyer-Lindgren, and Murray, 2011).

To reduce the number of maternal and neonatal deaths, women need access to good-quality reproductive health care and effective interventions. From the area under study, the proportion of women receiving antenatal care at least once during pregnancy was about 83% for the period 2007–2014, but for the recommended minimum of 4 or more visits the corresponding figure drops to around 64% (Kenya Demographic Health Survey, 2008).

In most Kenyan households and especially in the area under study, women are mainly the primary bread winners. They have a great task at hand to take care of their immediate family members and even tasked with their extended families, yet they do not earn enough income. Secondly their low education status does not secure them a quality job with better pay and access to better medical healthcare. With their meager resources they are unable to provide let alone access the right kind of health services for themselves and their families. Because of this, they usually ignore as such free health services which are government sponsored for example, free under five child immunizations, maternal and family planning services offered at their local health centers.

As emphasis is put on healthcare for all, there is a need to explore the role of socio-economic factors on health outcomes, especially income and maternal education which are the focus in this study. In a developing nation like Kenya where this study is carried out, notable is that the nation is faced with economic crises, corruption and high unemployment levels for many of its citizens. This study is therefore aimed at determining the relationship of social status and economic standing and how it affects many of its citizens particularly on healthcare.

1.3 Problem statement

Maternal and child health are key indicators for a country's economic sustainability and growth. Over the years countries have put enormous efforts to reduce maternal and child morbidity and mortality. Thus improving maternal, neonatal and child health is a global health and human rights priority. Mothers and their children should be able to access maternal and child health services whenever they need them as easily, quickly and at an affordable cost to them. Therefore there should be a health center within a 5km radius that can be readily accessed and is equipped with the necessary medicines and facilities necessary to handle both obstetric and neonatal emergencies at any given time (Black *et al*, 2004).

However, maternal and child morbidity and mortality remain high among women living in informal settlements and especially the area under study (Fotso &Mukiira, 2011).

There are limited public health facilities in the informal settlements of Nairobi which are also not fully equipped to meet the requirements of both mother and child. KDHS 2014, reports that 58% of women make the recommended four antenatal visits during pregnancy and that 61% of live births were delivered at a health facility compared to the expected 80%. Consequently under five mortality nationally stands at 52 deaths per 1,000 live births, and stands at 72 deaths per 1,000 live births and infant mortality at 39 deaths per 1,000 live births in Nairobi (KDHS, 2014).

Laini Saba sub-location where this study was carried out is amongst one of the poorest slum areas of the County of Nairobi. This area is characterized by poor housing, lack of basic amenities (such as water and sanitation), and low availability and utilization of formal health services including maternity care (Ziraba, Nyovani, Abdalla, Mills, Saliku and Fotso 2009). The greatest challenge here therefore is between availability, affordability and accessibility of maternal child health services for these women from this low social background. The location of the existing health centers are many kilometers and the infrastructure in this area is of poor standards with narrow and rough pathways that cannot support emergency transport such as ambulances and instead wheel carts or motorcycles will be used to ferry the sick in times of emergencies.

Therefore the aim of this study was to establish an understanding of the role of the socio-economic factors (maternal occupation, income and education), and their contribution to the poor state of maternal and child health status within this informal settlement. In addition with the aim of how better measures and policies can be formulated by health bodies using the information collected from this study to improve MCH services.

1.4 Justification

Women in informal settlements often lack access to relevant health information, services from skilled health providers, emergency transport and other essential services. They often seek healthcare from privately owned, substandard and often unlicensed clinics and maternity homes. With their low socioeconomic standing, nutrition and proper sanitation are also compromised. In addition cultural practices could impede mothers from

accessing available health services. This then becomes a challenge as these facilities are not equipped to offer the much needed MCH services and this leaves a huge gap on how it could be improved.

This study was carried out for period of three months between April and June 2013. This time was used to explore information from the respondents on their occupation, how they accessed MCH services and what challenges they faced.

Socioeconomic factors are the social and economic realities and experiences that help mold one's personality, attitudes and lifestyle. They can also define regions and neighborhoods. These include education, income and occupation, culture and ethnicity and religion. This Study chose to focus on three of these factors namely; education, income and occupation. This is because they are the main determinants towards health outcomes.

A general view of literature shows that few studies have been done to assess the access levels of maternal child health services in regards to the socioeconomic factors. These include; Determinants of the use of maternal health services in rural Bangladesh (Chakroborty, 2003); Socioeconomic factors associated with infant mortality in Italy (Dallolio et.al, 2012); Health services access among poor communities in Phnom, Penh (UNICEF, 2009). Results from the study will be important in effective policy formulation that will enhance quality provision of quality health services in Healthcare centers especially in low income populations and slum dwellings.

In addition, this study is relevant in the view that healthcare services have been devolved to the county governments. Secondly Vision 2030 looks into devolving and making available health services to the vulnerable poor and needy.

1.5 Research objectives:

1.5.1 Broad objective

To assess the role of socioeconomic factors in accessing maternal child health services among women of reproductive age, in Laini Saba of Kibera informal settlement.

1.5.2 Specific objectives:

1. To evaluate the extent to which women of reproductive age access maternal and child health services in Laini Saba sub-location, Kibera, Kenya.
2. To determine the influence of maternal education towards access of maternal-child health services.
3. To determine the association between income and access of Maternal and child health services among women of reproductive age in Laini Saba.
4. To evaluate the relationship between maternal occupation and access to Maternal and child health services.

1.6 Research questions

1. How do the women of Laini saba, Kibera access maternal and child health services?

2. What is the role of maternal education in access of maternal and child health services?

3. How does maternal income influence access of maternal and child health services in this area?

4. How does maternal occupation influence access of maternal and child health services in Laini Saba?

CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

The healthcare a mother receives during pregnancy, at the time of delivery and soon after delivery is important for the survival and wellbeing of both the mother and her child. Relative to the attention given to improve the quality and access to health services, the influence of women's socio-economic status on maternal health has received less attention. Within the community there is a concern that health intervention programs are often solely supply-orientated and ignore the social factors constraining the demand for, access to and effective use of health services. Studies have consistently shown that women's education attainment, social status, household wealth and decision making power are associated with health seeking behaviors for maternal services and survival (Ahmed, Creanga, Gellespie, &Tsui, 2010).

According to KDHS, 2009, maternal health influences the health of infants, children and families. For all women, use of health care services is a key proximate determinant of maternal and infant outcomes, including maternal and infant mortality (Babalola & Fatusi, 2005). Delays in seeking care caused by ignorance on the importance of professional healthcare, accessing adequately equipped health facilities and receiving appropriate care at facilities are well known barriers to care for all women (Reynolds, Wong & Tucker, 2006).

Determinants of poor maternal and infant outcomes include poverty and inadequate health care behavior or use of services (Reynolds *et al*, 2006). Lack of education coupled with cultural factors that restrict women's autonomy, promote early marriages or support harmful traditional practices, nutritional deficiencies, distance to health services, young age at first birth are also factors that have undermined development in this sector. Maternal health, especially in deprived areas, has to be vastly improved through greater attention as both maternal morbidity and mortality are at levels which reflect past neglect (Izugbara, 2010). Women's health is crucial to achieving gender equity and enhancing the role and status of women's in society. Access to reproductive health and services

affects improvements in health status, in personal decision making and self-esteem, in education attainment in employment opportunities and in access to economic resources. Women's health is compromised whenever they suffer discrimination in terms of; access to education, health services, information and resources. The pre- requisites for children, mothers and women are peace, shelter, education, income and a stable ecosystem.

2.2 Maternal Child Health services

According to WHO (2015), poor women in remote areas are the least likely to receive adequate health care. This is especially true for regions with low numbers of skilled health workers, such as sub-Saharan Africa and South Asia. While levels of antenatal care have increased in many parts of the world during the past decade, only 51% of women in low-income countries benefit from skilled care during childbirth. This means that millions of births are not assisted by a midwife, a doctor or a trained nurse. In high-income countries, virtually all women have at least four antenatal care visits, are attended by a skilled health worker during childbirth and receive postpartum care. In low-income countries, only 40% of all pregnant women have the recommended antenatal care visits.

According to indexMundi 2014, more than 360,000 mothers die each year from complications during child birth each year in Kenya and Globally about 850,000. Ten million more suffer from pregnancy related illnesses and injuries, and in 2008, 8.8 million children died before their fifth birthday, nearly all from preventable or treatable causes. While some countries have made improvements in maternal and child health in recent years, there remains an enormous gap between the developed and developing world: sub-Saharan Africa's child mortality rate is 24 times that of industrialized countries and women living in the poorest countries are nearly 300 times more likely to die from complications of pregnancy or childbirth than women living in industrialized countries (Johns *et al*, 2007).

Women and children's health over the years has been a great area of concern in developing countries and especially those with low economic income status. Across the

continent maternal child mortality and morbidity are on the increase and the questions that arise are: what measures and programs have Governments put in place to improve the health of the most vulnerable people in society (Randall & Pollock, 2010).

A study by the APHRC (2009) reports that, the state of maternal health in developing countries remains a major global concern since pregnancy and childbirth are still the leading causes of death, disease and disability among women of reproductive age. Maternal health outcomes and utilization of maternal health services also have a strong bearing on child health. Maternal and child care along with food security, adequate resources and a healthy environment is a third necessary precondition for adequate nutrition. The type of healthcare received at childbirth is often critical for the health and survival of both infant and mother. A significant proportion of neonatal deaths are attributed to poor birth practices.

Research indicates that if women had access to basic maternal health services, 80% of maternal deaths could be prevented. Vitamin A supplementation, which costs only $1.25 a day per child, could save over a quarter of a million young lives annually by reducing the risk and severity of diarrhea and infections. Additionally, investment in the health of mothers and children reaps widespread development returns that can benefit communities for generations to come (Grover, de Pee, Kai, Raju, Bloem & Semba 2008).

The direct causes of maternal deaths are hemorrhage, infection, obstructed labor, hypertensive disorders in pregnancy, and complications of unsafe abortion. There are also birth-related disabilities that affect many more women and go untreated like injuries to pelvic muscles, organs or the spinal cord. At least 20% of the burden of disease in children below the age of five is related to poor maternal health and nutrition, as well as quality of care at delivery and during the newborn period. Yearly, approximately eight million babies die before or during delivery or in the first week of life. Further, many children are tragically left motherless each year. These children are ten times more likely to die within two years of their mothers' death (United Nations International Children’s Education Fund, 2004).

Rogo, Oucho & Mawali, 2001, state that a majority of deaths and disabilities, being mainly due to insufficient care during pregnancy and delivery, are preventable. About 15 per cent of pregnancies and childbirths need emergency obstetric care because of complications that are difficult to predict. Kenya's maternal mortality rate continues at an unacceptably high level. While maternal mortality figures vary widely by source and are highly controversial, the best estimates for Kenya suggest that approximately 14,700 women and girls die each year due to pregnancy-related complications. Additionally, another 294,000 to 441,000 women and girls will suffer from disabilities caused by complications during pregnancy and childbirth each year (United States Agency for International Development, 2009).

Johns *et al*. 2007, reports that an estimated 15% of pregnant women in developing countries experience pregnancy related complications, 7% require care at centers with surgical capacity and 2-3% require surgical care. Nearly 530 000 women die annually from pregnancy related complications. Furthermore each year an estimated 4 million babies die within the first 4 weeks of life, and three quarters within the first week of life. Deaths among neonates account for about 40% of deaths accruing among children aged below 5years and for more than half of all deaths among infants.

Studies in slum settlements in Nairobi and other Sub Saharan Settings have highlighted significant disadvantages faced by the urban poor with respect to Morbidity, access to healthcare Services and mortality (Ziraba *et al,* 2011). Like many other health indicators, the burden of maternal mortality is heaviest among the poor. In the context of urban informal settlements (or slums), our understanding of maternal mortality remains very limited although other indicators (such as low use of health services and increasing child mortality), suggest that the urban poor are a highly vulnerable and marginalized group. Rapid urbanization, fueled by high levels of rural-to-urban migration, under conditions of poor economic performance has led to the growth of urban informal settlements in many African countries including Kenya. The slums are characterized by poor housing, lack of basic amenities (such as water and sanitation), and low availability and utilization of formal health services including maternity care. (Ziraba *et al*, 2009)

Available evidence indicates that there are several factors that predispose a woman to greater risk of maternal death. The common biomedical approach to the determinants of maternal morbidity and mortality usually divides them into distal and proximal factors (APHRC, 2009)

Attainment of the Sustainable Development Goal 3, demands a reliable and comparable method for estimating resource needs. More robust country specific information and costing of scaling up the health services is needed to better inform national decisions about the resources needed. Achieving the sustainable development goals may also require reform of healthcare systems to allow greater access for the poor: for example, health financing systems may need to be reformed in order to allow the poor to access care (John'*s et al*, 2007).

Nearly a quarter of Kenyan women have started childbearing by the age of 20 and this proportion is double for women living in urban informal settlements (slums) (Ziraba *et al*, 2009). This then poses a great challenge because women as young as 20 years are still not equipped with adequate knowledge on reproductive health and are hence more likely to be caught up in poor decision making when it comes to seeking health services and more so maternal child health services for that matter. Increasingly younger women of ages 10 to 12 are giving birth due to early marriages and early pregnancies. This poses a great risk to their health, complications during child birth and an even higher risk in neonatal mortality (WHO, 2008).

2.3 Maternal Education

An educated woman is an invaluable resource to her family and society at large. With an education women are more empowered both economically and socially, are autonomous in decision making. Basic education is important in that it opens up the scope of understanding issues and fosters communication. WHO 2011, states that, efforts to educate more women, to prevent infectious diseases, and to implement other targeted health programs in developing countries are having an impact. They also show, though,

that few countries are going to achieve international targets for improving maternal and child health.

Maternal education is strongly associated with maternal care. It is obvious that higher educated women are more conscious than the less educated and are more likely to receive maternal health adequately than their lesser educated counterparts. Women who have been through basic education and better so for those who have a tertiary education, tend to be more self conscious of their health and that of their families. They understand better the needs related to health and would seek advice where the need arises (Rehmann, 2009).

KDHS 2008/2009 reported that a mother's education can exert a positive influence on children's health and survival. Under five mortality is noticeably lower for children whose mothers either completed primary school (68/1000 live births), attended secondary school (59/1000) as compared to those whose mothers had no education (86/100 live births).

Female education retains a net effect on maternal health service use, independent of other women's background characteristics, household's socioeconomic status and access to healthcare services. The strong influence of a mother's education on the utilization of health care services is consistent with findings from other studies. Women whose husbands are involved in business/services do positively influence the utilization of modern health care services (Chakraborty *et al.* 2003).

Education is seen as a powerful promoter of child health and as a means of breaking the so called "cycle of deprivation". The resultant research and policy attention on promoting parental skills through education shifts the focus away from the societal determinants of family and child poverty towards the perceived failings of poorly educated mothers. However, educational attainment is strongly correlated with the socioeconomic status of family of origin (Spencer, 2005).

2.4 Maternal income

Income plays a major role when it comes to seeking and obtaining health services at healthcare centers. Even where services are deemed to be free, there is still some fee that is required to allow one to be able to access and obtain the necessary services. Case (2002) as cited in Adenike et al notes that income exerts a causal effect on health status through several channels and these are; improved nutritional status, better sanitation, improved living standards, reduction of psychological stress and reduced susceptibility to infections. Further to this is that higher income might allow people to spend more money and time to seek health services for self and family.

Other indicators of socio-economic factors that are associated with income include; educational attainment, nature of occupation, family background and nature of property ownership and wealth. Indeed formal education has become a means to elevate one's socio economic welfare such as an understanding of the roles that socio economic factors play in improving health and health seeking behavior is important for public health policy (Miermans *et al*, 2005).

The capacity of a mother to care for her children depends on her social status and economic activities. In many poor societies, patriarchy is likely to be the main obstacle in securing a fairer distribution of work and decision making power between adult household members. Increases in the ratio of female to total income are expected to improve the economic status of women within their household and their control over resources. Their ability to realize their own preferences within the family (of which health and wellbeing of children is likely to be a priority) may consequently be strengthened. However working outside the house may leave her little time for childcare (Reynolds *et al*, 2006)

Research has highlighted the strong relationship between socioeconomic status (SES) and child health outcomes in sub-Saharan Africa. Women experiencing inequalities (economic, empowerment, education) are less likely to use health services than women who are better off (Ahmed et al, 2010). However, few studies have examined the relationship between SES and child health in slum settlements where children are

particularly vulnerable due to poor environmental sanitation and access to affordable health services (African Population and health Research Centre, 2009).

Families with higher SES are able to seek better education for their children, including better nutrition. They are well informed about health matters and information and are financially able to seek sufficient healthcare for their children and themselves. Whereas low social economic status families have less financial capability to seek a good education for their children let alone better health care as they are less informed of the same (Spencer, 2005).

Low income groups are targets of discrimination based on their social economic status as well as other indicators such as ethnicity, race and gender (Alder & Carell, 1999). Resources remain a persistent problem in developing countries, whether financial or human, as governments invest inadequately in facilities, medicine, equipment and wages for trained healthcare staff to working remote rural areas. And many national health budgets have shrunk as more money is allocated to military spending and Kenya is not an exception.

A study by Heck and Parker (1999) to examine the effect of socioeconomic status on the relationship between family structure and child healthcare access and utilization, found out that children of single mothers fare poorly on many measures of well-being, but SES is rarely considered as the underlying factor in this relationship. It hypothesized that the relationship between family structure and access to health care would be largely explained by SES. Specifically that among children of poorly educated mothers, children of single mothers might have more problems accessing health care than those in two-parent families, but among children of more-educated mothers, children of single mothers would fare substantially worse than children in two-parent families on measures of health care access and utilization.

A lack of predictable financing makes it difficult for governments to plan for the long-term and invest in strengthening their health system - especially components like the

health workforce, which have significant costs that recur from year to year (APHRC, 2009).

Social Economic Status is an economic and sociological combined total measure of a person's work experience and of an individual's or family's economic and social position relative to others, based on income, education and occupation. SES is an important determinant of health and nutritional status as well as morbidity and mortality. It also influences the Accessibility, Affordability, Acceptability and actual Utilization of health services (Aggwaral *et al*, 2005).

2.5 Access Barriers

KDHS 2014 reported that women of reproductive age 15-49, said to have faced challenges when seeking healthcare whereby 37% cited lack of money, and 23% distance to the health center.

2.5.1 Health systems

These are related to poor health outcomes resulting from poor environmental conditions and infrastructure, limited access to services due to lack of income to pay for these services and location of the health centers. Additionally the reliance on poor quality and unregulated health services that do not meet healthcare demands (Zulu et al, 2011). Therefore governments in crafting health policies and programs need to adopt a rights based, gender sensitive, and women and adolescent friendly approach to health.

2.5.2National policies and investments

Rogo, Oucho, Mwalali (2006), state that for any program or strategy on maternal health and safe motherhood to succeed, it must have the support of the highest level of national authority. Such support facilitates the allocation of adequate financial and human resources; improves the infrastructure and communications; and puts in place effective and implementable standards, policies, and protocols. Most countries in Sub-Saharan Africa have not addressed policy issues, even where the policies have been shown to have significant influence on maternal mortality

2.5.3 Age

Women at their young and oldest ages are at a risk of having unwanted pregnancies and of having low birth weight babies and for dying during the infant stage of life. Adolescents are more and more everyday having to cope with the reality of motherhood at their young ages as from 9 years. A Study by WHO 2008, found a 55% higher risk of neonatal deaths of mothers aged 10-15 years, 19% higher risk in mothers aged 16-17years, and a 6% risk in mothers aged 18-19 years. Consequently there is also a higher risk of perinatal deaths among mothers aged

2.5.4 Children with special care and needs

There has been a lack of understanding and adequate information that enables children with special requirements to receive the needed healthcare. Therefore they experience barriers of early screening, evaluation and diagnosis as well as comprehensive and coordinated services which may reduce the severity of the child's condition or disability.

2.5.5 Maternal education

Literacy and education also play a major role in rural women's reduced health status. Women's lack of decision making power is apparent in their inability to control when and to whom they will be married. Early marriage is more common in rural areas and unfortunately this can negatively impact on their health and wellbeing. Thus women who marry at a young age also drop out of school and have less of an opportunity to learn about sexual and reproductive health and rights and how to access related services. With minimal education and limited access to health services they are left to manage their fertility, reproductive health and general wellbeing (Rogers 2002).

Elo (1990), examined the hypothesis whether maternal education exercised a direct influence on the use of maternal and child health care services, independent of the household's socioeconomic status and access to services also known to influence utilization of modern health care services in developing countries. The results supports the hypothesis that female education has an independent influence on the use of maternal health care services beyond its association with the household economic status and a set

of predisposing characteristics included in these analyses. Educated women are more likely than less educated mothers to seek the services of modern health care professionals both during pregnancy and at the time of delivery. Furthermore, this result cannot be attributed to the correlation between use of trained health care professionals for prenatal care and assistance at delivery. Thus, maternal education has both a direct and an indirect effect, through prenatal care, on health care behavior at the time of delivery. Evidence concerning a direct influence of female schooling on child health care services is not as clear

2.6 Conclusion of Literature Reviews

Service access relating to affordability is of great relevance to slum communities and urban poor in relation to other factors such as maternal education, material ownership and social standing. However maternal education plays a major role in influencing health seeking behavior and making informed choices about health issues.

A strong national health policy and investment in maternal child health are of outmost importance in Sub –Saharan Africa if we are looking at achieving Sustainable Development goals 3 probably not achieved in 2015 as was targeted but closer to vision 2030 as per the vision of our country Kenya (APHRC 2009)

For Governments' to achieve real equity in women's and child health, they must recognize and put in place mechanisms to overcome barriers, such as poverty and illiteracy, that negatively impact women's health and ultimately work towards changing these conditions. This should also include removal of laws and policies that are harmful to women's health (Rogers, 2002).

Attainment of the Sustainable development goals demands a reliable and comparable method for estimating resource needs. More robust country specific information and costing of scaling up these health services is needed to better inform national decisions about the resources needed. This may also require reform of healthcare systems to allow greater access for the poor (Johns et al, 2007). The challenge is not a lack of technology but a lack of access to technology. In the world's poorest countries, access to basic life-

saving interventions is inhibited by weak health systems that are characterized by shortages of health care workers, a lack of basic equipment, and inadequate infrastructure such as clinics and health facilities. Sub-Saharan Africa, which accounts for 24% of the global burden of disease, has only 3% of the world's health workforce (Ziraba et al, 2009).

2.7 Conceptual Framework

Independent variables **Dependent Variable**

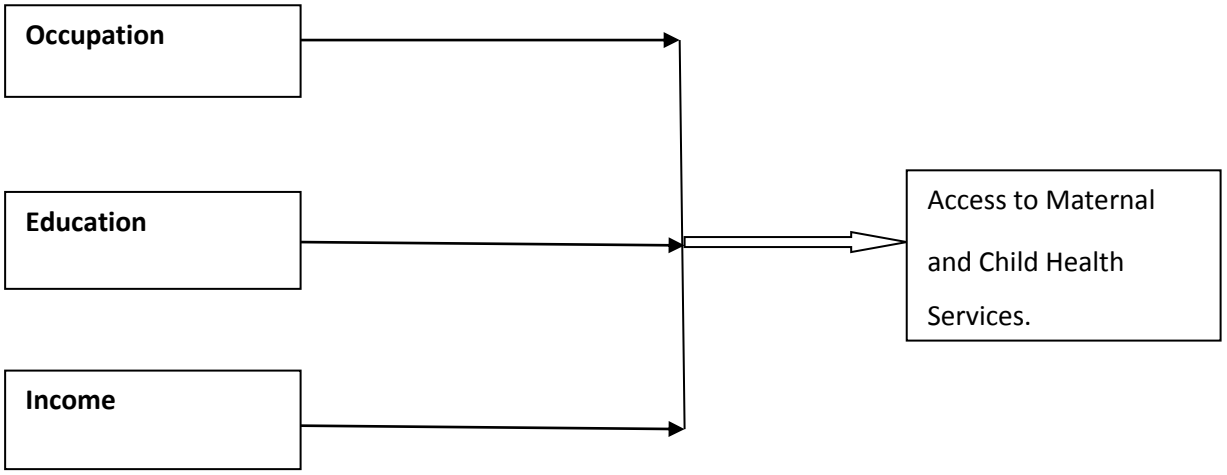

Figure 2.1: Conceptual Framework

Source: Author, 2016.

Accessibility of health care services is an important variable and a precursor for its Utilization. This conceptual framework has been designed to show how different aspects play in the quest to receive maternal and child health services.

1. **Independent Variables**: Education, income and occupation are factors that directly determine that accessibility of healthcare services.
2. **Dependent Variable**: This is the outcome variable which is the accessibility of Maternal Child health services.

CHAPTER THREE: METHODOLOGY

3.1 Study Area

Laini saba Urban informal settlement is a formal subdivision of Kibera District, Nairobi County and is located 5km South West of Nairobi City center which is one of the largest slums in Africa. It has a population of 80,000 residents with 24,505 households (Kenya National Bureau of Statistics, 2010). .

Laini Saba represents diverse ethnic populations and the area is characterized by poor living conditions and infrastructure. The healthcare services too are not adequate hence making it a suitable area of study. Most of the residents here are from rural areas in search for a better education, employment and improved living standards.

3.2 Study population

The target population comprised of women of reproductive age (15-49 years), residing in Laini Saba sub-location and willing to participate in the study. From the total population of 80,000 residents of Laini saba, 3,313 women were aged between 15-49 years. It is then from this proportion that the sample size was determined.

The choice of women from 15 is because girls as young as 12 years (WHO, 2008) have already begun childbearing due to early marriages. To assess the effectiveness of accessibility girls from 15 years need adequate interventions due to their young age at becoming mothers. By age 49 most women have stopped child bearing except for a few who start in their late years.

Therefore women from age 15 were selected for the study for the important reason that this is when majority of births occur as first time mothers, and they start to seek reproductive health services. According to WHO 2009, UN 1982 ages 15-49 has been classified as the standard age bracket with the lifetime probability risk of maternal morbidity and mortality.

3.3 Study Design

A descriptive cross-sectional study was adapted to address the role of Socioeconomic factors determining the accessibility of maternal child health services by women of reproductive ages(15-49) among the urban poor of laini saba of the kibera slums.

Key variables included the respondent's age, level of education, occupation, income status and ways in which they were able to access the health facilities. Other variables were related to the various maternal and child health services that they received at the health centers.

3.4 Sample Size Determination

The sample size was determined on the prevalence on the national child immunization coverage of 77% (KDHS, 2008/9) and a level of precision at 95% level of confidence.

Using Fisher *et.al* (1991) formula, a sample size of 272 was determined and this formula was deemed appropriate for populations below 10,000 i. e 3,313 women (AMREF 2010) according to the chief's records.

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

$n = \frac{1.96^2 (0.77)(0.23)}{0.05^2}$

$n = 0.680347/0.0025$

$n = 272.13$

$n = 272$

Population of women 15-49yrs in Laini Saba was 3313.

To get the desired sample size of populations below 10,000, the formula

$N_s = (\frac{n}{}$

$$N_s = \frac{272}{1+272/3313}$$

$N_s = 251$ + attrition rate of 10% = 25

$N_s = 276$.

N- Total population of study

Ns –Desired Sample size

z- Standard normal deviation

p- Proportion of population estimated to have characteristic of interest (0.77).

q- 1-p, proportion of population estimated without characteristic of interest (0.23).

e- Desired level of precision.

3.5 Sampling Techniques

With the aid of Community Health Workers (CHWs), the research team selected the available centers within the study area offering health services. The random convenience sampling procedure was then employed whereby mothers were interviewed as they sought MCH services at the health center. A computer software (Microsoft Excel) was used to generate a set of random numbers up to the required 272. Using these random numbers, the respective respondent was picked and a questionnaire was issued and coded until the desired number of respondents intended for the study was achieved.

3.6 Data Collection Tools

An interviewer administered semi structured questionnaire was employed to collect the desired information on demographic and socio-economic characteristics in part one, and in part two in relation to the accessibility and availability of the maternal child health

services in relation to the study objectives as had been outlined. The English language was used on the questionnaire.

The research assistants were prior trained by the Principal investigator on how to carry out the interviews on the research tools in relation to interviewing skills, clarifications on questions and ethical issues to be adhered to during the study. The interviewer read out the questions to the respondent for those who had difficulty in interpreting the questions to help them understand before they put down their answers. And assistance was given to those who could not write. Each of the assistants covered the health centers where these services were being offered.

3.7 Data Analysis and Presentation

All filled out questionnaires were checked for completeness and organized as per coding. A data base was first created then data was entered. After all the data had been entered, data editing and cleaning was done, and then SPSS version 20 was used to analyze data according to the different variables in the study. A Pearson's Chi-test at 95% Confidence Interval (CI) was used to test significance of associations between level of education and income, income and access to MCH services with income and education as the independent variables and access as the dependent variable. The processed and analyzed data was then presented in frequency tables and graphs.

3.8 Ethical Considerations

This included the following;

- Approval by the Institutional Research and Ethics committee at Moi University was obtained prior to the commencement of the Study
- Authority to conduct the Study in Laini saba was given by District Public Health Officer, Kibera.
- Each participant was informed about the study and signed the consent form. Identification/ code numbers were assigned to each participant for anonymity.

3.9 Eligibility criteria

a) **Inclusion Criteria-** women of reproductive age 15-49, who were residents of Laini Saba sub-location, and those who played the role of parent guardians for orphaned children.

b) **Exclusion Criteria-** women of reproductive age who were not residents of laini saba at the time of the study.

c) **Consent-** for participants younger than 18yrs an assent for Minors was issued and consent sought from parent or guardian.

3.10 Limitations of the study

These were

1. Data- due to the small study area (sample size).
2. Responder bias- this was based on maternal recall in relation to the information pertaining access of maternal child health services.

To overcome this limitations the research questionnaire was framed with specific questions on variables (education, income and occupation) to gain accurate information and in an easy to understand format. Additionally the research assistants were trained on interviewer skills and probing to get the most accurate information from the respondents. Additional variables like religion and culture were not assessed.

However despite these limitations, results from this study will be an important finding to the body of knowledge.

CHAPTER FOUR: RESULTS

4.1 Introduction

This chapter presents findings of the study, in line with the stated objectives.

4.2 Socio- Demographic Characteristics

The age distribution of the participants was as follows; those aged between 15-20 years were 40(15.3%), while 86(32.1%) were aged between 21-30 and 92(35.1%) were between 31-40, and those 41-49 years were 44(16.8%). Less than half (41.2%) of the participants had primary education while slightly over a third 97(37%) attained secondary education and only 49(18.7%) of the participants reported to have been to college or University.

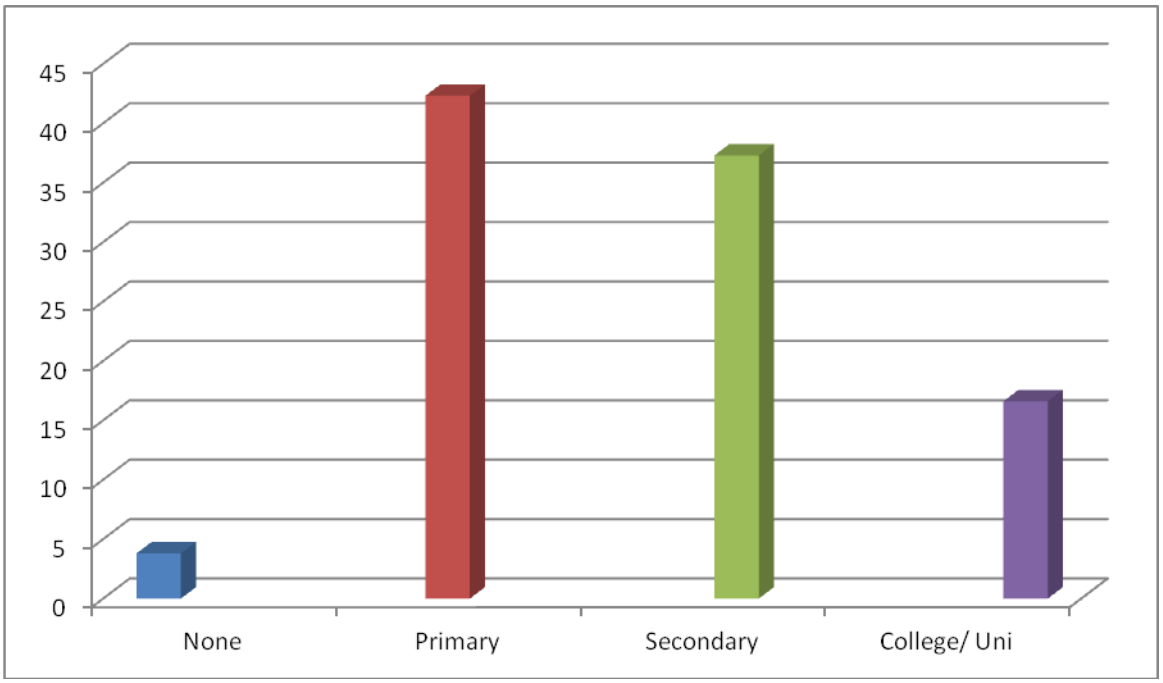

Fig 4.1 Education Level

Slightly over half (51%) of the women were married and 31.2% single. A greater proportion 202(77.1%) of participants were Christian, while 51(19.5%) were Muslims. Overall 81.6% of the women had borne children with nearly half 130 (49.6%) of these

women having 1-2 children and 99(37.8%) with 3-4 children, the rest 18.4% sought these service in relation to reproductive health and those who were playing the role of parent guardians. Slightly over a third 101(38.5%) of the participants were unemployed; the self-employed were 88(33.6%) while those employed were 73(27.9%)

Almost half 125(47.7%) of study participants had a monthly income of less than KES 2500, 43(16.4%) earned between KES 2501- 4999, while 94(35.9%) earned more than KES 5000.This findings showed that the income of majority of women in the Laini-saba sub-location was quite low to support their basic daily requirements let alone healthcare needs.

Slightly more than half 140(53.4%) of the participants spent more than one hour to reach a healthcare centre, 70(26.7%) spent less than an hour, while those who took more than two hour were 52(19.8%). According to WHO, Accessibility to healthcare services is measured by geographic distance, time spent to reach the facility or service and mode of transport vehicular or walking. The recommended times are 30 minutes to 1 hour (walking or by vehicle) depending on geographic terrain and within a 5 kilometer radius (Black et al, 2004).

Table 4.1 Socio- Demographic characteristics

Characteristic (%)	Frequency (No)	Percentage
Age in years		
15-20	40	15.3
21-30	86	32.8
31-40	92	35.1
41 -49	44	16.8
Education		
None	8	3.1
Primary	108	41.2
Secondary	97	37.0
College/university	49	18.7
Marital status		
Single	88	33.6
Married	133	50.7
Divorced	18	6.9
Widowed	23	8.8
Religion		
Christian	202	77.1
Muslim	51	19.5
Hindu	2	0.8
Others	7	2.7
No. of Children		
1-2	130	49.6
3-4	99	37.8
5-6	27	10.3
7 and above	6	2.3
Nature of occupation		
Self	88	33.6
Employed	73	27.9
Unemployed	101	38.5
Average Monthly income		
<2500	125	47.7
2500-4999	43	16.4
=>5000	94	35.9

4.3 Access to MCH Services

From the study, results showed that 100(36.6%) of the women were able to access MCH services while 172(63.4%) were unable to receive these services as required. Only 26.7% of mothers who were able to access healthcare services spent less than 30 minutes to get to the health centre while more than half 53.4% spent up to 1 hour and 19.8% spent more than one hour to reach these services.

The study revealed that 37.8% of respondents were able to access all of the three services namely; antenatal and postnatal, reproductive health and general treatment at the health centre and 30.2% had access to general treatment. More than half (59.25%) of mothers were unable to access maternal child healthcare services as needed. Consequently 31.3% of children taken to the health centre by their mothers were able to receive all of the three services (immunization, well baby clinic and general treatment), while those who got immunization and general treatment were 20.2%, and 29.4% got general treatment.

Table 4.2 Major factors affecting access of Maternal Child Health services

Major factors		Percentage
Time		
Time taken to the health center	30min- 1hr	26.8
	>1hour	53.4
	>2 hour	19.8
Distance to health center		55
Money		65
Others (poor roads, time)		32
Type of services received		
Women	Antenatal/Postnatal	62
	Reproductive health	55
	General Treatment	84
Children	Well baby clinic	41
	Immunization	73
	General treatment	81

From table 4.2 above, it describes the various factors that affect access to maternal and child health services. More than half 140(53.4%) of the respondents spent more than one hour to access service. Meanwhile 70(26.8%) spent less than one hour and 52(19.8%) took more than two hours.

Money was also a major factor with 65% of respondents reporting that they lacked money to access these services, whereas distance to the health center was 55%, and other factors such as poor roads and lack of time were reported at32%.

4.4 Education and access to MCH services

The table below gives a representation of the participants' age and how they were able to access maternal child health services. In addition it also gives the test association between the level of education of the participants and their level of access of the services.

Table 4.3 Relationship between age, education and access of MCH services

Variable	Levels	Access to MCH services Yes	Access to MCH services No	Test for association p-value
Age	15-20	5(9.4%)	31(18.7%)	<0.145
	21-30	36(37.5%)	50(30.1%)	
	31-40	37(38.5%)	55(33.1%)	
	41-49	14(14.6%)	30(18.1%)	
Education	Illiterate	-	8(4.8%)	<0.018
	Primary	49(51%)	59(35.3%)	
	Secondary	29(30.2%)	68(37%)	
	Tertiary	18(18.8%)	31(18.7%)	

From the proportion (36.4%) of respondents who were able to access maternal child health services, 51% had a primary education and 30.2% had attained secondary

education while only 18% had attained a tertiary level of education as shown in table 4.3. However no respondent from the illiterate group reported to have accessed MCH services (table 4.1). It is perceived that a mother with an education is better placed to make quality decisions especially in matters of health for her and her family. This is so because they become empowered with information important to their well-being and that of their families and can make decisions on health matters independently based on need.

Women age 21-30 who reported to have access to MCH services were 37.5%, while those between ages 31-40 were 38.5% and age 41-49 were only 14%. Those of age 15-19 were 5%.

4.5 Income and access to MCH services

Study findings revealed that 88(33.6%) of participants were self-employed while 73(27.9%) were formally employed and 101(38.5%) were unemployed. Majority 210(80%) of respondents spent less than KES 1,000 on healthcare per month, while 42(16%) spent between KES 1,001-4,999 and only 11(4%) spent more than KES 5000 as shown in the table below.

Table 4.4 Participants level of income in relation to access of MCH services

Variable	Levels	n	%
On average how much money do you Earn per month?	< 2500	125	47.7
	2500-4999	43	16.4
	>5000	94	35.9
How much money do you spend on healthcare per month?	<1000	210	80
	1001- 4999	42	16
	>5000	11	4
How do you pay for services at the health center?	Cash	207	76.1
	Free	49	18
	Insurance	16	5.9

A greater proportion 207 (76.1%) paid by cash for services rendered while 49(18%) reported to receive the services for free and 16(5.9 %) used insurance fund. Additionally 5.3% reported to use both cash and health insurance fund to pay for service provision

4.6 Hindrances to access

Results indicated that 63.4% of the participants experienced hindrances in their quest for maternal child health services. This is nearly two thirds of the population. Of this proportion, 40.1% reported lack of money as the major challenge experienced, while 29.0% cited distance to the health centre, and 10.7% poor road network and insecurity. Respondents who reported to experience more than one hindrance to accessing maternal and child health services were 32%.

Study findings showed that out of 97 women with secondary education 68 (70%) reported to have been faced with challenges in accessing healthcare while 59 out of 108 (54.6%) for those with primary education and 31 out of 49(64.5 %) for those with a college education.

Table 4.5 Hindrances experiences towards access of maternal and child health services

Variable	Women %	Children %
Lack of and availability of essential and quality drugs	41.1	58.4
Lack of enough Doctors , nurses and other healthcare workers	36.3	39.1
Poor quality services	29	32

4.7 Association between Socio- demographic factors and MCH services access

A Chi Test was done to test associations and it revealed that maternal age $p>0.145$, marital status $p>0.139$ and income $p>0.137$, did not have any statistical significance to the access of MCH services. However education $p< 0.018$ showed that there was a

statistical significance and played a major role. Time spent to access MCH services $p>0.055$ was not significant. This is shown in table 4.6 below.

Table 4.6 Association between socio-demographic factors and access to MCH services

Variable	Access		Test Statistic
	Yes No (%)	No No (%)	
Age			
15-20	5(9.4)	31(18.7)	x^2=5.402,3df,p=0.145
21-30	36(37.5)	50(30.1)	
31-40	37(38.5)	55(33.1)	
41 and above	14(14.6)	30(18.1)	
Education			
None	0(0)	8(4.8)	x^2= 10.237, 3df,
Primary	49(51)	59(35.5)	p= 0.018
Secondary	29(30.2)	68(37.0)	
College	18(18.8)	31(18.7)	
Marital status			
Single	30(31.2)	57(34.3)	x^2=6.487,4df,p=0.139
Married	54(56.2)	79(47.6)	
Widowed	4(4.2)	19(11.4)	
Divorced	7(7.3)	11(6.8)	
Monthly income			
<2500	51(53.1)	74(44.6)	x^2=3.974,2df,p=0.137
2500-4999	18(18.8)	25(15.1)	
=>5000	27(28.1)	67(40.4)	
Time spent to get to Health center			
<30min	23(24)	47(28.3)	x^2=5.797,2df,p=0.055
30 min- 1 hr	60(62.5)	80(48.2)	
>1 hour	13(13.5)	39(23.5)	

CHAPTER FIVE: DISCUSSION OF FINDINGS

5.1 Access of maternal and child health services

Access to maternal child health services is a precursor to its utilization. Results revealed that of the women who sought maternal child health care at the health centers 36.6% successfully received these services. Consequently 63.4% reported to have experienced challenges in accessing these services which included lack of finances, distance to the health centre, lack of and unavailability of essential services. Only 27.67% of these women reported that all their health needs were met at the health centers within their settlement, while majority 71.94% were not satisfied with the availability of services and had to seek treatment elsewhere. This is indicated by the number of women who sought referral at public institutions at 81.79% and at the private sector 17.86%.

Findings revealed that 37.8% of mothers received all services in regards to maternal health to include general treatment, antenatal and post natal services and reproductive health. This is below two thirds of the expected utilization of these services. The results were even lower for the under fives with ratings of 31.3 % receiving the services of immunization, well baby clinic and general treatment. This is below acceptable rates despite these services of maternal child healthcare being declared free in Public institutions of health.

The above findings concur with those reported in a review of literature by Kiwanuka et al (2008), that the poor and vulnerable experience a greater burden of disease but have lower access to health services than the less poor. Barriers to access arise from both the service providers and the consumers. Distance to service points, perceived quality of care and availability of drugs are key determinants of utilization. Other barriers are perceived lack of skilled staff in public facilities, late referrals, health worker attitude, costs of care and lack of knowledge. Rutaremwa, Ojiambo, Jhamba, Akiror and Kiconco (2015), reported in their study that 46% of respondents stated distance as a major challenge in accessing maternal child health services.

KDHS (2008-2009), also reported that 42% of women who delivered outside a health facility did so because the facility was too far away or there was no transport to the facility, compared to only 17% who cited the cost of delivery as the key barrier. Cost of health facilities ranked as a factor above 30% only for women in Nairobi, with rural women far more likely to report that they did not deliver in a hospital because it was too far or they lacked transport. In North Eastern, where only one maternity wing is currently operational, 68.8% of women were deterred because of distance, lack of transport, or because the facility was not open, versus only 4.9% who cited cost as the key barrier to skilled delivery (Bourbonnais, 2013).

In provision of health services for women 41.1% reported a need for the availability and stocking of quality and affordable medicines, while 36.37% said there was a need to increase more doctors and nurses within the healthcare facilities. Consequently for child health services 58.1% required availability and stocking of quality medicines and 39.3% a need for more doctors and nurses respectively.

Time is considered as a major factor in the access of health services. Almost two thirds of the mothers spent more than one hour to be able to reach the health centers. Additionally a 6% of women cited lack of time as a challenge in access to maternal child health services. Chakraborty et al (2003) found that there was no significant difference depending on how far respondents lived from health facilities. Consequently a $p< 0.055$ did not reveal any significance between time spent and access of health services. The more mothers are able to access these services the higher the chances of utilization.

Complete access to healthcare services may be assumed to be without challenges in environments where the country's economic and social order is high and deemed as equal among its citizens. However this may not be the case in a country like Kenya and especially in this area of Study, a slum area facing all manner of low socio-economic challenges, low employment rates and poor living conditions.Research indicates that if women had access to basic maternal health services, 80% of maternal deaths could be prevented (Grover et al 2008).

5.2 Maternal education and access to MCH services

It is perceived that an educated woman is aware about health problems, knows more about health care services and uses this information to keep in a healthy state. A p value of 0.018 indicated that maternal education played a significant role in access of MCH services among the respondents. Rutaremwa *et al* (2015), Fotso & Mukiiri (2011), found out that women's education influences their choice of health service and place of delivery. It has been shown that education helps women to overcome various misconceptions about institutional delivery, and serves as a proxy for cognitive skills, information and values as they relate to health-seeking behaviors. This also resonates with findings from Ahmed *et al* (2010), that women with an education more so complete primary education are 3 times more likely to access health services compared to those with none or incomplete. Awoyemi *et al* (2011), also reported that women's education has an important impact in the utilization of modern healthcare facilities.

Education is a strong predictor of use of maternal child health services. A mother's education can exert a positive influence on children's health and survival. Under five mortality is noticeably lower for children whose mothers either completed primary school (56/1000 live births), attended secondary school (51/1000) than those whose mothers have no education (63/1000 live births) (KDHS 2014).

Ochako, Fotso, Ikamari and Khasakala (2011), found in their study that women with a secondary education and above were more likely to seek maternal health services early compared to their counterparts with a lower level of education. Magadi (2004) also notes that maternal educational attainment emerges as an important determinant of child health with respect to vaccination coverage. Children of women with at least secondary level education have about double the odds of being fully vaccinated compared to those whose mothers had no more than incomplete primary education level.

Maternal education is strongly associated with maternal care and influences health seeking behavior. Amin, Nirali and Becker (2010), reported in their study that 76.4% of women who had more than a primary level education, reported higher health seeking

behaviors, that those with a lower education. It is obvious that higher educated women are more conscious than the less educated and are more likely to receive maternal health adequately than their lesser educated counterparts. Furthermore education is seen as a powerful promoter of child health and as a means of breaking the so called "cycle of deprivation". The resultant research and policy attention on promoting parental skills through education shifts the focus away from the societal determinants of family and child poverty towards the perceived failings of poorly educated mothers. However, educational attainment is strongly correlated with the socioeconomic status of family of origin (Spencer, 2005).

Trends indicate that efforts to educate more women, to prevent infectious diseases, and to implement other targeted health programs in developing countries are having an impact. They also show, though, that few countries are going to achieve international targets for improving maternal and child health. A Mother's education is likely to be associated with many of the other determinants considered in this study. The results indicate that female education has a net effect on maternal health service use, independent of other background characteristics, household socioeconomic status and access to health care services. Women with secondary or higher education are almost 1.8 times more likely to seek treatment from doctors/nurses to treat their ante-partum morbidities (Chakraborty *et al*, 2003)

The results of this study supports the hypothesis that female education has an independent influence on the use of maternal health care services beyond its association with the household economic status and a set of predisposing characteristics included in these analyses. Educated women are more likely than the less educated mothers to seek the services of modern health care professionals both during pregnancy and at the time of delivery and after. Furthermore, this result cannot be attributed to the correlation between use of trained health care professionals for prenatal care and assistance at delivery. Thus, maternal education has both a direct and an indirect effect, through prenatal care, on health care behavior at the time of delivery.

5.3 Maternal income and access to MCH services

Money is viewed as an enabler to meet everyday basic needs to include health demands when they arise. A Chi test $p< 0.137$ did not reveal any significant relationship between income and access to maternal child health services. This is contrary to the assumption that women with low socio-economic status are less likely to seek affordable and quality healthcare as their purchasing power is reduced.

Income whether maternal acquired or by the husband earned is seen as an enabler to accessibility of MCH services. In their study, Nigatu, Gebremariam, Abera, Setegn and Deribe (2014), reported that household monthly income was positively associated with women's autonomy. Those women with higher household monthly income were more likely to be highly autonomous as compared to their counter parts. This finding is consistent with the Ethiopian national level study result that revealed women in the highest wealth quintile were highly decisive on health care utilization for their own/child health care services utilization.

Ochako *et al* (2011) report that women from high wealth quantiles have better opportunities to seek modern health services and have better health seeking behaviors tree to four times higher compared to those from low income quantiles. Chakroborty *et al* (2003) found that women who were involved in gainful employment were more likely to use modern health care services to treat complications during their pregnancy. About 35.4% of women who worked for cash went to some qualified medical personnel for treatment, compared with only 25.3% of those who did not work.

Income determines affordability and ability to purchase and use healthcare services. The main source of income for these women was from self employment and dependants for the unemployed. With increased income mothers are able to access modern health care services and improve their living standards.

Ahmed *et al* (2010) found out that women experiencing inequalities (economic, empowerment, education) were less likely to use health services than women who were

better off. However APHRC (2009) reported that few studies had been carried out examining the relationship between SES and child health in slum settlements where children were particularly vulnerable due to poor environmental sanitation and access to affordable health services.

CHAPTER SIX: CONCLUSIONS AND RECOMMENDATIONS

6.1 Summary

This study set out to assess the role of socio-economic factors on access of Maternal Child Health services among women of reproductive age (15-49) living in the informal urban poor settlements of Laini Saba in Kibera, Nairobi County.

6.2 Conclusions

The study aimed to assess the social economic factors that affect the accessibility of maternal and child health services in Laini saba, Kibera.

First to note is that the level of access to these services was very low. Therefore the need to step up the provision of healthcare services in a holistic manner; affordable, quality and timely too. Lack of essential health services and medicines is also a contributing factor to their lack of reach because one would not seek services that are not there

The findings show that education indeed does play a major role in determining health seeking behavior and outcomes in relation to service access, including antenatal coverage and reproductive health. Women with higher education were much more likely to receive all the expected services related to maternal health as opposed to their counterparts with a lower education. Furthermore the higher the wealth quantile the more likely a woman will seek these services.

Contrary to popular belief that income has a major role to play in the access and utilization of health services, study results showed no significant relationship on its influence.

6.3 Recommendations

6.3.1The National Government:

More resource allocation and financing should be improved projected towards improvement on physical and service infrastructure to make accessibility to the health centers possible thus reducing travel time and delays to services during emergencies.

Women should be continually empowered through health education and given the relevant information that will enable them make the right health decisions for themselves and their families.

6.3.2 The County Government

With the devolvement of these services, the County government needs to come up with ways of empowering the women through education and meaningful employment. In addition, constant auditing of services offered and set up community activities to improve the livelihoods of the participants.

6.3.3 Further research

1. A comparative study should be carried out among several urban slum areas, to shed light on the different aspects and challenges on access of these important components of health.

2. Similar studies could be done to concentrate on other factors not addressed in this study.

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Appendix (i): Research Questionnaire

Dear Participant,

I am a student at the Moi University- Eldoret in Conjunction with AMREF, pursuing a Masters degree in Public Health. I am collecting information for my research study: The Role of Socio-economic Status on Women of Reproductive Ages (15-49) in Accessing Maternal Child Health services in Laini Saba, Kibera Slums.

Information collected during this research process will be treated with full confidentiality and is mainly for Academic purposes.

Thank you.

Jacqueline Nyangau: 0722 355778

(Student)

1. Dr. Simon Ruttoh : 0725 037025

(Project Supervisor).

1 Dr. S. Tororei : 0722934398

(Project Supervisor)

RESEARCH QUESTONNAIRE

Biographical data:

1. Age: 15 -20 [ ] 21-30yrs [ ] 31-40yrs [ ] 41 -49

2. Level of Education: [ ] None [ ] Primary [ ] Secondary [ ] College/university

3. Marital status: [ ] Single [ ] Married [ ] Widowed [ ] Divorced

4. Religion: [ ] Christian [ ] Muslim [ ] Hindu [ ] Other

5. Number of children: [ ] 1-2 [ ] 3-4 [ ] 5-6 [ ] 7-8

6. Occupation: [ ] Self- Employed [ ] Employed: [ ] Unemployed:

7. Average income per month: [ ] [ ] [ ]

8. Place of birth: ……..

Upbringing: [ ] Kibera: [ ] Upcountry: [ ] Within Nairobi (specify)

SES QUESTIONS

1. Averagely, how much money do you spend on medical care per month?

[ ] …… [ ] …… [ ] ……..

2. What amount of time do you take to the nearest health centre within where you live?

[ ] 30min [ ] 1 hour [ ] 2 hours [ ] 3 hours

3. Is the health centre a [ ] Private [ ] Public institution?

4. What services are offered at the health centre?

For children: **For women:**

[ ] Immunization for children [ ] General treatment

[ ] General treatment [ ] Antenatal & Post natal care

[ ] Well baby clinic [ ] Reproductive health/family planning

5. What are the common diseases in children that you experience within your household?

…… [ ] …….. [ ] …….

6. What are some common women health problems that you and your family experience?

…….. …… ……..……

7. Who gives you treatment at the health centre?

[ ] Doctor [ ] Nurse

8. Are all your required health needs met at the health centre?

a) YES…….. b) NO……

9. If not where else would you go for treatment?

[ ] Referral (Mbagathi or Kenyatta National Hospital

[ ] Private or mission hospital (state which one)

[ ] Seek traditional treatment

10. On average how much money do you spend on treatment / medicine per month?

……..

11. Are there any hindrances to accessing Maternal Child Health services where you live?

a) YES…… b) NO…….

12. What hinders you from seeking adequate health services when an illness occurs in the family?

[ ] Distance to health centre

[ ] Lack of money

[ ] Others (specify)

13. How do you pay for the services at the health center or can you be treated for free?

[ ] Cash [ ] Free [ ] Health Insurance Fund

14. What do you recommend to be improved in the provision of health care services at the health centers?

[ ] For children [ ] for women

…… ……...

…… ……

…… - ……....

…… ……..

Appendix (ii)

INFORMED ASSENT FORM FOR MINORS 15-18 YEARS.

This Assent form is for minors between the ages of 15-18 who will be attending MCH Clinics within the area of study who we are inviting to participate in the research: The Influence of Socio-economic status in accessing Maternal Child Health services among women of Reproductive ages(15-49), in Laini Saba sub-location, Kibera, Kenya.

Name of Principal Investigator: Jacqueline B. Nyangau

Name of Organization: Moi University

Part I: Information Sheet

Introduction:

My Name is Jacqueline Nyangau, a Student with Moi University and my job is to research and gather information to help improve the Maternal Child Health services offered at this clinics. I would like to find out if the information gathered from this study will tell us that.

I am going to give you information and invite you to participate in this research study. You can choose whether or not you want to participate. We have discussed this research with your parents/guardian and they know that we are also asking for your permission. If you are going to participate your parents have also to agree. But if you do not wish to participate, you don't have to even if your parent(s)/ guardian have agreed.

Purpose:

My aim is to find better ways to improve the availability and use of Maternal Child health services so as to improve and reduce the number of children and maternal deaths before, during and after birth.

Choice of participants:

I am requesting you to participate because like women who are married and older, the younger girls are also getting pregnant in school sometimes without having an idea of the whole process and require the right information to go through the pregnancy period.

Participation is Voluntary:

It is out of your free will to participate. You don't have to do it if you do not feel up to it. Even if you say yes and change your mind it is still ok to stop.

Procedures:

Information will be collected from you in form of answering questions asked of you by a research assistant or by guide of a research questionnaire (a sheet containing a set of formulated questions for purposes of this study).

You may be asked to participate in a group discussion and share your experience and information.

Risks:

There are no risks associated with this study as there are no tests to be done, just the gathering of Information.

Benefits:

There will be no direct benefit to you, but the information collected will help change and improve the services offered on the future to others young girls like you and other mothers around the country.

Confidentiality:

All the information collected from you will be kept secret and used only used for purposes of this study. We will not share /tell others of the information you have given us, this is why we are asking for your permission.

Any information about you will have a number on it instead of your name. only the people collecting the information(researchers) will know what your number is and that information will be kept under lock and key.

Sharing of findings:

When finished with the research the information collected will be shared with the clinics where the information was collected, and we will come to give report of the findings during the clinic days to the participants.

Right to refuse or withdraw:

You are free to refuse or change your mind from participating in the study.

Who to contact:

You can ask me questions now or later on, or the nurse at the health centre where you attend clinic. I have written my number on the form with which you can reach me.

Part II: Certificate of Assent

I have read this information (or had the information read to me), I have had my questions answered and know that I can ask questions later if I have them.

I agree to participate in this research.

OR

I do not wish to take part in this research and I have not signed the assent form below. …… (Initials)

Only if Assents:

Name of minor: ……..

Signature: ……

Date: …….

If cannot write/read;

I have witnessed the accurate reading ot the assent form to the minor, and the individual has had the opportunity to ask questions. I confirm that the individual has given consent freely.

Name of witness (not parent): ……. AND Thumb print of Participant

Signature of witness: …….

Date: …….

I have accurately read or witnessed the accurate reading of the assent form to the potential participant, and the individual has had the opportunity to ask questions. I confirm that the individual has given assent freely.

Name of researcher: ……

Signature of researcher: ……..

Date: …….

Copy given to participant …….. (Initialed by researcher/assistant)

Parent/ guardian have signed an informed consent: Yes …… No …….. (Initialed by researcher/assistant).

Appendix (iii)

Map of the Kibera Slums

Map of Nairobi indicating Kibera Slums in Red