

**INFLUENCE OF MATERNAL NURTURING CAPACITY ON CHILD SURVIVAL: A
CASE OF COMPASSION INTERNATIONAL CHILD DEVELOPMENT PROGRAMS
IN SAMBURU COUNTY, KENYA**

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**A Research Project Report Submitted In Partial Fulfillment of The Requirements For The
Award of The Degree of Master of Arts In Project Planning And Management of The
University of Nairobi.**

2014

DECLARATION

I declare that this is my original work and has not been presented in any other university for any academic award.

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This proposal has been submitted for examination with my approval as university supervisors

Signed: í í í í í í í í í í í í í í í í Date: í í í í í í í í í í í í .

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DEDICATION

Dedicated to my dear wife Caro, to my children Wendy, Kay and Don and to all the children of the world, born and unborn, without whom, this planet would not have been a wonderful place to live in. I love you all.

ACKNOWLEDGEMENT

I would like to acknowledge my supervisor and lecturer, Professor David Macharia, Dr. Charles Rambo and my colleagues at Compassion International for their encouragement, support and motivation during the entire journey of my studies and research.

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ABBREVIATIONS AND ACRONYMS

ASALs	Arid and Semi-Arid Lands
ARI	Acute Respiratory Infections
CSP	Child Survival Program
IMR	Infant Mortality Rate
ITNs	Insecticide Treated Nets
KDHS	Kenya Demographic Health Survey
U5MR	Under- 5 Mortality Rate
UN	United Nations
UNICEF	United Nations Children Education Funds
WHO	World Health Organizations

ABSTRACT

This study examines the influence of maternal nurturing capacity on child survival in Samburu County in Northern Kenya. It utilized an ethnographic descriptive study design to examine the influence of maternal knowledge, practice and beliefs on child survival. This investigation pursued several related lines of inquiry in an effort to establish whether maternal nurturing capacity has any bearing on the under-five mortalities. The analysis explored multiple statistical methods to isolate the effect of maternal nurturing capacity on child survival from the confounding influence of household economic conditions. The objective of the study was to explore how the level of maternal nurturing capacity influences under-five child survival in Samburu County and recommend evidence-based interventions for the government and all the stakeholders in the field of early childhood development in the country. This study involved the use of both quantitative and qualitative approaches to investigate the research problem using the questionnaire as the key instrument for data collection. In this study purposive sampling technique was used to select 6 early childhood programs supported by Compassion International in Samburu County that had been operational for more than 5 years giving a sample frame of 1,474 families. A 10% of the 1,474 families (147 mothers) sample size was selected for the study while systematic random sampling technique was used to pick the sampling units upon whom the questionnaires were administered. Tables and figures have been used to summarize the responses for analysis, interpretation and comparison.

The study revealed that Maternal nurturing knowledge, as an integral part of maternal nurturing capacity, had a significant influence on child survival relative to beliefs and practices on child rearing in Samburu County. However, provision of health care services, infrastructure to support the wider context of the child and further strengthening of awareness child nutrition and disease prevention by the government and the private sector can greatly enhance child survival in this region.

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

There is increasing consensus that the early childhood years set the foundations for later life in a person's life. Early childhood years set the most critical time in a child's survival and development, laying the foundation for physical, emotional, and intellectual wellbeing. The survival of the child in the first five years of life depends on a number of biological and socioeconomic factors. Due to their low immunity; children are quite susceptible to infections such as malaria, preventable diseases like measles, waterborne diseases and Acute Respiratory Infections (ARI) among others. This contributes significantly to child mortality. Child mortality is one of the major concerns facing many developing countries today with the extremes being registered in Sub-Sahara Africa. Dietary deficiencies, inadequate feeding practices, chronic infections, and low levels of stimulation during this period jeopardize a child's chance to survive and reach his or her full potential. Exposure to multiple deprivations increases these terrible consequences. Despite the convincing argument for the importance of early childhood, more than 200 million children under five years of age in developing countries do not reach their developmental potential (McGregor et al., 2007).

Not surprisingly, children in the most disadvantaged regions of their societies such as in the Arid and Semi-Arid Lands (ASALs) in Kenya are at the greatest risk of being deprived during this crucial early period. Interventions directed at the poorest children can provide enormous returns on investment.

In low-income countries, 1 child in every 9 dies before their fifth birthday, compared with 1 child in every 143 in high-income countries (UNDP, 2003). Global estimates indicate that of the 10.5 million deaths of children under five annually, almost half of them occur in Sub-Saharan Africa, where progress has slowed due to lack of preventive care and treatment, fragile health systems, and socio-economic stagnation due to conflicts, instability and HIV/ AIDS (WHO, 2003).

According to a survey (UNICEF, 2007), children (0-14 years) are 16 million, constituting about half of the population in Kenya. This makes children a significant population group that deserves

worthwhile attention as a right, and as the bedrock of Kenya's future. As is the case of many other countries, the poverty situation in Kenya, and in particular the Arid and Semi-Arid lands like Samburu, has gravely been affected by the back-to-back drought and climate change, followed by the global financial crisis and recession in many donor countries, resulting in cutbacks in routine funding meant to support poverty alleviation programs. The implications are that today, nearly 46 per cent of all Kenyans live below the poverty line.

For the past 20 years, malnutrition measured by stunting has stagnated at over 30 per cent in Kenya. Child malnutrition remains a major public health concern in many developing countries. The linkages between malnutrition and poverty carry both causal and consequential relationships. According to the Kenya Service Provision Assessment Survey of 2004, malnutrition was estimated to be an underlying cause of mortality in nearly 70 per cent of all illnesses among children under five.

Further, according to the World Bank, the Organization for Economic Co-operation and Development countries spend an estimated 1.6% of their gross domestic product (GDP) on family services and preschool for children aged 0-6 years, and 0.43% of GDP on preschools alone. By comparison, low-income countries such as Nepal, Kenya, and Tajikistan spend just 0.1% of GDP on preschools, while Nicaragua and Senegal spend less than 0.02% (WHO, 2003).

The estimated cost of providing child and maternal related interventions according to the government of Kenya Child Survival and Development Strategy (CSDS 2011/2012) was Ksh 687,710 billion and was expected to cover provisions of Child and maternal health services across the country. However, Kenya is still among the countries in Africa with the highest numbers of neonatal deaths with approximately 43,000 deaths occurring annually with North eastern province of Kenya leading with 163 deaths per 1,000 live births.

1.1.2 Samburu County and Compassion International child development programs

Samburu County is one of the regions in the expansive Rift valley province. It borders Laisamis district to the East and North east, Isiolo to the South east, Laikipia north to the South, Baringo East to the South west and Turkana South district to the west and North West. The district has a land area of approximately 21,000 KM² and was recently divided administratively into three districts namely Samburu Central, north, and East, each with 2 administrative divisions.

According to projections based on the 1999 population census, the district has a human population of approximately 174,000 people, most of them pastoralists who depend on livestock for their livelihood.

Samburu County is the second poorest in the country, with 83% of its population living below poverty line (County Report 2002-08). This population is a community that is still in total dependence on nature for its survival. The high aridity and prevalence of livestock diseases have accelerated the poor performance of livestock as a source of livelihood. This coupled with other socio-economic factors have forced a large number of the households out of pastoralism to settle in trading centers as pastoral destitute and charcoal burners. The few households that still maintain the semi-pastoralist lifestyle have had their herd sizes reduced, rendering the traditional coping mechanisms ineffective.

In Samburu County, Compassion International, a faith-based organization, has been supporting community-based child survival and development programs that focuses on the promotion of physical, spiritual, cognitive, and emotional development. For the children aged 3-6 years, organized early childhood learning centers not only improve school readiness but also a holistic development of the children. Since the year 2005, Compassion International has been able to open a total of 15 child development centers right across the County with each center supporting an average of 250 families and over 4,000 children.

1.2. Statement of the Problem

Samburu is the second poorest County in the country, with 83% of its population living below poverty line (County Report 2002-08). This is a community that is relatively traditional with clearly defined cultural traits and value systems and is still significantly dependent on nature for its survival. This presents a unique cultural context for the survival of a child. In an attempt to understand the environmental dynamics around child survival, social scientists have conducted several studies.

A comparison on the effects of fathers on child survival in two South America hunter-gatherer groups (Hurtado et al, 2012) found that the loss of the father had a significant impact on Ache children, where marriages are unstable, and fathers little involved in childcare, but no effect on

Hiwi children, who are raised in nuclear families, with considerable input from the father in terms of both provisioning and direct childcare. The importance of Ache fathers may instead lie in protecting their children from other males, rather than direct provisioning.

Divorce and remarriage have been shown to increase a child's risk of dying (Alam et al., 2011). It is often not clear how much of this is due to father absence, to step-father presence or to mother absence, or indeed to the stress and violence of the divorce itself. But step-children have been found to be at greater risk of homicide than children living with natural parents and have higher stress levels than children living with both biological parents (Masmas et al, 2009).

In a study of household bargaining over treatment-seeking in the Volta Region of Ghana, (Marlowe,2010) it was found that treatment-seeking for children with fever was influenced by the relationship between mothers' access to and control over resources to pay for care, norms of responsibility for payment, and norms of decision-making power whereby fathers were seen as the 'owners' of children who were therefore expected to make decisions about treatment-seeking, in particular travelling to a health facility (Marlowe,2010).

Researchers have found that household headship influences access to and allocation of resources for child health. It has been hypothesized that children in some contexts, may benefit more from expenditure in female rather than male headed households, since there is evidence that women channel more resources into health and nutrition for their dependents (Pavard et al,2011).

Other studies found that women's autonomy within their households that combine indicators of women's greater relative decision-making power and access to resources are positively associated with reduced levels of stunting among children younger than five (Andersson et al, 2013) and improved child survival.

Overall, these studies underline that women's bargaining power is an important factor in exploring child survival, health and nutrition but the extent to which improvements in women's status are connected to improvements in young child health and nutrition status may rely on broader contextual factors.

Furthermore, despite the global reach of ethnographic research on childhood, there is hardly any area of the world in which coverage could be called adequate and many others to which ethnography of childhood needs to be extended (Hirschfeld, 2002). And as in all other fields of science, most of the available research has been conducted in developed countries, and it is not known to what degree the knowledge generated can be applied in a different cultural and socio-

economic conditions. Some researchers have questioned the cross-cultural applicability of concepts such as caregiver sensitivity and responsiveness, and have called for a more ethnographic and etiological study to the field of caregiver-child interaction (Jackson, 1993). This was the entry point of this study. The research sought to analyze the relationship between maternal nurturing capacities and child survival, using the knowledge, practices and beliefs, in child care as indicators, and to examine the maternal competency that is sufficient to promote child survival in Samburu County.

1.3 Purpose of the Study

The purpose of the study is to explore how the level of maternal nurturing capacity influences Child Survival in Samburu County in Northern Kenya.

1.4 Objectives of the study

The research study was guided by the following objectives:

1. To examine how maternal nurturing knowledge influences the child survival in Samburu County.
2. To determine how maternal nurturing practices influences child survival in Samburu County.
3. To assess the influence of maternal nurturing beliefs on child survival in Samburu County.

1.5. Research Questions

The study was guided by the following research questions:

1. How does maternal nurturing knowledge influence child survival in Samburu County?
2. How does maternal nurturing practice influence child survival in Samburu County?
3. How do maternal beliefs influence child survival in Samburu County?

1.6. Significance of the Study

The study is of significance to the National Government, policy makers and to other like-minded organizations in the area of early childhood development particularly, in the development of cost-effective interventions that utilizes the existing maternal potentials. The findings can also act as a basis for policy formulation and guide legislation that is conspicuously lacking in Kenya today particularly for children in the child development programs. Finally, researchers in the area of child survival can also greatly benefit from this study.

1.7. Delimitation of the study

The study was carried out in Samburu County the North Eastern Province of Kenya. The target population was the mothers and caregivers of the under-five children benefitting from the Compassion International early childhood development programs in the area. The study was limited to the six programs that have been in existence for at least 5 years.

1.8. Limitations of the Study

The geographical vastness of the study area as a result of the sparse population density and difficult terrain, presents a challenge and, therefore, a limitation to the study but the researcher mitigated for this by having all the respondents in one of the centers during the day of the study. The traditions and cultural practices that govern the male and female interactions in the County, may have introduced biases to the study. The researcher sought the help of the opinion leaders in assuring the respondents that the findings of the study were strictly for academic purposes and that the information was going to be treated as confidential.

1.9. Assumptions of the study

The study assumed that all the identified respondents had at least some functional literacy levels that facilitated the communication during the interviews. The study also assumed that the respondents answered the questions presented accurately and truthfully. As shown on section 4.2, the respondents were cooperative as 95% questionnaires were completed and returned.

1.10 Definitions of significant Terms

Maternal Nurturing Capacity

The ability of a mother to nurture her infant as measured by her knowledge, practices and beliefs. Capacity refers to the mother's competency to bring up a child and may include choice as determined by her knowledge and understanding of circumstances around her and the culture of the community in which she lives.

Maternal Nurturing knowledge

Knowledge and skills acquired, either formally or informally, by the mother or the caregiver on the upbringing of a child below the age of five. Knowledge in this context refers to the level of understanding a mother has in interpreting her surroundings.

Maternal Nurturing practices

The routines that the mother or caregiver performs in regards to child care for a child below the age of five. The practices determine the behavior of the mother in regards to general hygiene and choices in nurturing of infants

Maternal Beliefs on childcare

The general acceptance and confidence in opinions regarding child care by mothers and caregivers. The beliefs are reflections of attitudes the mothers may have on certain phenomena and are not necessary based on facts.

Child survival

The ability of an infant to live to be five years as measured by the weight of the child at birth. The weight of a child at delivery that is an indication of survival chances of the child beyond the initial five years of life.

CHAPTER TWO

LITERATURE REVIEW

2.1. Introduction

This chapter reviews literature related to maternal nurturing capacity in as far as it relates to maternal knowledge, practice and belief in relation to child survival from global, African and Kenyan perspectives. The chapter also reviews related theories that explain the importance of maternal childcare and its impact on survival of Under-fives. The final section of the chapter lays out the conceptual framework that defines the relationship between the independent variables and the dependent variable.

2.2. Maternal Nurturing Capacity and child survival

Basic care of all infants, early detection and treatment of complications can save many Newborn lives. Typically, child nurturing in most communities is viewed as the preserve of mothers or caregivers and is a skill that is ordinarily passed on from one generation to another. The unstructured knowledge on child care normally focuses on the delivery, feeding, and clothing of children but seldom on the management of illnesses or mortalities. Most government and Non-governmental agencies in child development have endeavored to set up programs to bridge this gap. Two such approaches were set up by UNICEF and WHO in the early 80s to define child care and to systematically address new born morbidities and mortalities (UNICEF/WHO 1995). The approach, dubbed GOBI-FF, is an abbreviation of Growth, Oral Rehydration, Breastfeeding, Immunization, Family spacing and Food supplementation that are the critical response-orientations that nursing mothers need to have for them to effectively nurture their children. This is, in addition to having some functional literacy that can ensure that the mother is able to read and execute simple instructions related to general preventative measures. In gauging effectiveness in nurturing therefore, the maternal capacities will have to be viewed in the light of the mother's knowledge, practice, beliefs and attitude as they relate to the established child care regime.

2.2.1. Knowledge on Immunization

Immunization of children against the six vaccine-preventable diseases namely, tuberculosis, diphtheria, whooping cough, tetanus, polio, and measles are crucial to reducing infant and child mortality. Other childhood vaccines given in Kenya protect against hepatitis B and haemophilus influenza type B (Hib). According to the immunization guidelines (WHO,2005), children are considered fully vaccinated when they have received a vaccination against tuberculosis (also known as BCG), three doses each of the DPT-HepB-Hib (also called Pentavalent) and polio vaccines, and a vaccination against measles. The BCG vaccine is usually given at birth or at first clinical contact, while DPT-HepB-Hib and polio vaccines require three vaccinations at approximately 6, 10, and 14 weeks of age, and measles should be given at or soon after reaching 9 months of age. The highest proportion of children fully vaccinated is in Central province (86 percent), followed by Rift Valley province with 85 percent. North Eastern and Nyanza provinces have the lowest proportion of children fully vaccinated, 48 percent and 65 percent, respectively (KDHS, 2008-09).

There has been a significant rise in the coverage for the six major vaccine-preventable diseases; pertussis, childhood tuberculosis, tetanus, polio, measles and diphtheria since the initiation of Expanded Program on Immunization in 1974 by the World Health Organization .In developed countries, where accurate recording of immunization and reporting of diseases is in place, most vaccine-preventable diseases are at or near record lows. Worldwide, DTP coverage increased to an estimated 82 per cent by the end of 2008. Polio is on the verge of eradication. Deaths from measles, a major killer disease, declined by 74 per cent worldwide and by 89 per cent in sub-Saharan Africa between 2000 and 2007. However, absolute numbers of unvaccinated infants are highest in the most populous developing countries, some of which enjoy fairly high rates of immunization coverage. The complete immunization coverage in Kenya in 2003 was 57 % and this rose gradually in 2007 to 77%. However, an estimated 35% of newborns had not been immunized in 2006, translating into 0.5 million unvaccinated children within the country. It is also reported that 20% of deaths among children less than five years of age, are caused by measles. In 2006, 1.5 million children were at risk of contracting measles after an upsurge of confirmed measles outbreaks in 39 districts in Kenya.

The Kenya Expanded Program on Immunization recommends that children receive Bacillus Calmette-Guerin (BCG) and Oral Polio Vaccine (OPV) at birth; three doses of Pentavalent vaccine and OPV at 6, 10 and 14 weeks of age; and measles vaccine at 9 months of age. Immunizations are recorded on vaccine cards or booklets obtained from the clinics.

2.2.2. Knowledge on Postnatal Care

A significant proportion of maternal and neonatal deaths occur during the first 48 hours after delivery. As such, postnatal care is important for both the mother and the child in the management of complications arising from the delivery, as well as to provide the mother with important information on how to care for herself and her child. It is recommended that all women receive a check on their health within two days of delivery (WHO, 2005). The statistics indicate that 53 percent of women do not receive postnatal care. The proportion of women who do not receive postnatal care decreases with increasing level of education (KDHS, 2008-09). There are wide provincial differentials in the proportion of mothers who do not receive postnatal care with up to 79 percent of those in North Eastern province not receiving postnatal care, compared with 18 percent of those in Nairobi province.

2.2.3. Knowledge on Diarrheal control

Dehydration caused by severe diarrhea is a major cause of morbidity and mortality among young children, although with knowledge on oral rehydration (ORT), the condition can be easily treated. Notably, exposure to diarrhea-causing agents is frequently related to the use of contaminated water and to unhygienic practices in food preparation and disposal of excreta. According to the survey data (KDHS 2008-09), Nairobi has the lowest prevalence of diarrhea (12 percent) and Coast province the highest (27 percent). The survey also indicates that diarrhea is also slightly less common among children who have an improved source of drinking water than among those with an unimproved water source. The same data also showed that diarrhea is also slightly less common among children who used improved, private toilet facilities compared with those who used non-improved or shared toilet facilities.

2.2.4. Knowledge on child Nutrition

Adequate nutrition is critical to child development. The period from birth to two years of age is important for optimal growth, health, and development. Unfortunately, this period is often marked by growth faltering, micronutrient deficiencies and common childhood illnesses such as acute respiratory infections (ARI) and diarrhea (UNICEF.WHO 2005). Further, the mother's nutritional status has important implications for her health as well as the health of her children. Malnutrition in women results in reduced productivity, an increased susceptibility to infections, slow recovery from illness, and heightened risks of adverse pregnancy outcomes (UNICEF/WHO 2005). Nationally, 35 percent of children under-five are stunted, while the proportion severely stunted is 14 percent. Children living in rural areas are moderately and severely stunted to a greater extent (37 percent), when compared with urban children (26 percent). At the provincial level, Eastern province has the highest proportion of stunted children at 42 percent, while Nairobi province has the lowest at 29 percent.

On the downside, levels of malnutrition have remained the same, with the survey showing that 35 per cent of Kenyan children are stunted, 14 per cent of them severely. Stunting prevalence varies by province, with the majority (42 per cent) coming from Eastern Province (MoMS report 2009). 16% of Kenyan children are underweight, with four per cent classified as severely. Peak levels of low weight-for-age are found among children aged 24-35 months, as well as children in North Eastern Province and those whose mothers have no education.

Proper child nutrition is very critical for under-five child survival. Along with child health and survival, studies also suggest that women's ability to exercise greater agency also has positive effects on the nutritional wellbeing of their family, particularly on their children (Kabeer 2007). This complements KDHS (2008-09) report which provides that in spite of lower incomes and lower intake of calories, pre-school children from female headed households where the mother has basic primary education do significantly better than children from female-headed households where the mother has no basic primary education, in relation to longer term measures of nutritional status. According to KDHS (2008-09), the prevalence of moderate to severe levels of

malnutrition was much lower among children in female headed households where mothers had basic primary education

2.2.5. Knowledge on Breastfeeding

It is recommended that children should be exclusively breastfed during the first 6 months of life and that children be given solid or semisolid complementary food in addition to continued breastfeeding from 6 months until 24 months or more when the child is fully weaned. Exclusive breastfeeding is recommended because breast milk is uncontaminated and contains all the nutrients necessary for children in the first few months of life. In addition, the mother's antibodies in breast milk provide immunity to disease. Early supplementation is discouraged for several reasons (UNICEF, WHO, 2005).

Due to the ignorance of most nursing mothers, infants tend to be introduced early to supplementations which effectively exposes them to pathogens and increases their risk of infection, especially disease and also decreases infants' intake of breast milk and therefore suckling, which reduces breast milk production.

Exclusive breastfeeding is not common, as only 32 percent of children under-six months of age in Kenya are exclusively breastfed. Most of the supplements given are plain water or other milk. One-quarter of children under 6 months are fed using a bottle with a nipple. The proportion of children feeding using a bottle with a nipple is highest (33 percent) in the 4-5 months age group (KDHS, 2008-09). The continued practice of bottle-feeding is a concern because of the possible contamination due to unsafe water and lack of hygiene in preparation.

2.2.6. Knowledge on Antenatal care

Antenatal care is more beneficial in preventing adverse pregnancy outcomes when it is sought early in the pregnancy and is continued through delivery. Early detection of problems in pregnancy leads to more timely referrals in the case of women in high-risk categories or with complications. Survey data (KDHS, 2008-09) reveals that about 47 percent of pregnant women make four or more antenatal visits. Sixty percent of urban women make four or more antenatal care visits, compared with less than half of rural women that stands at 44 percent.

2.2.7. Knowledge on Malaria Control

Malaria is a leading cause of childhood morbidity and mortality worldwide. It is estimated to account for 732,000 deaths among children aged 5 or less, or about 8% of all such deaths (Black et al. 2010). In Kenya, it accounts for about 30-50% of all outpatient visits and 20% of hospital admissions. Pregnant women and children are particularly vulnerable. It is estimated to account for about 20% of deaths among children Under 5(Black et al. 2010).

Although malaria affects people of all age groups, children under five years of age and pregnant women living in malaria endemic regions are most vulnerable. The human toll that malaria exacts and the economic and social impacts are devastating. Malaria alone kills an African child every 30 seconds, and remains to be one of the most significant threats to the health of pregnant women and their newborn (UNICEF, 2004). The death toll from malaria remains outrageously high - with more than 3000 African children dying daily. Malaria affects 20 million Kenyans annually; the cumulative human suffering and economic loss caused by malaria is immense. It is estimated that annually, 26,000 children under five years of age (72 per day) die from the direct consequence of malaria infection and pregnant women suffer from severe anemia and have a high likelihood of delivering infants with low birth weight (UNICEF, 2005) . Inaccessibility and limited knowledge on anti- malarial drugs has been blamed for this phenomenon. The highly effective insecticide treated bed nets protect only a small proportion of the children at risk of malaria (UNICEF 2005).

Fortunately, there has been a rapid escalation of malaria control efforts in recent years. Funding committed by major global financiers of malaria control has increased more than nine-fold from less than US\$ 0.2 billion in 2004 to about US\$ 1.8 billion in 2009 (WHO 2010).The Global Fund to Fight AIDS, Tuberculosis and Malaria has played a major role in this funding surge. Since its inception in 2002, the Global Fund dramatically increased funding levels for HIV/AIDS, TB and malaria in the developing world. By 2009, the Global Fund had approved proposals worth US\$19.2 billion of which grants for malaria control account for US\$5.7 billion (Global Fund 2010).

Kenya adopted a new National Malaria strategy in 2001. The strategy emphasized the distribution of insecticide treated bed nets or ITNs based on the evidence that ITNs were

effective in reducing the malaria prevalence. In addition, it recommended selective indoor residual house-spraying for epidemic control, a switch to the more effective and prompt treatment, and prophylactic treatment for pregnant women in endemic areas. Akin to the rest of sub-Saharan Africa, funding for malaria control in Kenya jumped in 2002, and showed major growth by 2005. Total funding committed to malaria control in Kenya in the period 2004-2009 amounted to US\$236.4 million, 66% of which was provided by the Global Fund (WHO 2010).

A program review in 2009 found moderate progress in access to effective treatment, and prophylaxis for pregnant women, and in the use of indoor residual spraying. The review showed that 61 % of households in Kenya have at least one mosquito net, treated or untreated, with 54 % owning at least one treated one. A half of the women interviewed (52 per cent) took anti-malarial drugs for prevention of malaria during pregnancy, with only 15 per cent reporting they had received two doses of fansidar, at least one of which was given during an antenatal visit. But the review also showed a striking increase in the ownership and usage of ITNs by Kenyan households. The proportion of children under 5 who used ITNs rose from 5% in 2003 to 39% in 2007, and 47% by 2008. (KDHS 2008-09). In the malaria-prone regions, ownership had grown to be in excess of 70% and the proportion of children protected by ITNs was about 60 %.(Kenya Malaria Program Performance Review, 2009).

2.2.8 Maternal Literacy levels

Nurturing of children requires certain basic of knowledge of child health, nutrition, environmental sanitation, and child health-related issues. In effect, this means the nursing mother or caregiver must have the ability not only to detect the illness symptoms of the child, but also to seek relevant remedies at the very earliest opportunity. Additionally, the mother has to have some knowledge on infection and disease control that includes immunization, environmental cleanliness, nutrition of child, water treatment and the maintenance of proper hygiene at all times, use of insecticide-treated nets for the prevention of malaria and exclusive breastfeeding, among others. The ability to do all this is greatly enhanced by a reasonably high level of formal education the mother or the caregiver has. Such a high level of education has the additional benefit to the woman in her determining the marital age, her role in decision making and ability to exercise her reproductive rights.

2.3. Maternal Practice on Water safety and Sanitation.

Many of the diseases that lead to increased morbidity and mortality of children under five are largely related to the unavailability of safe water, unhygienic behaviors, poor sanitary facilities, and poor housing conditions. Increased prevalence of diarrheal diseases, cholera, and typhoid is seen in situations of unsanitary refuse, excreta disposal, and use of unsafe drinking water. In addition, inadequate drainage and accumulated wastewater encourage breeding of mosquitoes with increased malaria attacks. Compounding the lack of safe water is the lack of awareness of the health consequences of unhygienic behaviors, such as defecating and urinating in bushes outside houses, poor refuse disposal, and infrequent hand washing. Another problem is the use of the same water source for bathing, washing, and feeding of cattle and the absence of proper or inadequate water treatment techniques.

2.3.1. Maternal Practices on child Delivery

Babies delivered in a health facility have a reduced health risk compared to those delivered outside the facilities. Proper medical attention and hygienic conditions during delivery can reduce the risks of complications and infection that can cause morbidity and mortality to either the mother or the baby. The survey data results show that 43 percent of births in Kenya are delivered in a health facility, while 56 percent of births take place at home (KDHS, 2008-09). It also indicates that, mothers in rural areas are more than twice as likely to deliver at home compared with those in urban areas. The proportion of births that take place at home is also substantially lower (10 percent) in Nairobi province than in North Eastern province (81 percent).

2.3.2. Maternal Practices that lead to Acute Respiratory Infection

Acute respiratory infection (ARI) is one of the leading causes of childhood morbidity and mortality throughout the world. Early diagnosis and treatment with antibiotics can prevent a large number of deaths caused by ARI. Survey data (KDHS 2008-09), indicates that the differentials in the prevalence of ARI symptoms are not large. However, children whose mothers smoke cigarettes or other tobacco are far more likely to have had a cough with short, rapid breathing (20 percent) than children whose mothers do not smoke (7 percent). ARI prevalence is also lower among children whose mothers use electricity or gas as cooking fuel compared with

those children whose mothers use kerosene or wood. Provincial differentials are minimal except for a relatively high prevalence of ARI among children in Coast province at 13 percent

2.3.3. Maternal Practices on Complementary Foods

It is recommended that solid food should be introduced to infants around the age of 6 months because by that age breast milk alone is no longer sufficient to maintain a child's optimal growth (UNICEF, WHO 2005). In the transition to eating the family diet, children from the age of 6 months should be fed small quantities of solid and semisolid foods throughout the day. During this transition period (ages 6-23 months), the prevalence of malnutrition increases substantially in many countries because of increased infections and poor feeding practices. The survey data (KDHS, 2008-09) indicates that the most commonly used foods given to breastfeeding children under age three include food made from grains (72 percent), vitamin-A rich fruits and vegetables (53 percent) and other milk (51 percent).

2.3.4. Maternal Practices on Micronutrients intake among children

A serious contributor to childhood morbidity and mortality is micronutrient deficiency. Children can receive micronutrients from foods, food fortification, and direct supplementation. Vitamin A is an essential micronutrient for the immune system and plays an important role in maintaining the epithelial tissue in the body. Severe vitamin A deficiency (VAD) can cause eye damage. VAD can also increase severity of infections such as measles and diarrheal diseases in children and slow recovery from illness. Vitamin A is found in breast milk, other milks, liver, eggs, fish, butter, red palm oil, mangoes, papayas, carrots, pumpkins, and dark green leafy vegetables. The liver can store an adequate amount of the vitamin for four to six months. Periodic dosing (usually every six months) of vitamin A supplements is one method of ensuring that children at risk do not develop VAD. According to KDHS (2008-09), the proportion of children consuming vitamin A-rich foods increases with age, from 49 percent at 6-8 months to 86 percent at 24-35 months. At provincial level, children in Central (88 percent) and Western (87 percent) provinces are the most likely to consume vitamin A-rich foods and those in North Eastern province the least likely (27 percent). Educational level of the mother is correlated with consumption of vitamin A-rich foods. The data show that only 44 percent of children whose mothers have no education are fed

with vitamin A-rich foods, compared with 87 percent of children whose mothers have some secondary education.

Iron is essential for cognitive development. Low iron intake can also contribute to anemia. Iron requirements are greatest between the ages of 6-11 months, when growth is extremely rapid.

Survey data (KDHS, 2008-09), indicate that the consumption of iron-rich foods has a similar pattern to that for vitamin A-rich foods although the proportion of children fed iron-rich foods is lower (30 percent). At provincial level, children in North Eastern province (11 percent) are more likely to be given iron supplements. This is critical given that a lower proportion of children in North Eastern province consume this iron-rich food, as indicated above.

2.4 Maternal Beliefs on child care

There are deeply rooted cultural beliefs and attitudes that sometimes result in practices harmful to the survival of children and women. These include female circumcision, girl-child marriages food taboos, gender-related practices such as early marriage and lower levels of education among females, and the attendant risks of maternal morbidity and mortality. Also, the inability of women to exercise their reproductive rights due to culturally based limitations brings about higher levels of maternal, infant, and child mortality. Some cultural factors lead to poor childcare practices for instance, the widespread beliefs about the etiology of illnesses being attributed to evil spirits and use of traditional medicine as the first line of treatment for illnesses. To some extent, infant feeding practices have a cultural bias in some tribes, colostrum is not fed to newborn babies because it is believed to be dirty and thus breastfeeding is delayed and not sustained. The tendency is to withhold protein-rich foods, such as meat, chicken, and eggs, from infants because of the misconception that feeding children those foods may encourage them to steal later on in life.

In general, there is a lack of knowledge on how to feed infants who are ill. In most cases, caregivers significantly reduce or stop complementary feeding during this time. In Mozambique (Aubel, 2010), mothers were found to give less food, especially in cases of diarrhea, as it is thought to increase the diarrhea. Continued breastfeeding during illness appears to be the normative behavior in most countries. In Haiti, only about 20 percent of the mothers reported increasing breastfeeding during illness (Del Rosso, 2010).

2.4.1. Maternal Beliefs on Contraception and Family Planning

Modern methods are more familiar to women than traditional methods; 95 % of women know at least one modern method, and only 69 % know a traditional method. Among women, the most widely known modern methods of contraception are male condoms, injectables, and pills, with about 89 percent of all women saying they know of these methods. Around 6 in 10 women have heard of female sterilization, the IUD, implants, and the female condom. With regard to traditional methods, about two-thirds of women have heard of the rhythm method, and just under half know about withdrawal, while folk methods are the least likely to be mentioned.

Data by background characteristics show that awareness of family planning methods is widespread. The proportion of currently married women and men who have heard of at least one contraceptive method exceeds 90 percent in all categories by age, residence, education, and wealth. Exceptions are found among women with no education, women in the lowest wealth quintile, and women in North Eastern province, where less than half of married women have heard of any method (KDHS, 2008-09). It shows that, while the increase in knowledge of any one method has been steady, awareness of many specific methods has increased considerably with the proportion of women who know about condoms increasing from 42% in 1984 to 89 % in 2008-09. Between 2003 and 2008-09, use of modern methods increased from 32 to 39 percent of married women, while use of traditional methods over the same time period actually decreased from 8 to 6 percent of married women.

2.5 Maternal capacity in different cultural context

A study of the effect of caste on child mortality in India (Dommaraju 2008) indicates that children belonging to lower castes have higher risks of dying than children from upper castes and the risk is heightened in poorer areas. The study further reveals that, utilization of delivery and antenatal services are lower among women in lower castes than those from upper castes revealing the fact that inequalities in child survival come from multiple deprivations which interact with socioeconomic factors. Further, the well-known relationship between maternal education and child mortality has often been understood as causal. Caldwell (1979) emphasized that maternal education played an important role in determining child survival, after controlling for certain socioeconomic characteristics including father's and mother's occupation and area of

residence. Using data from ten developing countries, Caldwell and McDonald (1982) confirmed the importance of maternal education but also highlighted the importance of father's education. They estimated the impact of parental education to be greater than the combined impact of income and accessibility to health services.

A similar research showed that the positive impact of maternal education on child health outcomes reduces significantly in the presence of individual and community level controls (Desai and Alva 1998). The survey showed that the impact of education does translate into health seeking behavior, such as immunization, but its impact on health outcomes remains weak due to contextual factors that may limit the advantage that education provides to women.

In another study, Frankenberg (1993) studied the effects of health services availability on child mortality in Indonesia. She discovered that child mortality levels were negatively associated with the number of maternity clinics and doctors in a community. Private toilets in the community and the presence of health centers did not have significant impacts, whereas an increase in the number of health workers was associated with higher mortality levels.

However, other surveys have revealed that that inequalities are not limited to socioeconomic factors alone and that inequalities in children's mortality can differ even within the same geographical regions. A socioeconomic study based in Mozambique, (Macassa, Burstrom et al 2003) suggested that behavioral and cultural factors also contribute to inequalities in child mortality. They found a strong statistical relationship between ethnicity and under-five mortality and recommend doing more qualitative studies that would look at how parental beliefs and customs influence child health. In a similar survey of child survival (Brockerhoff and Hewett 2000) among ethnic groups in sub-Saharan Africa, it was found that child mortality among ethnic groups was strongly linked to economic inequalities. Their results show that child survival chances among ethnic groups increase with the presence of piped water or electricity in the households, higher occupation status of the partner or husband and use of preventive health services

While it is generally accepted that the direct causes of child mortality are diseases that are highly preventable and treatable like pneumonia, malaria, diarrhea and measles among others (Black et al, 2010) more than a third of under-five deaths globally could be attributed to malnutrition

according to the Countdown to 2015 Decade Report. Poor maternal nutrition also compromises children's survival chances. Birth asphyxia and pre-term birth complications are among the leading causes of neonatal deaths (Black et. al, 2010).

The causes of stillbirths, newborn and maternal deaths are closely related, and the key way to stop newborn deaths is to ensure that essential care is provided around labor, delivery and immediately afterwards when the risks are greatest. That means having a skilled, well-equipped birth attendant available to assist women and newborns during delivery (Save the Children, 2014). While the focus may be on well-equipped birth attendants, there are many opportunities to reduce maternal and newborn mortality and stillbirths through key interventions during pregnancy and in the later postnatal period according to the same report.

In many cases, timely interventions can save lives in danger. Skilled care during labor could reduce the number of stillbirths during labor by 45% and prevent 43% of newborn deaths (Pattinson R, Kerber K, Buchmann E, et al, 2011). In their survey, they identified the essential interventions around birth that includes the treatment of severe infections and special support for premature babies.

Many babies die each year because mothers do not get the good-quality care they need during labor and birth. 40 million mothers still give birth each year without any help from a midwife or another health worker trained and equipped to save the life of the baby or the mother according to the WHO Global Health Observatory Data Repository (2013). According to this report, many of the women least likely to be able to get life-saving help when they give birth are those who are most at risk of losing their babies and especially those women from the poorest communities, from rural areas, from a minority ethnic group or with little education.

In another study, (UNICEF, 2010) it was established that the continuing high rate of newborn mortality in many developing countries is a crisis of neglect and inequality. The data from the report indicated that the day of birth is the most dangerous day of all. In 2012, more than 1 million babies (1,013,000) did not survive their first day of life. Save the Children's (State of the World's Mothers, 2013) report compiled a "Birth day risk index" that ranked countries according to mortality rates on the day of birth. The report found that key causes for high first-day death rates in sub-Saharan Africa and south Asia include, high numbers of preterm births and of low

birth weight babies, poor maternal health and nutrition, girls and young women having children at a young age, low contraception use and lack of healthcare for mothers, with only half of all women in sub-Saharan Africa having skilled care during birth.

Lawns et al (2011) in a related study also observed that the main causes of newborn babies' deaths are problems arising from premature birth, complications during labor and delivery, and infections acquired by the baby during or after birth while the major causes of stillbirths include childbirth complications, maternal infections and hypertension. Bhutta et al (2011) also observed in a similar study that during pregnancy, preventing or treating malaria, syphilis and other conditions is important to prevent stillbirths in addition to having skilled care at birth and a comprehensive emergency obstetric care which they state can bring down the occurrences by 75%.

According to the World Health Organization report, (WHO, 2014) in low- and middle-income countries almost 10% of girls become mothers by the age of 16. The report shows that these girls are at greater risk of losing their babies than the older women. Mothers under 20 are 50% more likely to have a stillbirth or to lose their baby within the first week after birth than mothers aged 20-29 years. Very young mothers face more pregnancy-related problems according to a study on effect of providing skilled birth attendance and emergency obstetric care in preventing stillbirths (Yakoob et al, 2011). The study revealed that the young mothers are prone to obstructed labor because their pelvic bones are still developing, and are more likely to have premature babies and are also themselves at higher risk of fistula.

Lack of spacing between pregnancies is also closely linked with child mortality (Cleland et al, 2012). Children born less than two years after a sibling are two times more likely to die within the first year of life than those born after three or more years.

The African Union study on Nutrition and Reproductive, Maternal, Newborn and Child Health (AU, 2013) indicates that addressing the social determinants of health, as part of universal health coverage, is vital in tackling the crisis in newborn mortality. The report shows that access to family planning and the right to control when and how frequently they become pregnant is a vital part of women's and girls' empowerment and of a reduction of newborn mortality.

The Save the Children report on time to end the health worker crisis, (Save the Children, 2011) low rates of skilled birth attendance reflect the wider global shortage of midwives, nurses and doctors. It estimates that the world needs 7.2 million more health workers. According to the same report, health facilities in poor communities are often poorly staffed and equipped, with huge caseloads and little support or opportunities for staff development. However, a study on the health systems by Pattinson (Lancet 2011) showed that improving the rate of skilled birth attendance in a country on its own may not reduce newborn mortality. The study indicated that while there is a correlation between lower rates of first-day deaths and higher rates of skilled birth attendance, the relationship is not one of simple causality, nor is it consistent across all countries. For example, the rate of skilled birth attendance in Malawi was shown to be much higher than in Bangladesh but the rate of newborn mortality was about the same.

2.6 Theoretical Framework

This study is based on two theories. The first is the attachment theory by Bowlby, J. (1958) on the nature of the child's tie to its mother and the second is the theory on maternal instincts by Hrdy, S. Blaffer (1999) on how maternal instincts shape the Human species. The following discussion provides a summary of the various theories that have been used in this discussion.

2.6.1 Attachment Theory

Attachment theory is a psychological, evolutionary, and ethological theory concerning relationships between humans. The most important tenet of attachment theory is that a young child needs to develop a relationship with at least one primary caregiver for social and emotional development to occur normally. The theory was formulated by psychiatrist and psychoanalyst John Bowlby. The attachment theory asserts that infant behavior associated with attachment is primarily the seeking of proximity to an attachment figure in stressful situations; the caregiver (Bowlby, 1977). Infants become attached to adults who are sensitive and responsive in social interactions with them, and who remain as consistent caregivers for some months during the period from about six months to two years of age. During the latter part of this period, children begin to use an attachment figure that is, familiar people, as a secure base to explore from and return to. Parental responses lead to the development of patterns of attachment according to this theory (Bowlby, 1977). These, in turn, lead to internal working models which will guide the

individual's feelings, thoughts and expectations in later relationships. Separation anxiety or grief following the loss of an attachment figure is considered to be a normal and adaptive response for an attached infant. These behaviors may have evolved because they increase the probability of survival of the child.

Within attachment theory, attachment means an affectional bond or tie between an individual and an attachment figure (usually a caregiver). Such bonds may be reciprocal between two adults, but between a child and a caregiver these bonds are based on the child's need for safety, security and protection, paramount in infancy and childhood (Bowlby, 1958). The theory proposes that children attach to carers instinctively, for the purpose of survival and, ultimately, genetic replication. The biological aim is survival and the psychological aim is security. Using the available empirical evidence, Bowlby demonstrated that a loving, stable parental relationship is as critical to the young child's survival and health as is food and health care.

2.6.2. Maternal Instinct and behavior

Mothering behavior is learned and not instinctual is (Hrdy, 1999). Hrdy has studied primates for more than three decades and believes that the desire of a mother to care for a child depends on her desire to be a mother and the amount of time spent bonding together. Although she concedes that maternal responses exist, she believes they are biologically conditioned, but not true instincts. Hrdy further argues that human babies are genetically engineered to convince their parents that they are worth raising, citing the plumpness of human babies (not seen in other primates) and their irresistible smile as examples (Hrdy, 1999).

Hrdy acknowledges that in order to survive, babies must become attached to a caregiver, but she contends that the individual need not be the infant's biological mother (Hrdy, 1999). It is simply because of birth and lactation that the baby will probably form its closest relationship with its mother and she in turn will be motivated to care for the baby. According to Craig Kinsley, "The mammalian female brain expresses a great deal of plasticity and creativity in service to, and in support of, reproduction. In other words, mothers are made, not born" (Hrdy, 1999).

Hrdy further maintains that maternal responses that are biologically based are surely going on in the human species. But she believes that the bonding that takes place between mother and child occurs due to the flood of chemicals and hormones that occurs during pregnancy and after birth,

and deepens the longer the baby is close (Hrdy, 1999). But this is not the definition of an instinct and although we may be vulnerable to maternal impulses, we are not "controlled or defined by them."

2.6.3. Conceptual Framework

Figure1 present the conceptual framework upon which the study is based

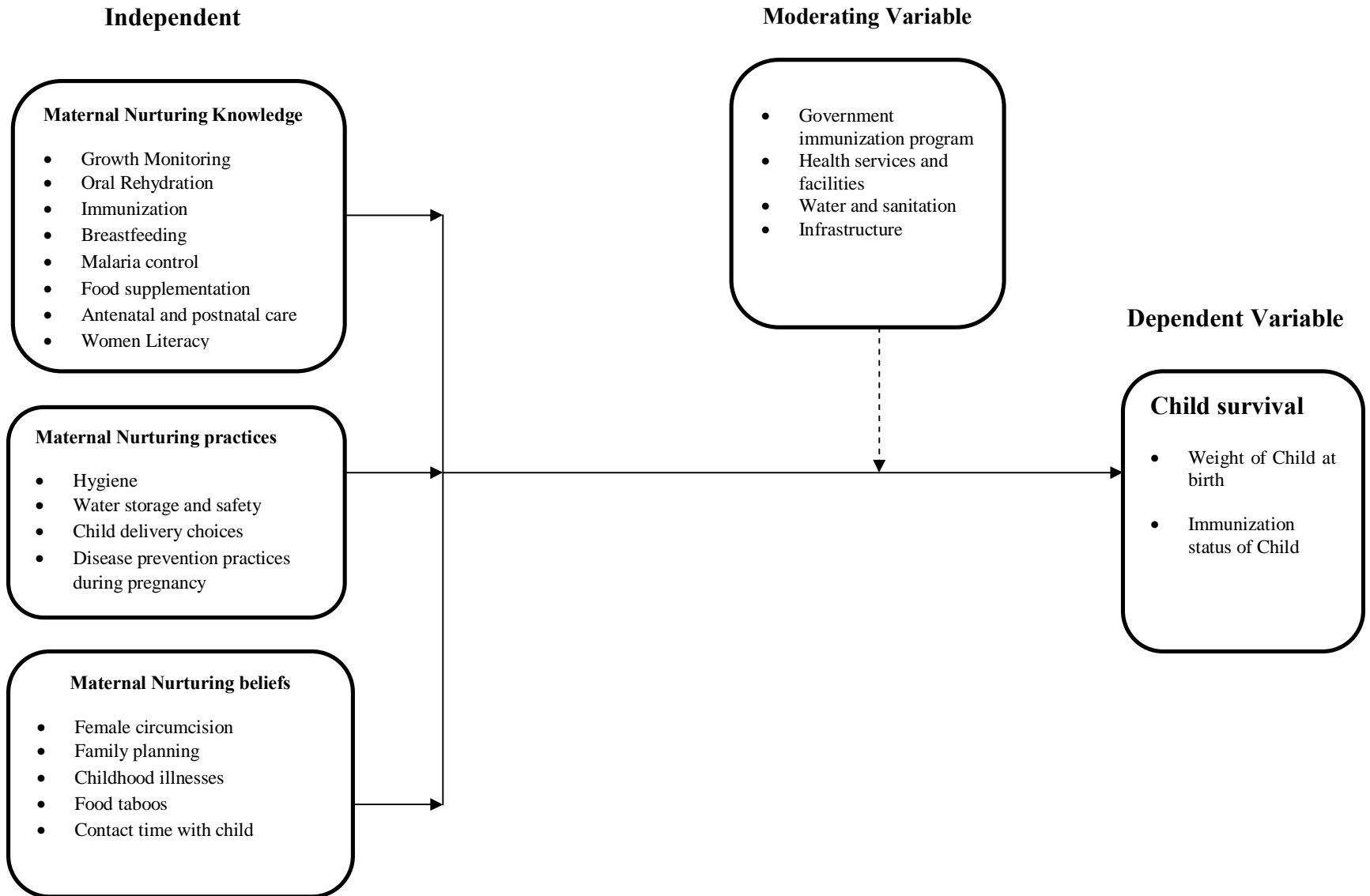


Figure 1 Conceptual Framework

The conceptual framework shows that the child's ability to survive is directly related to the synergistic effect of maternal nurturing capacity as defined by the mother's knowledge, practice, belief, attitudes and the socioeconomic environment.

2.7 Summary and Research Gap

This chapter has examined the studies and surveys from different authors and personalities in the field of maternal nurturing in relation to Child Survival. It has reviewed literature related to the research objectives and established a theoretical framework upon which the study will be conducted. It has examined the nature of maternal nurturing capacity in the light of knowledge, practice, beliefs and attitudes in Kenya. Literature suggests that there are significant weaknesses in maternal nurturing capacity in child care that effectively threatens the survival of children under the age of five years to justify a study to establish the main contributing factors. The conceptual framework shows that child survival hinges on maternal nurturing knowledge, practice and beliefs.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter presents the methodology of the study including research design, population, the sample size and sampling procedure, instrument of data collection, validity and reliability of the instrument and the data collection procedures and data analysis techniques. Finally it presents the operationalization of the variables.

3.2 Research design

The study uses descriptive study design that involves the use of both quantitative and qualitative approaches in the investigation of the research problem. The use of both qualitative and quantitative methods lends to probing for deeper understanding rather than just carry out an examination of surface features and facts.

Strauss and Corbin (1990) gave a similar view and assert that the use of qualitative methods in research leads to a better understanding of any phenomenon about which little is yet known. It helps to gain more in-depth information that may have been difficult to convey quantitatively. The use of the qualitative method in this study is, therefore, appropriate as it allows for the identification of the variables for quantitative testing. Secondly, this approach allows for the reframing of the research problem and use of open-ended questions which is useful in the discovery of new knowledge. Thirdly, a review of quantitative studies about a particular phenomenon combined with a review of qualitative studies about the same phenomenon provides richer insights and raises more interesting questions for future research than if only a linear approach is considered. As such, the study has utilized an integrated approach as a more suitable option.

3.3 Target population

Specifically, the study targeted beneficiaries of the early childhood intervention programs of Compassion International in Samburu County. The six programs that had been in existence for more than 5 years as at the time of the study were the subject of investigation in this study as shown in Table 3.1.

Table 3.1 Target Population Consisting of Compassion-Assisted ECD programs in Samburu County

Project No.	Compassion International Child development programs	No of registered Mothers	Year Project started
1	396 KAG Maralal	245	2007
2	397 KAG Wamba	194	2007
3	398 Kerith Wamba	239	2007
4	399 PAG Kisima	215	2007
5	667 ACK SirataOirobi	308	2007
6	799 FGCK Maralal	273	2007
Total number of mothers		1,474	

3.4 Sample and sampling procedure

A suitable sampling frame was used for the selection of the sampling units. According to Cooper and Schindler (2000) a sampling frame is a list of elements from which the sample is actually drawn and is closely related to the population.

3.4.1 Sampling procedure

Mugenda and Mugenda (2003), states that purposive sampling allows a researcher to use cases that have the required information with regard to the objectives of the study. In this study, purposive sampling was used to select six early childhood programs that had been operational for more than five years giving a sample frame of 1,474 families. Systematic random sampling technique was used to pick the sampling units upon whom the questionnaires were administered.

3.4.2 Sample size

A 10% of the 1,474 mothers (147 mothers) sample size was picked as representative of the entire population to provide adequate data for the study as shown in Table 3.2. Kothari (2004) indicates that up to 10% of the population can be representative in a survey.

Table 3.2. Sample frame for the Study

	Project No.	Compassion International Child development programs	No of registered families	10% selection per project
1	396	KAG Maralal	245	25
2	397	KAG Wamba	194	19
3	398	Kerith Wamba	239	24
4	399	PAG Kisima	215	22
5	667	ACK SirataOirobi	304	30
6	799	FGCK Maralal	273	27
Total number of families			1,474	147

3.5 Research Instruments

The study will utilize a questionnaire that is divided into three main parts: Section A is on general information on the respondents and the maternal nurturing knowledge. Section B is on maternal nurturing practice while section C is on maternal nurturing beliefs

3.5.1 Pilot testing of research Instrument

In order to establish the reliability of the questionnaire, a pilot study was conducted in a similar cultural context in Narok County. . A pilot study was conducted in a similar early intervention program in Kajiado County where the questionnaires were administered to 15 respondents (about 1% of the sample frame) to establish the responsiveness of the instrument to the research objectives. Mugenda and Mugenda(2008) state that this is an appropriate size of questionnaires for a pilot study.

3.5.2 Validity of the research instrument

Data validity refers to the degree to which results obtained from analysis of data actually represents phenomenon under study, according to Mugenda and Mugenda (2008). To achieve content and context validity the researcher sought guidance from the academic supervisors, on

various sections in the questionnaire which formed the primary instruments for data collection. Adjustments were made accordingly to accommodate the recommendations.

3.5.3 Reliability of the research instrument

Reliability of data is the consistency of measures in a study (Bryman and Bell, 2003). It is the degree to which research instruments yields consistent results of data after trials. In this study, the researcher tested reliability of data by using pilot test method on the questionnaire

The pilot study relied on Cronbach's alpha coefficient test. Coopers and Schindler (2003) recommended the test and supported Kothari's (2004) threshold of 0.70 as the most appropriate alpha coefficient to use as a reliable instrument. A pilot study with results in table 3.1 indicates that the questionnaire had coefficient of 0.792 and hence the instrument was found to be fit for the study.

Table 3.1: Reliability of Study Instrument

Title of Questionnaire	Number of Questionnaires	Cronbach's alpha coefficient
Maternal Nurturing Capacity	15	0.792

3.6 Data collection

A questionnaire was used to collect information from the Child development program beneficiaries. The data required focused on the knowledge, attitudes, behaviors and practices of mothers and caregivers on childcare. An introductory letter from Compassion International authorizing the research to be undertaken was used by the researcher to guarantee the authenticity of the study.

3.7 Data Analysis and Presentation

Before processing the responses, the completed questionnaires were checked for completeness and comprehensibility to ensure consistency. The data was then summarized, coded and entered into the Statistical Package for Social Sciences (SPSS) trial version 17.0 and ANOVA for analysis to enable the responses to be grouped into various categories.

Descriptive statistics involving frequency distribution and cross tabulation was used to analyze the data. Content analysis was used to analyze descriptive data. Data presentation was done by the use of percentages and frequency tables. This ensured that the gathered information was clearly understood.

3.8 Research Ethics

This study enhanced ethics by keeping the information shared by the respondents confidential and assuring them of the same. The study avoided personal questions that could have jeopardised the outcomes.

3.9 Operationalization of Variables

This section presents the operationalization of variables of the study.

Table 3.3 Operationalization of Variables

Objective	Variable	Indicator(s)	Measurements	Data collection method	Measurement Scale	Data Analysis
To determine progress of child towards survival	Dependent variable: Child survival	<ul style="list-style-type: none"> • Weight of child at birth • Immunization status of child(tuberculosis, diphtheria, whooping cough, tetanus, polio, and measles) 	<ul style="list-style-type: none"> • Growth monitoring scale • Completion of mandatory child immunization 	Questionnaire	Nominal	Descriptive statistics- frequency distribution and tabulation, standard deviation and regression
To examine how maternal nurturing knowledge influences the child survival	Independent Variable: Maternal knowledge on Nurturing capacity	<ul style="list-style-type: none"> • Knowledge on malaria symptoms and prevention methods • Knowledge on exclusive Breastfeeding • Knowledge and Use of Oral Rehydration in diarrhoea control 	<ul style="list-style-type: none"> • Recognition of symptoms • Frequency of breastfeeding • Frequency of use during diarrhoea treatment 	Questionnaire	Nominal	Descriptive statistics- frequency distribution and tabulation standard deviation and regression

		<ul style="list-style-type: none"> • Use of Food Supplements • Completion of treatment of child illnesses • Knowledge on antenatal and postnatal care • Knowledge on family planning • Ability to read and write • Ability to interpret the growth monitoring information 	<ul style="list-style-type: none"> • Alternative feeds for child available • Choice of antenatal/postnatal care provider • Adherence to treatment regimes • Availability of waste disposal 			
To determine how maternal nurturing practices influences child survival	Independent Variable: Maternal Nurturing Practices on child nurturing	<ul style="list-style-type: none"> • Safety in child delivery • preparation and storage of water for use • sanitation and maintenance of hygiene • Prevention measures taken during pregnancy • Provision of complementary foods and micronutrients 	<ul style="list-style-type: none"> • choice of delivery services • availability of safe water, sanitary facilities, and housing conditions • Frequency of washing hands and child utensils • Availability and proper use of 	Questionnaire	Ordinal	Descriptive statistics- frequency distribution and tabulation, standard deviation and regression

			<p>Mosquito nets</p> <ul style="list-style-type: none"> • use of anti-malarial drugs during pregnancies • timing on the introduction of solid food and quality of food • Utilization of soap and other detergents • Frequency of washing child • Cleanliness of utensil for child • Availability of food storage • Water treatment method used 			
To assess the extent to which maternal	Independent Variable: Maternal	<ul style="list-style-type: none"> • Family planning • Use of contraception • Beliefs on initiation 	<ul style="list-style-type: none"> • Effects of contraception • Initiation of 	Questionnaire	Ordinal	Descriptive statistics- Frequency

nurturing beliefs and attitudes influence child survival	beliefs and attitudes on child nurturing	<ul style="list-style-type: none"> • Food related taboos • use of mosquito nets • contact time with child • management of Diarrhoea • immunization and childhood diseases 	breastfeeding <ul style="list-style-type: none"> • Effectiveness of mosquito nets against malaria infection • Independence of child • Belief on causes of diarrhoea • Beliefs on immunization 			distribution and tabulation
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CHAPTER FOUR

DATA ANALYSIS, PRESENTATION AND INTERPRETATION

4.1 Introduction

This chapter presents findings of the survey data analyzed and interpreted in line with the study objectives. The findings are presented in the form of tables showing frequencies and percentages. The chapter is arranged in thematic form starting with the demographic characteristics followed by individual variables and the interpretations of the findings

4.2 Questionnaire response rate

In the study, out of the targeted 147 questionnaires, a total of 135 questionnaires were duly filled and returned representing 95% response rate.

4.3 Demographic Data of Respondents

The study sought to determine the demographic data of the respondents covers gender, age, marital status, occupation, and level of education, age at first birth, immunization status and weight of child. Table 4.1 presents the age distribution of the respondents by age.

Table 4.1 Age Distribution of Respondents by age

	Frequency	Percent
Under 20	35	25.9
Over 21	100	74.1
Total	135	100.0

The results in Table 4.1 show the 74.1% of the respondents were above the age 21 years which is a good indication of knowledge and experience in child nurturing that supports child survival.

The respondents were asked to indicate their marital status. Table 4.2 represents the marital status of the respondents.

Table 4.2 Marital Status of Respondents

	Frequency	Percentage
Married	88	65.2%
Single	28	20.7%
Widowed	16	11.9%
Divorced	3	2.2%
Total	135	100%

Table 4.2 indicates that 88% of women in the study were married and therefore had a shared responsibility of child nurturing with the husbands. Where both parents are present, the child has a better survival chance as they have the benefit of shared attention and care.

The respondents were asked to state their occupation. Table 4.3 presents the distribution of mothers according to their occupation

Table 4.3 Occupation of Mothers

	Frequency	Percentage
Housewife	99	73.3%
Self-employed	14	10.4%
Casual Laborer	22	16.3%
Total	135	100%

Table 4.3 shows that the majority (73.3%) of mothers were housewives. This shows that the children in this community have better attention and contact time from the mothers as compared to those with parents in active employment thus increasing their chances of survival.

The respondents in the study were asked to state their level of education. Table 4.4 shows the distribution of mothers according to their levels of education.

Table 4.4 Maternal Level of Education

	Frequency	Percentage
No formal schooling	15	11.1%
Primary Incomplete	38	28.1%
Primary Complete	61	45.2%
Secondary Incomplete	9	6.7%
Secondary Complete	2	1.5%
Post School training	10	7.4%
Total	135	100%

As shown on Table 4.4, over 84% of the mothers had primary level education and below. This points to the fact that the level of basic education among the respondents was very low and thus leading to compromised ability to acquire knowledge on child care and survival.

In seeking to know at what age most women gave birth to their first child, the respondents were asked to indicate the age bracket when they got their first child. Table 4.5 shows the age of the mother when they gave birth to their first child.

Table 4.5 Age of mother when first gave birth

	Frequency	Percentage
Under 15	21	15.5%
15-19	78	57.8%
20-24	36	26.7%
Total	135	100%

Table 4.5 shows that up to 73% of the respondents gave birth to their first child as teenagers, and thus exposing both child and mother to considerable risk associated with delivery and childcare.

To determine the immunization status of the children in the study, the respondents were asked to give the immunization status as shown in the immunization card. Table 4.6 represents the immunization status of the children in the study.

Table 4.6 Immunization status

	Frequency	Percent
Not Immunized	9	6.7
Not complete for age of child	15	11.1
Fully immunized for age	111	82.2
Total	135	100.0

Table 4.6 shows that the children who had been immunized against early childhood preventable diseases were very high at 82.2% signifying a good uptake of the intervention and increased chances of survival for the children.

In seeking to know whether the children had normal birth weight for their infants, the respondents were asked to indicate the weight of their children at birth. Table 4.7 presents the weight of the child at birth as indicated in the birth monitoring card

Table 4.7 Weight of the Child at birth indicated as Normal

	Frequency	Percentage
Yes	113	83.7%
No	22	16.3%
Total	135	100%

As shown in Table 4.7, the indication of weight of a child at birth, a key milestone in child survival, scores relatively well at 83.7%. This means that the new born child had a high chance of experiencing normal prenatal physical growth.

4.3 Maternal Nurturing Knowledge on Child Survival

The study sought to determine how maternal nurturing knowledge influences child survival in Samburu County.

In seeking to determine the influence of level of education on the family size, the mothers were asked to indicate their education level and the number of children they have. Table 4.8 presents a cross tabulation of the mother's level of education and the number of children the mother had.

Table 4.8 Cross Tabulation of Maternal Level of Education and Number of children

Maternal level of education	Number of children			Total
	1-2	3-5	6-10	
No formal schooling	2	7	6	15
Primary Incomplete	0	31	7	38
Primary Complete	5	35	21	61
Secondary Incomplete	8	1	0	9
Secondary Complete	2	0	0	2
Post School training	1	7	2	10
Total	18	81	36	135

It is evident that the level of education significantly determined the number of children that mothers had as shown on Table 4.3. Those mothers who had no formal education at all or had only up to primary education (amounting to 73% of the total) had between 6-10 children. Formal education is therefore a key determinant of the family size.

The respondents were asked to indicate the birth intervals between the siblings. Table 4.9 shows the birth intervals of the children per respondent.

Table 4.9 Indicating Previous birth intervals

	Frequency	Percentage
Less than 2	74	54.8%
2 years	22	16.3%
3 years	26	19.3%
4 and above	13	9.6%
Total	135	100%

A majority of mothers, at 71.1%, registered previous birth intervals of 2 years and below indicating a very high fertility rate characterized by low birth spacing. This is an indication of low uptake of family control which is detrimental to both the mother and the child.

The respondents were asked to indicate whether they were aware of any family planning methods and if they were using them. Table 4.10 shows the uptake of family planning and knowledge of the existing methods.

Table 4.10 Family planning awareness and use

	Frequency	Percentage
Only one method and I use it	104	77.0%
Learnt many methods and I use one of them	8	5.9%
Learnt lots of methods but using none	23	17.0%
Total	135	100%

The knowledge and uptake of family planning on the control of number of children stood at 77% indicating a general acceptance of the intervention within the community.

The respondents were asked to indicate the number of times they made the antenatal visits to a clinic. Table 4.11 presents the number of visits to the antenatal clinics by the respondents in the study

Table 4.11 Frequency of maternal antenatal visits

Number of Antenatal Visits	Frequency	Percentage
0	18	13.3%
1	59	43.7%
2	16	11.9%
3	21	15.6%
4	21	15.6%
Total	135	100%

Table 4.11 shows that over 84% of mothers made less than the required 4 antenatal visits, which is an indication that the mothers either did not appreciate or have the knowledge of the importance of antenatal clinics. This places considerable danger on the life of the child as early detection and intervention of congenital disease or deformities is hampered.

The respondents were asked to indicate who attended to them during the antenatal clinic visits. Table 4.12 shows the service provider attending to the mother during the antenatal clinic visits.

Table 4.12 Person visited for antenatal care

	Frequency	Percentage
Medical Doctor	13	9.6%
Midwife	30	22.2%
Clinical Officer	45	33.3%
Nurse	29	21.5%
Traditional Birth Attendant	18	13.3%
Total	135	100%

The majority of expectant mothers, comprising over 86%, preferred to be attended to by qualified medical personnel for the prenatal care. This signifies a shift in knowledge on the benefits of seeking professional assistance during pregnancy which would lead to reduction of child birth complications.

The respondents were asked to indicate whether they gave their children any other food or liquid other than breast milk. Table 4.13 show the distribution of infant feeding in the first 6 months of their lives.

Table 4.13 Breastfeeding in the first 6 months of infancy

	Frequency	Percentage
Breast milk, liquids, food	33	24.4%
Breast milk, food	34	25.2%
Breast milk Exclusive	62	45.9%
Breast Milk ,any liquid	6	4.4%
Total	135	100%

Table 4.13 shows that over 54% of the respondents supplemented breast milk with either other foods or liquids contrary to the required exclusive breastfeeding of infants within the first six

months. This is an indication that the mothers are unaware of the detrimental effects of food supplementation of infant diets in the first six months and the nutritional value of breast milk.

The respondents were asked to indicate what food supplements they used in weaning children after the first six months. Table 4.14 presents the distribution of infant foods used for both food supplementation and weaning of infants after the first 6 months.

Table 4.14 Infant food Supplementation and weaning

	Frequency	Percentage
Cow/Goat milk	66	48.9%
Porridge	30	22.2%
Green leafy vegetables	7	5.2%
Pumpkin/Potatoes	12	8.9%
Any fruits	10	7.4%
Any meat	3	2.2%
All the above foods	7	5.2%
Total	135	100%

Table 4.14 shows that cow or goat milk and porridge constituted the most common weaning foods at more than 71%. This is a pointer to the fact the majority of mothers had limited knowledge on the nutritional requirements for their infants. This potentially leads to the malnutrition of the children and to death in some instances.

The study also sought to establish whether the expectant mothers took anti malaria prophylaxis during pregnancy. Table 4.15 presents the distribution of expectant mothers who use prophylaxis during pregnancy.

Table 4.15 Prophylaxis uptake during pregnancy

	Frequency	Percentage
Yes	47	34.8%
No	88	65.2%
Total	135	100%

Up to 65.2% of the mothers did not take any preventive measures against malaria as shown in Table 4.15 signifying a low uptake of malarial prophylaxis which is recommended during pregnancies. This means that the majority of mothers are unaware of the need to take precautionary measures against malaria during pregnancies.

The respondents were asked to indicate whether they completed the prophylaxis during pregnancy. Table 4.16 presents the distribution of mothers who complete the prophylaxis uptake against malaria during pregnancy.

Table 4.16 Completion of Prophylaxis regime for malaria during pregnancy

	Frequency	Percent	Cumulative Percent
Yes	46	34.1%	34.1%
No	11	8.1%	42.2%
Don't remember	78	57.8%	100.0%
Total	135	100.0%	

Over 65 % of the mothers indicated that they either did not complete the prophylaxis regime against Malaria or they could not remember completing the dose as shown on Table 4.16 indicating a significant level of unawareness on the dire effects of incomplete dosage of prophylaxis that includes the development of drug-resistant strains of Malaria parasites that do not respond easily to treatment.

The respondents were asked to indicate if their children had had any previous bouts of malaria. Table 4.17 present the Malaria prevalence amongst the children.

Table 4.17 Prevalence of Malaria amongst the Infants

	Frequency	Percent
Yes	125	92.6%
No	10	7.4%
Total	135	100.0%

A significant majority of up to 92.6% of the mothers indicated that their children had had bouts of malaria as shown in Table 4.17. This is indicative of the high prevalence of Malaria incidence that is ranked as one of the greatest threats to child survival in Kenya today.

The respondents were asked to indicate whether they could identify the malaria symptoms in their infants. Table 4.18 shows the distribution of mothers who were able to identify the infant symptoms associated with Malaria infection.

Table 4.18. Maternal awareness of Malaria symptoms

	Frequency	Percentage
Fever and restlessness	40	29.6%
Restlessness and diarrhea	14	10.4%
Unable to feed, fever, restlessness	21	15.6%
Fever, diarrhea, restlessness and unable to feed	42	31.1%
Not sure of the malaria symptoms	18	13.3%
Total	135	100.0%

In regards to the identification of malaria symptoms in infants, over 69% of the mothers were able to identify major symptoms of malaria infection as shown in Table 4.18, a good indication of disease awareness in infants.

The respondents were asked to show what methods they used to treat infants when they had diarrhea. Table 4.19 shows the methods used by mothers to treat infant diarrhea.

Table 4.19 Treatment for infant diarrhea

	Frequency	Percentage
Oral rehydration salts (ORS)	2	1.5%
Home-made salt and sugar solution	62	45.9%
Plain water	38	28.1%
Did nothing	33	24.4%
Total	135	100.0%

Table 4.19 shows that a significant majority of mothers at 52.5% either gave plain water or did nothing for the treatment of infant diarrhea. This suggests lack of awareness on the case

management of one of the leading causes of infant mortality that can be associated with insufficient knowledge.

4.4 Maternal Nurturing Practices on Child Survival

The study sought to examine how maternal nurturing practices influenced child survival.

The respondents were asked to indicate who attendant to them during child delivery. Table 4.20 shows the distribution of person attending to mothers during child delivery.

Table 4.20 Birth attendant during Child delivery

	Frequency	Percentage
Lay Person	14	10.4%
Untrained traditional birth attendant	71	52.6%
Trained traditional attendant	37	27.4%
Medical Professional	13	9.6%
Total	135	100.0%

Table 4.20 shows that most deliveries were conducted by untrained traditional birth attendants and lay persons at 63%. This suggests that the deliveries were handled unprofessionally exposing the mothers to delivery-associated complication that can lead to death of the infants, and is an indication of inadequate precautionary practice taken by mothers during delivery.

The respondents were asked to indicate where they got their water for domestic use. Table 4.21 present the sources of water for domestic use by respondents.

Table 4.21 Water source for domestic use

	Frequency	Percentage
Stream	69	51.1%
Boreholes	27	20.0%
Unprotected wells	33	24.4%
Other sources e.g. dams, roof harvest	6	4.4%
Total	135	100.0%

The majority of mothers (51.1%) showed that they got the water for domestic use from the streams as shown in Table 4.21. This suggests that the majority of children are in danger of getting water-borne disease as streams are exposed to numerous contaminants.

The respondents were asked to state what methods they used for water purification. Table 4.22 shows the methods used by respondents in the purification of water for domestic use.

Table 4.22 Water purification for domestic use

	Frequency	Percentage
Boiling	98	72.6%
Chlorination	6	4.4%
Sunlight	21	15.6%
Filtration	10	7.4%
Total	135	100%

Boiling water as a means of purification is the preferred intervention (72.6%) as shown in Table 4.22. This practice of using boiling method can be time consuming and expensive and may not be properly done making it difficult to have safe water for domestic use especially for infants.

The respondents were asked to indicate whether they had toilet facilities available for their use. Table 4.23 shows the distribution of human waste disposal means by the respondents.

Table 4.23 Toilet facilities available for domestic use

	Frequency	Percentage
Pit latrine	103	76.3%
Bush visit	32	23.7%
Total	135	100%

Table 4.23 shows that 76.3 % indicated that they had access to pit latrines, an indication that the majority of the respondents observed good hygiene behavior in regards to human waste disposal.

The respondents were asked to indicate the number of times they washed their hands. Table 4.24 presents the frequency of washing hands amongst the mothers

Table 4.24 Frequency of hand washing among the nursing mothers

	Frequency	Percent
Before food prep	23	17.0
Before child feeding	26	19.3
After toilet visit	17	12.6
Before meals	33	24.4
Many occasions	36	26.7
Total	135	100.0

Table 4.24 shows that most mothers wash their hands before feeding the infants and in many occasions making up to 46%. This is indicative of healthy hygiene consciousness that promote good and healthy behavior.

The respondents were asked to indicate if they used soap or detergent to clean their hands. Table 4.25 presents the distribution of mothers according to how they use soap or detergents for washing their hands.

Table 4.25 Frequency of mothers using soap or detergents

	Frequency	Percentage
Yes	51	37.8%
No	84	62.2%
Total	135	100%

A significant majority of mothers indicated that they did not use soap while washing their hands (62.2%) as shown in Table 4.25, a behavior that may not promote proper sanitation of hands while feeding the children.

The study sought to know if the mothers who had bed nets used them at night for the protection against mosquitoes. Table 4.26 shows the distribution of mothers who have Mosquito nets and are using them.

Table 4.26 Cross tabulation of mothers who have and use bed nets at night

Availability of bed nets	Usage of bed net at night				Total
	Both of us	Child only	Myself only	None of us	
Yes	55	12	0	5	72
No	0	2	0	47	49
Nets in bad state	0	2	11	1	14
Total	55	16	11	53	135

Table 4.26 shows that a considerable majority of 53.3 % had nets and used them well to protect themselves and the infants. This is indicative of a good practice in the control of Malaria transmitting vectors.

4.5 Influence of Maternal Nurturing beliefs and attitudes on Child Survival

The study sought to determine how maternal nurturing beliefs and attitude had an influence on child survival in Samburu County.

The respondents were asked to indicate whether they believed that family planning and spacing was the sole responsibility of the husband. Table 4.27 shows the distribution of mother who agreed, those who don't agree and those who don't know.

Table 4.27 View on whether family planning and family spacing is the sole responsibility of the husband

	Frequency	Percent %
Agree	40	29.6
Disagree	81	60.0
Don't Know	14	10.4
Total	135	100.0

Over 60% of the mothers indicated a disagreement that family planning and family spacing was the sole responsibility of the husband as shown in Table 4.27 indicating a general understanding and belief of shared responsibility in determining the child spacing and family size.

The respondents were asked to express their view on whether a person who uses family planning before getting the first child can become infertile. The results of the opinions are presented in Table 4.28.

Table 4.28 View on whether a person who uses family planning before her first child can become infertile.

	Frequency	Percent %
Agree	11	8.1
Disagree	92	68.1
Don't Know	32	23.7
Total	135	100.0

Table 4.28 shows that the majority of mothers (68%) did not believe that using family planning methods before getting the first child can lead to infertility showing a general positive attitude towards family planning as a result of knowledge and awareness.

The respondents were asked to indicate whether immunization of children protects them against early childhood illnesses. The views are represented in Table 4.29.

Table 4.29View on whether immunization of children protects them against early childhood diseases.

	Frequency	Percent %
Agree	127	94.1
Disagree	8	5.9
Total	135	100.0

The belief that immunization of children protects them against childhood disease had a high score of over 94% as shown in Table 4.29, an indication that the majority of the mother had a positive belief on the intervention.

The respondents were asked to indicate whether a child having diarrhea should cease breast feeding until the child gets well. The results of the views are presented in Table 4.30

Table 4.30View on whether a child has diarrhea, breastfeeding should be discontinued until the child gets well

	Frequency	Percent %
Agree	14	10.4
Disagree	66	48.9
Don't Know	55	40.7
Total	135	100.0

Table 4.30 shows that a significant majority of the mothers (51%) indicated that either they agreed or did not know whether breastfeeding should be discontinued if a child had diarrhea, showing a general attitude of indifference towards breast milk for infants.

The respondents were asked to indicate whether they thought female circumcision led to better child delivery. The results of their opinions are presented in Table 4.31

Table 4.31 View on Female circumcision leading to better child delivery

	Frequency	Percent %
Agree	16	11.9
Disagree	37	27.4
Don't Know	82	60.7
Total	135	100.0

On whether female circumcision enhances child delivery, Table 4.31 shows that over 71% of the respondents indicated that they didn't know or they agreed that female circumcision enhances delivery an indication that the belief on perceived benefits of female circumcision are fading away.

The respondents were asked to indicate whether they believed that the antenatal visits to the clinic led to early detection of pregnancy-related complications. The results on their opinions are presented in Table 4.32.

Table 4.32 View on whether visits to antenatal clinic in the first 3 months of pregnancy lead to early detection of pregnancy-related complications

	Frequency	Percent %
Agree	86	63.7
Disagree	16	11.9
Don't Know	33	24.4
Total	135	100.0

Table 4.32 shows that over 63% of the respondents indicated that they believed that the antenatal clinics in the first 3 months were beneficial in the detection of pregnancy related complications signifying a positive belief and attitude towards antenatal visits.

The respondents were asked to indicate whether colostrum is good for the new born babies. The results of their opinion are presented in Table 4.33.

Table 4.33 View on whether the 'first water'(Colostrum) milk that comes from the breast is good for new born babies

	Frequency	Percent %
Agree	56	41.5
Disagree	36	26.7
Don't Know	43	31.9
Total	135	100.0

A majority of the respondents (58.6%) as shown in Table 4.33 indicated that either they disagreed or did not know whether colostrum is good for the new born babies showing a general rejection of feeding the child with the first milk or colostrum immediately after delivery.

The respondents were asked to state whether child illnesses were as a result of witchcraft or evil spirits. The views are presented in Table 4.34.

Table 4.34 View on whether child illness is a result of witchcraft and evil spirits

	Frequency	Percent %
Agree	56	41.5
Disagree	79	58.5
Total	135	100.0

Table 4.34 shows that over 58% of the mothers disagreed that child illness was a result of witchcraft which is an indication that a significant majority of the community does not believe in witchcraft or evil spirits are as a source of child illnesses.

The respondents were asked to indicate whether teething causes diarrhea in children below one year. The views are presented in Table 4.35.

Table 4.35 View on whether teething causes Diarrhea in children below 1 year

	Frequency	Percent %
Agree	28	20.7
Disagree	31	23.0
Don't Know	76	56.3
Total	135	100.0

In regards to whether teething causes diarrhea in children below 1 year, responses in Table 4.35 shows that the majority of the respondents (77%) showed that they either agreed or were unaware signifying attitude of inability to comprehend what is perceived to be a natural process.

The respondents were asked to indicate whether a 3 months old baby can independently fend for themselves with little support from the adults. The opinions are presented in Table 4.36.

Table 4.36 View on whether after the first 3 months, a child can independently fend for themselves with little support from the mother or other adults

	Frequency	Percent %
Agree	21	15.6
Disagree	104	77.0
Don't Know	10	7.4
Total	135	100.0

On the independence of the infant after the first 3 months, 77% of the respondents as shown in Table 4.36 disagreed that a child can independently fend for themselves signifying a positive attitude to child care and protection in the formative years of life.

4.6 Descriptive statistical Analysis of Variables

The first objective was to examine how maternal nurturing knowledge influences the child survival in Samburu County. To test this objective, several questions were put to the respondents and the responses analyzed using descriptive statistics. Table 4.37 present the descriptive statistics on the maternal nurturing knowledge indicators.

Table 4.37 Descriptive statistics for maternal nurturing Knowledge

Items for nurturing knowledge	N	Mean	Std. Deviation
KEPI Immunization	135	3.09	.286
Not fully immunized	135	2.58	.934
Child weight	135	1.04	.207
Number of children	135	2.13	.621
Birth interval	135	1.84	.052
Family planning Knowledge	135	2.40	.765
Antenatal visit	135	1.13	.341
Antenatal person visited	135	3.20	1.413
Average mean	135	2.17	0.577

The mean of each individual item in maternal nurturing knowledge was considered on a scale of 1 to 4. From the results in Table 4.37, the highest mean was that for visiting someone for antenatal care before child birth. This had a mean of 3.20 which clearly indicated that most mothers had the knowledge on the importance of antenatal care and sought to visit knowledgeable persons. However, majority of the mothers had children who were not fully immunized a mean of 2.58. This is significant as it indicates that a considerable number of children are exposed to immunizable diseases that can compromise their chances of survival. Child weight and birth intervals also had a significantly low mean of 1.04 and 1.84 respectively indicating malnutrition as a result of low uptake of family planning and poor nutrition that is essential for the child at this stage of development, on the other hand, a high number of the mothers had heard about family planning with a high mean of 2.40 indicating that other factors could be responsible for their not utilizing family planning methods. The average mean for Maternal nurturing knowledge was 2.17 which are above the average of 2.0 for the 4-point scale used. This is an indication that indeed nurturing knowledge has an influence on the child survival in Samburu County.

4.6.2 Regression for child weight and immunization against nurturing knowledge

Further test to ascertain the linkage between nurturing knowledge and child weight was carried out using inferential statistics. Table 4.38 presents the regression analysis for child weight and immunization against nurturing knowledge.

Table 4.38 Dependent variable: Child Weight and Immunization Status

	Std. Error	Standardized coefficients	Beta	p-value	R	R ²
Constant	0.752	0.251		0.004		
Nurturing Knowledge	0.839	0.071	0.773	0.001	0.773	0.598

Results in table 4.38 indicate the child weight and immunization regressed against the nurturing knowledge variables. The aim was to find a figure for R^2 , large enough to show how one variable influences the other. In this case, 59.8% of the child weight and Immunization success can be explained by maternal nurturing knowledge. This result is an indication of the strong relationship and is in turn ascertained by the highly significant p value of 0.001 ($p=0.05$). It can therefore be concluded that nurturing knowledge is a key influence on the weight and immunization of a child which constitute child survival.

4.7 Influence of maternal nurturing practices on child survival

The study sought to establish the link between the maternal nurturing practice and child survival using Table 4.39 presents the descriptive statistics for maternal nurturing practice on child survival.

Table 4.39 Nurturing Practices for child survival

	N	Mean	Std. Deviation
Birth Attendant	135	3.36	.797
Domestic Water	135	2.80	1.900
Water safety	135	2.04	1.826
Toilet type	135	2.24	.649
Hand washing	135	3.91	1.390
Use of soap	135	1.62	.487
Use of Nets	135	1.57	.675
Average	135	2.51	1.103

These practices scaled to a likert-type scale of 1-4 in Table 4.39 shows that there is a high recognition by the respondents for the need to wash hands as indicated by the mean of 3.91. This practice was followed by the practice of visiting a birth attendant at least once which had a mean of 3.36 which is way below the recommended number of visits that average four particularly in the first trimester. Another common practice was acquisition of water for domestic use from a stream that had a mean of 2.80 while use of safe water through various methods was also highly

practiced as indicated by the mean of 2.04 although the most indicated method was boiling that is hardly done properly rendering the water unfit for human consumption.

On the lower side of the scale, the least practiced activities involved using soap to wash hands which had a mean score of 1.57 indicating that the hygiene was not keenly observed by the mothers while use of mosquito nets had a mean of 1.62 all on the likert type-scale of 1-4 also indicating minimal protection from malaria vectors and exposure to malaria. On average the child nurturing practices for survival of the child had an average mean of 2.51 which is considered significant on a likert-type scale of 1-4. However they had a higher standard deviation indicating that practices alone cannot be the factor affecting the child survival.

In order to establish the influence of maternal nurturing practices on child survival, a regression test was carried out on the practices against the child weight and immunization with the aim of finding a value for R^2 large enough to explain the influence. From the results in Table 4.29 on regression, the R^2 value for regression was mild at 0.491 indicating that 49.1% of the child survival was explained by maternal nurturing practices. The significance for this regression was also found to be mild as the value of p was tending away from 0 at 0.021 ($p=0.05$). This implies the variable is not very strong even though it has shown some good relationship and hence further investigation is required to ascertain its influence on child survival. Table 4.30 presents the regression for child survival against maternal nurturing practices.

Table 4.30 Regression for child survival against maternal nurturing practices

	Std. Error	Standardized coefficients	Beta	p-value	R	R^2
Constant	0.368	0.477		0.443		
Nurturing Practices	0.114	0.021	0.485	0.021	0.701	0.491

4.8 Influence of maternal nurturing beliefs and attitudes on child survival

The third objective sought to assess the influence of maternal nurturing beliefs and attitudes on child survival. In order to establish this, respondents were asked to indicate using a likert type scale of Agree and Disagree, in order to express their opinions on various aspects of child related issues. A simple means of frequencies was used to explain the most agreeable of beliefs. Table 4.31 presents the descriptive statistics for maternal nurturing beliefs and attitudes.

Table 4.31 Maternal Nurturing Beliefs and attitudes

Belief Nurturing Mother	Eigen Extraction Value
Solely husband responsibility	.784
Infertility caused by FP	.653
Immunization protects child	.830
Stop breastfeeding on diarrhoea	.616
Circumcision boosts child delivery	.861
Antenatal reduces complications	.911
Colostrum healthy for new born	.951
Witchcraft and Evil causes sickness	.881
Diarrhoea caused by teething	.871
3 months enough for child self-fending	.694

The strongest belief as shown in Table 4.31 was that ante-natal visits in the early pregnancy period were most likely to reduce child birth complications. The belief had an Eigen value of 0.911. However, there was an indication on negative beliefs that gave high scores. These included witchcraft and evil causing sickness with a value of 0.881 which depicts an attitude of hopelessness in responding to the child's sickness. On whether teething causes diarrhea, the value was at 0.871 further signifying attitude of inability to control what is perceived to be a natural process. In regards to female circumcision, the Eigen value was at 0.861, which means that there are a considerable number of women who believe that the practice can boost birth delivery contrary to the scientific knowledge. The least stated beliefs included infertility caused by family planning with Eigen value of 0.653 an indication that a significant number of women have sound knowledge on family planning and its benefits to the family.

To ascertain the linkage between beliefs and child survival, a regression analysis was carried out with the aim of finding out whether child survival could be explained by those nurturing beliefs. Table 4.32 presents the regression on maternal beliefs and attitude against child survival

Table 4.32: Regression for beliefs and attitudes against child survival

	Std. Error	Standardized coefficients	Beta	p-value	R	R ²
Constant	1.346	0.268		0.000		
Beliefs and Attitude	0.561	0.093	0.532	0.041	0.820	0.508

Dependent variable: Child survival

Results in Table 4.32 indicate that although the R² value at 0.508 is strong, the significance of the relationship is very weak at 0.041 (p=0.05). This implies that although the respondents have indicated many beliefs to be responsible for the child survival, there is very weak relationship between the dependent variable and the independent variable. In other words, although child survival can be explained 50.8% of the time by maternal beliefs and attitudes, there is no strong relationship between the two.

4.9 Summary

The chapter presents an analysis of the data from the field using thematic approach in which each objective was considered and all descriptive statistics assessed to conform or differ with the inferential statistics. In so doing, all variable items were combined and given a measure on a likert-type scale while the inferential statistics used regression analysis and factor analysis to link the items in the dependent variable to those in the dependent variable.

CHAPTER FIVE

SUMMARY OF FINDINGS, DISCUSSION, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This chapter presents and discusses briefly the summary of findings, then offers a conclusion and recommendations, and finally gives suggestions for further research.

5.2 Summary of Findings

The following are the key findings of the study based on the study objectives.

5.2.1 Maternal Nurturing Knowledge Influence on Child Survival

The study established that the mothers who had primary level education and below had large families and birth intervals of less than 2 years. Most mothers in this community also gave birth to their first child in their teenage and did not exclusively feed the children below six months on breast milk. However, the study also showed that the majority of the children had the required immunization status and acceptable birth weights and that the mother preferred the services of qualified personnel for prenatal care.

5.2.2 Maternal nurturing practice influence on child survival

This study established that visiting antenatal clinic at least 4 times in the first three months of pregnancy was uncommon amongst the community members and that most child deliveries were conducted by untrained traditional birth attendants and lay persons. Although the open and unprotected stream was the common source of water in this community, the study showed that there was effort by a majority of the mothers to make the water safe for drinking by boiling it.

5.2.3 Maternal nurturing beliefs and attitude influence on child survival

The study established that there was a general belief among the mothers in Samburu County that family planning and spacing was a shared responsibility between the couple while there was at the same time a positive attitude towards child immunization as an effective protection against early childhood illnesses. However, the study also found that a significant number of mothers believed that breastfeeding was not good for the infants who had diarrhea and that colostrum or

the first milkö was not good for the new born child signifying the existence of food taboos in the community.

5.3 Discussions on findings

This section discusses the key findings of the study in relation to the existing literature on findings of related studies.

5.3.1 Maternal Nurturing Knowledge Influence on Child Survival

The study established that the majority of mothers in Samburu County gave birth to their infants as teenagers putting them at a greater risk of losing their babies. This is in tandem with the World health Organization (WHO, 2014) findings that in low- and middle-income countries almost 10% of girls become mothers by the age of 16 and that these mothers are 50% more likely to have a stillbirth or to lose their baby within the first week after birth. Other studies on emergency obstetric care in preventing stillbirths, (Yakoob et al, 2011) also revealed that the young mothers are prone to obstructed labor because their pelvic bones are still developing, and are more likely to have premature babies and are also themselves at higher risk of developing fistula.

Prevalence of child mortalities varies according to the preventive measures or interventions taken by the government and the choices made by the caregivers. The study showed that the uptake of children immunization against early childhood preventable diseases amongst the Samburu women is very high and this corroborates the findings from UNICEF and World Health Organization (UNICEF/WHO, 2010) that indicate that there has been a significant increase in vaccination coverage in Kenya with 77% of children aged between 12-33 months being fully vaccinated.

The study also revealed that mothers in Samburu community did not exercise exclusive breastfeeding of infants below six months. This finding is supported by the Child Survival Indicator Survey (MoPHS Survey 2010) that established that in Kenya 60 % of children aged four to five months were being given complementary foods. At the same time, the Kenya Health Demographic Health Survey (KDHS, 2008-09) also put the proportion of children in this

category feeding using a bottle with a nipple at 33%. This practice the report adds, exposes infants to pathogens and increases their risk of infection and susceptibility to diseases.

While this study showed that the majority of mothers in the Samburu community preferred the services of qualified personnel for prenatal care, most of them had no access to these personnel. The finding on the insufficient supply of qualified personnel for antenatal care is supported by the Save the Children report, (Save the Children, 2011) that reflects the wider global shortage of skilled birth attendance by up to 7.2 million workers. According to this report, health facilities in poor communities are often poorly staffed and equipped, with huge caseloads for staff development making it difficult for them to provide services.

The study established that the mothers in Samburu Community who had primary level education and below had large families and birth intervals of less than 2 years. The prevalence of this practice puts many children in this community at a great risk of dying as they are two times more likely to die within the first year of life than those born after three or more years (Cleland et al, 2012). The study on Maternal, Newborn and Child Health (AU, 2013) also found that access to family planning and the right to control when and how frequently women become pregnant is a vital part of their empowerment and of a reduction of newborn mortality.

5.3.2 Maternal nurturing practices and their influence on child survival

This study established that visiting antenatal clinic at least 4 times in the first three months of pregnancy was uncommon amongst the Samburu community making it difficult for early detection of congenital complications and intervention. This finding is supported by the survey data from Kenya Demographic Health Survey data (KDHS, 2008-09) that shows that only 44% of women in the rural areas make four or more antenatal visits during pregnancy.

The study also revealed that most child deliveries among the Samburu women were conducted by untrained traditional birth attendants and lay persons who are ill-equipped with knowledge and equipment for obstetrics. These findings are supported by Kenya Demographic Health Survey report (KDHS 2008-09), that also shows that the number of births in Kenya delivered by a health professional is at 44 %. However, as to whether deliveries handled by medically trained personnel enhance chances of child survival, the views are in contrast with those expressed by Frankenberg (1993), in her study on the effects of health services availability on child mortality

in Indonesia. She discovered that child mortality levels were negatively associated with the number of maternity clinics and doctors in a community and that private toilet in the community and the presence of health centers did not have significant impacts.

The study also established that the majority of household in Samburu County got water for domestic use mainly from open and unprotected streams .This is consistent with the United Nations Development Program reports (UNDP, 2010) that found that over 13 million Kenyans lack access to improved water supply that increases the prevalence of water-borne diseases that cause most under-5 hospitalization and mortality. This finding is further supporting by the Kenya Demographic Health Survey data (KDHS 2008-09) that showed that diarrhea is also slightly less common among children who have an improved source of drinking water than among those with an unimproved water source. The study results on child survival by Brockerhoff and Hewett (2000), also upheld the same view that child survival chances increase significantly with the presence of piped water or electricity in the households.

5.3.3 Beliefs and Attitude influence on child survival

The study revealed that a significant number of mothers in Samburu County believed that breastfeeding should cease when a child has diarrhea as it is a common belief that breast milk causes diarrhea. This finding is mirrored by a similar survey in Mozambique (Aubel, 2010) that found that lactating mothers gave less food to infants, especially in cases of diarrhea, as it is thought to increase the diarrhea.

The study also found the existence of food taboos amongst the Samburu community members particularly on the "first milk" or colostrum that was viewed as not good for the new born child. To some extent, infant feeding practices have a cultural bias in some cultures, as revealed in a survey in Haiti on infant and young child feeding practices (Del Rosso, 2010) that showed that there is a widespread practice of the disposal of colostrum and provision of pre-lacteal feeds directly after birth. The Kenya Demographic Health Survey (KDHS 2008-09) also showed that colostrum is not fed to newborn babies in certain communities in Kenya because it is believed to be dirty and thus breastfeeding is delayed until the milk is clear.

5.4 Conclusion

Although there are notable and substantial progress in enhancing child survival in Samburu County through child immunization, sanitization of water for domestic use through boiling and family planning, great challenges remain. These include low frequencies of antenatal clinic visits that are below the threshold of at least 4 times in the first three months of pregnancy; increased vulnerabilities during child deliveries by teenage mothers who are commonly attended to by untrained traditional birth attendants and lay persons. The situation is further compounded by the belief that breastfeeding is detrimental to infants during bouts of diarrhea and that colostrum is not good for new born babies. Susceptibility of infants to early childhood diseases is further increased among the Samburu community through early weaning and non-adherence to the safe practice of exclusive breastfeeding of infants below six months.

5.5 Recommendations

The study makes the following recommendations.

1. The Government of Kenya needs to increase expenditure on health to supplement for the training, equipping and support of health workers in government institution and to increase opportunities for more people to pursue these careers through expansion of the government supported medical training facilities.
2. The Government of Kenya through its relevant ministries should allocate resources to ensure improvement on the overall infrastructure and access to proper sanitation and piped water for domestic use to each household in Samburu County.
3. The County Government of Samburu should improve care at birth through a substantial investment in medical services to ensure that every birth is attended by trained and equipped health worker who can deliver quality care including essential newborn health interventions.
4. The County government of Samburu should further enforce existing policies and legislation on child protection and education for girls to curb early marriages and teenage pregnancies.
5. The CBOs and NGOs operating within Samburu County should step up campaign to mobilize families and communities to address cultural and social barriers that drive

newborn mortalities. Key issues include addressing girls' empowerment, the demand for good-quality healthcare, family planning and exclusive breastfeeding for children less than 6 months and management of early childhood diseases

5.6 Areas of Further Research

The following areas are suggested for further research:

- i) The effect of environment on the psycho-social development of children in ASAL in Kenya.
- ii) Influence of male parent participation in the development of children.

5.7 Summary

The chapter presents a summary of findings and discusses these findings in relation to studies from the global, African and local perspective. Furthermore, based on the study findings and the conclusion made key recommendations for policy action are given. Finally, areas of further research are suggested.

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Appendices

Appendix I: Letter of Introduction

Newton Midamba
Compassion International,
P.O.Box 55379 00200
Nairobi

28th October, 2013

Dear Respondent,

RE: DATA COLLECTION

My name is Newton Midamba, a postgraduate student of the University of Nairobi pursuing a Master of Arts Degree in Project Planning and Management. I am currently involved in conducting a research study entitled "The Influence of maternal nurturing capacity on Child Survival: A Case of Compassion International Child survival programs"

Kindly read the accompanying instructions and respond to the questions as have been provided. Your response to the questions contained in the questionnaire will help me collect the necessary data which assist me to achieve the objectives of the research.

In view of the above, I am humbly requesting you to cooperate in answering the questionnaire which I will provide. The information provided will remain confidential and will be used only for purposes of this research and not for any other purpose whatsoever.

Your response and cooperation in this matter will be highly appreciated.

Thank you in advance,

God bless you

Yours faithfully,

Midamba Newton

Reg.No.L50/7022/07

Appendix II: Maternal Nurturing Capacity on Child survival Questionnaire

Instructions: *(Please read the instructions given and answer the questions as appropriately as possible).* This questionnaire is to be administered through interviewer to the selected respondents who are aged 15-49 and are Early Childhood Caregivers in the sampled households in Samburu County.

SECTION A: BACKGROUND INFORMATION

The interviewer should let the respondent know that information provided will be treated with confidentiality. ()-This provides for options to be ticked appropriately

Date í í í í í í í í í .

Section A: General Demographic Information

1. Kindly provide the following information

- i. **How old are you** (a) between 9 and 20 () (b) Over 20 ()
- ii. **Marital Status**
(a) Married () (b) Single () (c) Widowed () (d) Divorced ()

2. OCCUPATION

What do you do for a living?

- a. Housewife only ()
- b. Self-employed ()
- c. Casual laborer ()
- d. Office Employee ()
- e. Other (Specify) í í í í í í ()

3. MATERNAL LEVEL OF EDUCATION

- a. Primary Incomplete ()
- b. Primary Complete ()
- c. Secondary Complete ()
- d. Post-secondary training ()
- e. None ()

4. AGE OF MOTHER WHEN FIRST GAVE BIRTH

- a. Less than 15 ()
- b. 15-19 ()
- c. 20-24 ()
- d. 25-29 ()
- e. 30 and above ()

5. Has the child received all the KEPI mandatory immunization? (Confirm from the immunization card)

- a. Yes ()
- b. No ()

If answer is yes, go to Q7

6. If the child did not complete the mandatory immunization, what was the reason for not completing?

- a. The advice for next visit was not clear ()
- b. The clinic is too far ()
- c. Other reasons (specify) í í í í í í ()

7. Was the weight of the Child at birth indicated as normal or above normal on the growth monitoring card (confirm from the growth monitoring card)

- a. Yes ()
- b. No ()

SECTION B: MATERNAL NURTURING KNOWLEDGE ON CHILD SURVIVAL

8. NUMBER OF CHILDREN

- a. Children given birth to so far
- b. Less than 2 ()
- c. Between 2 and 5 ()
- d. Between 5 and 10 ()
- e. More than 10 ()

9. PREVIOUS BIRTH INTERVAL

- a. Less than 2 ()
- b. 2 years ()
- c. 3 years ()
- d. 4 and above years ()

10. Have you ever heard about family planning?

- a. Have never heard about family planning ()
- b. Know at least one method of family planning and I am using it ()
- c. Have learnt a lot about family planning methods and I am using one method ()
- d. Have learnt a lot of family planning methods but I am not using any method ()

11. While you were pregnant with your last child, did you see anyone for antenatal care?

- a. Yes ()
- b. No ()

If answer is No, go to Q 14

12. Whom did you see for antenatal care?

- a. Medical doctor ()
- b. Midwife ()

- c. Clinical officer ()
- d. Nurse ()
- e. Public Health Officer ()
- f. Traditional Birth Attendant ()
- g. Community Health Worker ()
- h. Other (Specify) ----- ()

13. While you were pregnant with the child, how many times did you see this person (marked above) for antenatal care?

- a. Less than 2 times ()
- b. 2 to 3 times ()
- c. 4 times and more ()
- d. Don't know ()

14. In the first six months after the child was born, did the child eat solid, semi-solid or any other liquid other than breast milk?

- a. Breast milk + any liquid + any food ()
- b. Breast milk + any liquid only ()
- c. Breast milk + any food item ()
- d. Exclusive breastfeeding ()

15. What are some of the foods that you give the child after the first six months after delivery?

- a. Cow/goat milk ()
- b. Porridge ()
- c. Any green leafy vegetables ()
- d. Pumpkin/potatoes ()
- e. Any fruits ()
- f. Any Meat or liver ()
- g. All the above foods ()

16. when you were pregnant with the child, did you take any medication to protect yourself from malaria infection?

- a. Yes ()
- b. No ()
- c. Don't know ()

If the answer is No or don't know, go Q18.

17. Did you complete the dose of the medication to protect you from malaria infection when you were pregnant with the child?

- a. Yes ()
- b. No ()
- c. Don't know ()

18. Has your child ever suffered from Malaria?

- a. Yes ()
- b. No ()

If the answer is No, go to Q20

19. If Yes, How did you identify the symptoms?

- a. Child had fever ()
- b. Child had diarrhea ()
- c. Child was restless ()
- d. Child was unable to feed properly ()
- e. All of the above ()

20. When the child had diarrhea, what methods did you use in the treatment?

- a. Oral rehydration salts(ORS) ()
- b. Home-made salt and sugar solution ()
- c. Plain water ()
- d. Did nothing ()

21. Do you find it easy to read simply instruction on medication of your child?

- a. I find it easy to read and execute simple instruction on child medication ()
- b. I difficult to read and execute simple instruction on child medication ()
- c. I cannot read but I can execute simple instructions on child medication ()
- d. I cannot read at all and I cannot execute simple instructions on child medication ()

SECTION C: MATERNAL NURTURING PRACTICES ON CHILD SURVIVAL.

23. Who was the Birth Attendant when you got your child?

- a. None ()
- b. Lay person ()
- c. Traditional birth attendant (untrained) ()
- d. Traditional birth attendant (trained) ()
- e. Medical professional ()
- f. Other () Specifyí í í í í í ..

24. Please indicate water source for domestic use

- a. Stream ()
- b. Protected spring ()
- c. Tap water ()
- d. Boreholes ()
- e. Hand dug well (unprotected) ()
- f. Other () Specifyí í í í í í ..

25. What do you do to make sure that your water is safe for drinking?

- a. Boiling ()
- b. Chlorination ()
- c. Filtration ()
- d. Sunlight ()
- e. Other (specify:_____)

26. What kinds of toilet facility do most members of your household use?

- a. Flush toilet ()
- b. Pit latrine ()
- c. Ventilated improved pit (VIP) latrine ()
- d. No facility/bush/field ()
- e. Other (specify:_____)

27. How often do you wash your hands?

- a. Before food preparation ()
- b. Before feeding the child ()
- c. Immediately I come from the toilet ()
- d. Before eating meals ()
- e. Many occasions ()

28. Whenever you wash your hands, do you use soap/detergent?

- a. Yes ()
- b. No ()

29. Do you have any bed nets in your house at this moment?

- a. Yes ()
- b. No ()
- c. Yes, but in a bad state ()

30. Do you or the child sleep under the bed net at night?

- a. both of us sleep under the bed net ()
- b. Only the child sleeps under the net ()
- c. Only me sleeps under the net ()
- d. None of us sleeps under the net ()

Section C: MATERNAL NURTURING BELIEFS AND ATTITUDE ON CHILD SURVIVAL

31. In the following table, ask the question and use a tick (ç) to indicate the respondent's answers to questions

No.	Question	Agree	Disagree	Don't Know
1.	Family planning and family spacing is the sole responsibility of the husband			
2.	A person who uses family planning before her first child can become infertile.			
3.	Immunization of children protects them against early childhood diseases.			
4.	If a child has diarrhea, breastfeeding should be discontinued until the child gets well			
5.	Female circumcision leads to better child delivery			
6.	Visiting antenatal clinic in the first 3 months of pregnancy leads to early detection of pregnancy-related complications			
7.	The first water (Colostrum) milk that comes from the breast is good for new born babies			
8	Child illness is a result of witchcraft and evil spirits			
9	Teething causes Diarrhea in children under 1 year			
10	After the first 3 months, a child can independently fend for themselves with little support from the mother or other adults			