INFLUENCE OF MATERNAL LEVEL OF EDUCATION ON CHILD MORTALITY: A CASE STUDY OF KINANGO DIVISION OF COAST PROVINCE, KENYA.

BY

NJAGI, JOYCE MUTHONI
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A PROJECT PAPER SUBMITTED TO THE INSTITUTE OF ANTHROPOLOGY, GENDER AND AFRICAN STUDIES IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE AWARD OF THE DEGREE OF MASTER OF ARTS IN GENDER AND DEVELOPMENT STUDIES, UNIVERSITY OF NAIROBI.

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DECLARATION

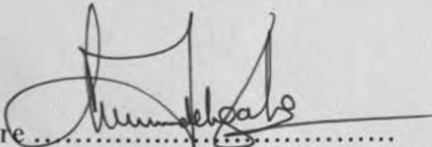This research project is my original work and has not been presented to any study program in any university.

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NJAGI JOYCE MUTHONI

N50/P/7967/2005

This research project has been submitted with my approval as the university supervisor.

Signature .... Date .....10-11-08.......

DR. OWUOR OLUNGAH

Institute of Anthropology, Gender and African studies

DEDICATION

This research project is dedicated to my parents James and Margaret Murage, whose lives of hard work and resilience have mirrored the image of a father and mother who will scale great heights to positively influence and impact on the lives of their children, thus motivating my undertaking of this study.

May our good Lord richly bless you.

ACKNOWLEDGMENT

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ABSTRACT

The central concern of this study was to explore how the level of maternal education influences under five child survivals. Statistics across the world including the Kenya Demographic Health Survey (2003) show a strong link between the mother's level of education and child survival. The KDHS (2003) shows that higher levels of mother's education attainment are generally associated with lower mortality rates, since education exposes mothers to information about better nutrition, use of contraceptives to space births and knowledge about childhood illnesses and treatment.

This was a case study of Kinango Division which is situated in the Coast Province of Kenya. The overall objective of the study was to explore how the level of maternal education influences under-five child survival while the specific objectives were; to find out the general education status of women in the division, to identify the main conditions that lead to under-five mortality in the district, to explore the extent to which the level of maternal education influences under-five child survival in the district, and recommend evidence –based interventions for policy planners and other development planners in the division.

The study adopted an exploratory survey design with the aim of collecting both quantitative and qualitative data from Kinango Division. The sampling frame was obtained from the Kinango District Demographic Health Survey conducted in 2005 by the Kinango District Health Management team based in Kinango hospital, in collaboration with UNICEF.
The 30 by 7 sampling technique, which was developed by the World Health Organization (WHO) in 1978, was applied in the study. Kinango division has 6 locations. The Area Map was used as the sampling frame from which 4 locations were selected randomly from the six locations within Kinango division. These locations formed the clusters. 16 households per clusters were selected to make a total of 64 households selected to participate in the study. Women of 15-49 years of age within selected households were studied. The age group of 15-49 years covered Women of Reproductive Age.[1] The rationale of using the probability sampling technique was to ensure that each study element had a non-zero chance of being included in the sample.

To enrich the study, a triangulation approach was adopted i.e. In-depth interviews with women of 15-49 years of age, Key-informant interviews with the MOH of Kinango District Hospital, the Lead Public Health Worker stationed in Kinango District hospital and a Focus Group Discussion comprising of 8 women of 15-49 years of age from the selected locations, were conducted.

From the results and discussion of the study findings, it can be concluded that the low levels of education of mothers in Kinango Division have contributed negatively to child

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[1] WHO, UNICEF, UNFPA (2004) *Maternal Mortality in 2000.* Department of Reproductive Health and Research World Health Organization, Geneva 2004

health care and well being which has as a result triggered under-five deaths in the division.

Some of the recommendations were drawn together with the respondents during the data collection process because they were representing the Kinango division community members who experienced the realities discussed in the study findings. It is my hope that with the implementation of these recommendations by the Policy Planners and Development Partners, there will be a remarkable improvement in child health care, and in the general standards of living and overall well being of the inhabitants of Kinango, for the current generation and the generations to come.

"If we can get it right for children - if we can deliver on our commitments and enable every child to enjoy the right to a childhood, to health, education, equality, and protection – we can get it right for people of all ages. I believe we can".
(Kofi Annan- The State of the World' Children 2006)

LIST OF ABBREVIATIONS

AIDS   Acquired Immune Deficiency Syndrome

AARR   Average Annual Reduction Rate

ARI   Acute Respiratory Infection

ASAL   Arid and Semi-arid Areas

CBS   Central Bureau of Statistics

DAE   Department of Adult Education

FGD   Focus Group Discussion

FP   Family Planning

GOK   Government of Kenya

HIV   Human Immune virus

KDHS   Kenya Demographic and Health Survey

KNBS   Kenya National Bureau of Statistics

MCH   Mother Child Health

MDGs   Millennium Development Goals

MOH   Medical Officer of Health

MTCT   Mother to Child Transmission

PHW   Public Health Worker

TBA   Traditional Birth Attendant

U5MR   Under Five Mortality Rate

UN   United Nations

UNDP   United Nations Development Program

UNICEF United Nations Children Fund

WHO   World Health Organization

VCT   Voluntary Counseling and Testing

CHAPTER ONE

INTRODUCTION

1.0 BACKGROUND OF THE STUDY

Childhood means more than just the time between birth and the attainment of adulthood. It refers to the state and condition of a child's life: to the quality of those years (UNICEF, 2005). Childhood is the foundation of the world's hope for a better future. The survival of the child in the first five years of life depends on a number of biological and socio-economic 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.

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 KDHS (2003), Coast province ranked fourth out of the eight provinces in Kenya, in under-five mortality with a rate of 116 deaths for every 1000 live births. On the

other hand, the survey provides that the number of deaths for every 1000 live births amongst under-fives against the background characteristic of maternal education as follows:

Table 1.1[2] Early childhood mortality rates by socioeconomic characteristics
Under-five mortality rates for the ten-year period preceding the survey, by background characteristics, Kenya 2003

Background Characteristic	Under-five Mortality (5q0)
Mother's education	
No education	127
Primary incomplete	145
Primary complete	98
Secondary +	63

Source: Kenya Demographic Health Survey (2003).

According to these rates, the mother's level of education is strongly linked to child survival. Higher levels of education attainment are generally associated with lower mortality rates, since education exposes mothers to information about better nutrition, use of contraceptives to space births and knowledge about childhood illnesses and treatment. Larger differences exist between the mortality of children of women who have attained secondary education and above and those with primary level education or less. Findings documented in the KDHS (2003) shows that there still exists great marginalization of girls in terms of enrolment to basic schooling and general literacy levels. The data shows that illiteracy levels amongst females are almost twice as much (21%) as that of males (12%) with respect to age.

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[2] Central Bureau of Statistics (CBS) [Kenya], Ministry of Health (MOH) [Kenya], and ORC Macro. 2004 *Kenya Demographic Health Survey 2003*. Calverton, Maryland CBS, MOH and ORC Macro.

According to Chege and Sifuna (2006: 43), Kwale District (from which Kinango District was curved out in year 2007) was among the districts that fell into the bottom of educational attainment in school enrolment and education for girls according to a CBS report (1999). In 1987, the girls' participation rate in formal education in the district was 42%. This low participation rate of girls in these districts, has been explained to be attributed to cultural factors, especially early marriages (GOK and UNICEF, 1992). Whereas some progress has been achieved in the last two decades with regard to boys' school attendance, girl's education continues to lag behind.

Regions where women are educationally advanced tend to be leaders in Economic Development, of which one key indicator is low levels of child mortality rates. However, not so much is said about the corrective measures to be taken to assist regions with low girls' enrollments to improve (Chege and Sifuna, 2006: 43). Emphasis is instead placed on why there are disparities between districts. This has increasingly led to high illiteracy levels in these regions, which have a direct relationship with increased child mortality. Jeffries (1967:13); Chege and Sifuna (2006) rightly observes that the illiterate person is a woman whose baby is dying of some malady, which the poster on the wall tells how to prevent or cure.

The justification for enrolling girls to formal education with the aim of achieving a minimum of basic primary education has been underscored by empirical research showing that the inverse relationship between mother's schooling and child mortality exceeds controls for other socio-economic variables including husband's education and

occupation[3]. Kabeer (2001) provides that studies done by Hobcraft et al. (1984); Mensch et al., (1985) suggest that even a small amount of education was associated with improved chances of child survival and the gains increased with increasing the level of maternal education. The maternal education effect remained strong even when child spacing had been factored into the equation.

Kinango Division is one of the divisions that constitute Kinango district of the Coast Province of Kenya which is located in the south-eastern corner of Kenya. Kinango district was curved out from Kwale district in the year 2007. It lies between Latitudes 30^0 31" and 4^0 41" South and Longitudes 38^0 31" and 39^0 31" East. It is bordered by Kwale District in the south, Taita Taveta District in the West, Kilifi district in the North, Mombasa District and the Indian Ocean in the East[4]. The practice of early marriage is highly prevalent in the area, where girls get married at a very tender age, as early as 12 years of age. As a result, most of the girls in the area either, do not attend any form of formal education, drop-out before completing primary school, do not transit to secondary school, those who transit fail to complete secondary school education, or the few who complete secondary school education fail to attend any form of vocational or tertiary education and learning. This has resulted to high fertility rates evident in the area characterized by low birth spacing, high prevalence of otherwise preventable and curable diseases which have resulted to high under-five child mortality which would otherwise be prevented with some level of maternal education.

[3] Kabeer, N (2001), Gender Equality and Human Development: The instrumental Rationale. *UNDP Human Development Report 2005.*

[4] Kwale District PRSP (2004). *Consultation Report for the period 2001-2004* Ministry of Finance and Planning. Government printers

1.1 JUSTIFICATION OF THE STUDY

Child Mortality is widely recognized as an important indicator of development. It is also the broadest, and hence most inclusive, widely-used measure of child survival (UNICEF, 2005). Knowing how the level of maternal education influences under-five child survival is important for targeting interventions that will save the lives of these children and also for monitoring progress towards the achievement of the fourth MDG which is to reduce child mortality rates by 2/3rds by the year 2015.

The need for this study was to give estimates of under-five mortality rates and also give estimates of the education status of women in Kinango division and show how this education status of mothers influence the rate of under-five mortality. This will form the basis of informed decision making in the process of designing child survival interventions among Policy Planners and other Development Partners in Kinango division of the Coast province of Kenya.

1.2 OBJECTIVES OF THE STUDY

The overall objective of the study was to explore how the level of maternal education influences under-five child survival with the aim of recommending evidence-based interventions for Policy Planners and other Development Partners in Kinango division of the Coast province of Kenya.

SPECIFIC OBJECTIVES

The specific objectives of the study were:

1. To find out the general education status of women in the division.

2. To identify the main conditions that lead to under-five mortality in the division.

3. To explore the extent to which the level of maternal education influences under-five child survival in the division.

4. To recommend evidence–based interventions for policy planners and other development partners in the division.

1.3 RESEARCH QUESTIONS

a. What is the general level of education of mothers in Kinango division?

b. What are the main conditions that lead to under-five deaths in Kinango division?

c. How has this level of education of mothers influenced child mortality in Kinango division?

d. What is the incidence of under-five deaths in Kinango Division?

e. Are there efforts by the Government and other development partners in service provision, information sharing and awareness creation as a measure of reducing child mortality in Kinango division?

1.4 ASSUMPTIONS OF THE STUDY

a. The researcher would receive sufficient cooperation from all respondents.

b. All respondents would provide the researcher with credible information.

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c. There will be adequate funds to facilitate the completion of the study (See Appendix G).

1.5 SCOPE AND LIMITATIONS OF THE STUDY

The study confined itself to Kinango Division where the levels of education among women are very low, while the child morbidity and mortality rates are high hence forming a very appropriate site for conducting the study. However, this study was carried out in a rural setting. For the purposes of providing data and information which can be relevant and applicable for both a rural and urban setting, the study should also have been carried out in an urban setting. Unfortunately, this was not possible due to the constraints of available resources such as time, funding and personnel.

CHAPTER TWO

LITERATURE REVIEW

2.1 CHILD MORTALITY

Globally, child deaths have dropped rapidly in the past 25 years, but progress everywhere slowed in the 1990's. The Under Five Mortality Rate (U5MR) is widely recognized as an important indicator of development and the sustainability of it. It is also the broadest, most widely-used, hence most inclusive measure of child survival. According to the State of the World's Children (UNICEF, 2005), Children are half as likely to die before age five today as it was 40 years ago. At the start of the 1960s, nearly one in five children died before they were five years old. In 2002, 7 of every 1,000 children in industrialized countries died before they were five. At the other extreme, in sub-Saharan Africa, 174 of every 1,000 children died before celebrating their fifth birthday. In South Asia, 97 of 1,000 children died before they were five. In 2004, an estimated 10.5 million children died before they reached age five, most of them from preventable diseases (UNICEF. 2005). In low-income countries, 1 child in every 9 children dies before its fifth birthday, compared with 1 out of 143 in high-income countries (UNDP, 2003).

The under-five mortality rates in most of the Sub-Saharan countries appear to be less affected by household wealth than in other developing regions. This is in part explained by the high levels of absolute poverty still prevailing in these countries, which are translated into the lack of adequate and essential services at the household level, and lack of health infrastructure and basic resources and lack of basic education among household

members which is crucial for informed decision making by care-givers in relation to child health care and well being.

The statistics from the Demographic and Health Surveys and the Multiple Indicator Cluster Surveys, clearly show that children living in the poorest 20 per cent of households in the world are significantly more likely to die during childhood than those living in the richest 20 per cent of the population (UNICEF, 2005). Child mortality is closely linked to poverty. In 2001, the average under five mortality (U5MR) deaths per 1000 live births in low income countries, 41 in lower-middle-income countries and upper-middle-income countries (UNDP, 2003). In high-income countries, the rate was less than 7 children. For deaths before age five, the cause is attributed to diseases or a combination of diseases mainly preventable in high-income countries. The above statistics shows that a child's chance of survival differs sharply depending on where they are born.

2.1.1 CAUSES OF UNDER FIVE MORTALITY

The World Health Organization (WHO) affirms that poor neonatal conditions are the single most prominent cause of young deaths, followed by infectious and parasitic diseases, particularly in developing countries. Acute respiratory infections and diarrhoea together are at the root of approximately one third of child deaths. Measles accounts for around 5 per cent of child deaths although significant progress has been made in reducing deaths caused by the disease (UNICEF, 2004).

Malaria Infections

Malaria continues to be the number one killer disease. 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 anaemia and have a high likelihood of delivering infants with low birth weight (UNICEF, 2004). Inaccessibility to effective 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 2004).

HIV/AIDS

The UNICEF (2005) report states that, HIV/AIDS is responsible for 8 per cent of all under-five deaths in the Sub-Saharan region, more than double the global average. Given the high numbers of children orphaned by the epidemic and only modest inroads achieved in countering malaria, which accounts for more child deaths than HIV/AIDS, the threats facing young children's chances of survival are as grave as ever.

High Levels of Malnutrition

Malnutrition is a major issue affecting many children; it contributes to more than half of all child deaths world wide. The KDHS (2003) shows that, 31% of Kenyan children are

stunted with 11% on the extreme in relation to stunting. Stunting increased rapidly with age, peaking at 43% among children in their 2nd year of life and remaining at 29-36% among older Children. As far as wasting is concerned, 6% of Kenyan children are said to be wasted with 1% being severely wasted. The Survey further points out that wasting level are higher for children aged between 10-23 months, which is the recommended weaning period. The survey also indicates that one in every five of Kenyan children is underweight, with 4% being classified as severely underweight.

2.2 EDUCATION AND TRAINING

Education and training has been recognized by development planners as a vital element in the overall strategy for sustainable development. Literacy is a pillar for individual and national development. It equips people with the knowledge and competencies to be able to seek gainful employment or engage in income-generating activities. Further, it empowers people to participate in decision-making processes both in the social and political sphere, enjoy their fundamental rights, and enable them to lead a dignified life.[5] Education is the requisite to individual empowerment, participation and development and is thus the cornerstone of development and the foundation of economic competitiveness and social well being. It strengthens people's ability, both men and women, to meet their

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[5]Department of Adult Education (DAE) [Kenya], Central Bureau of Statistics (CBS) [Kenya] and UNESCO Nairobi *Kenya National Adult Literacy Survey Report* (2007) Kenya National Bureau of Statistics, 2007, Nairobi.

needs and those of their families by increasing their productivity and potential to achieve higher standards of living and thereby improving their quality of life.[6]

Education and training enhance women and men's attainment of overall social economic advancement, improving of their literacy levels and enhancement of their earning capacity and lowers their incidence of poverty and its consequences. Investing in education greatly contributes to overall economic and social development through higher labor productivity, improved nutritional status and enhanced partnerships in national development.[7]

Four broad categories constitute formal education. These include Early Childhood Education, Primary education, Secondary education and Tertiary education. Findings documented in the KDHS (2003) show that there still exists great marginalization of girls in terms of enrolment to basic schooling and general literacy levels. The data shows that illiteracy levels amongst females are almost twice as much (21%) as that of males (12%) in respect to age. This low participation of women in the public and private sphere including in decision making, economic activities and political participation, is highly attributed to their lack of proper education and relevant training.

2.2.1 ADULT LITERACY

The illiterate adult population in Kenya currently stands at 38.5% (KNBS, 2007). Though mass illiteracy is perceived as an obstacle to attaining ambitious goals of development,

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[6] Universal Declaration of Human Rights and Program of Action (1994); *International Conference on Population and Development*

[7] Central Bureau of Statistics (CBS) [Kenya], Ministry of Health (MOH) [Kenya], and ORC Macro 2004 *Kenya and Demographic Health Survey 2003* Calverton, Maryland CBS, MOH and ORC Macro

the focus in education has mainly shifted to elementary education for children since the declaration of Millennium Development Goals in 2000, thus ignoring the illiterate adult population, majority of who are women. The CONFINTEA V, the Fifth International Conference on Adult Education that was held at Hamburg in 1997, was an important landmark in the re-assertion of faith in adult literacy. It raised concerns for the provision of learning opportunities for all, including those who are excluded and unreached majority of who are women[8].

The Kenya National Adult Literacy Survey conducted throughout the country between June 8 to August 8, 2006 by the Kenya National Bureau of Statistics (KNBS) and the Department of Adult Education (DAE) provided that on average, 38.5 % of the Kenyan adult population was illiterate (KNBS, 2007). Second, the survey established that only 29.6 % of the adult population had attained the desired mastery levels, while 61.1 % of the population had attained minimum mastery levels. In addition, the survey established that 38.5 % of Kenya's adult population, 7.8 million people, have not acquired minimum literacy level and hence require literacy programmes. For a country that has set a goal of industrializing by 2020 and reaching the status of newly developed state by 2030, a high literacy rate is an imperative.

According to the survey, there were worrying wide disparities in literacy levels in terms of sex. Based on the performance of the tests, Males had higher literacy rates of 64.2 per cent compared to females who had literacy rates of 58.9%. The low female literacy levels translate to poor health care of their children and general well being of their households,

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[8] Asian-south pacific bureau of adult education (ASPBAE)and International Council of Adult Education

(2001)*Emerging trends in adult literacy policies and practice in Africa and Asia. NGO perspectives*

thus increasing the incidence of under five deaths (KDHS, 2003). Therefore, in order to complement formal education, Adult literacy programmes targeting high enrollments of women who are mainly the excluded and unreached, need to be stepped up and spread across all regions in the country with the aim of reaching the average illiterate adult population of 38.5% in Kenya (KNBS, 2007).

2.3 MATERNAL LEVEL OF EDUCATION AND UNDER-FIVE CHILD SURVIVAL

In her Ph. D Thesis on Education for Life - Mothers' Schooling and Children's Survival in Eastern Uganda, Katahoire (1998) observed that women's subjective experiences with schooling were expressed in terms of their social roles and responsibilities as wives, mothers, and responsible members of their society. She further provides that her focus on women's experiences with schooling brought her directly into the social and micro-political spheres of family and community where women's schooled identity was brought to bear on social roles and relations. Her study also brought to light emotions associated with the different identities of schooled and unschooled and how they manifested themselves in social practice. This emphasized the importance of understanding women's experience with schooling not only as social but also as embodied, manifesting itself in bodily agency and self perceptions. This approach brought into focus some less visible but nevertheless important motivations for actions.

The benefits of acquiring basic education amongst girls in relation to child health care and well-being including possible subsequent morbidity and mortality of the children cannot therefore be underrated. This is because women are the main care-givers of their

children given their natural child-birth and breastfeeding roles and also the domestic social roles bestowed on them by the patriarchal systems in most parts of the word. For example, with regard to Health and Nutrition, it is common knowledge that infants and children of women with basic levels of education are likely to have better health and Nutrition. This is because, the exposure to increased levels of education increases self regulation and motivation of the mother to seek appropriate Healthcare and Nutrition for her household (Katahoire, 1998). This as a result minimizes child mortality. In addition, the success of immunization programs is as a result of increased literacy levels among rural populations especially women (Chege and Sifuna, 2006: 134).

Fertility Rates

There is a strong and broad-based relationship between women's education and their fertility rates whereby educated mothers have lower fertility rates, which are highly correlated with positive impact on maternal and child health (Chege and Sifuna, 2006: 134). Declines in fertility rates, are observable from primary education level in much of the world. In general, the relationship is stronger in the case of mother's education than the father's. In addition, education increases the chances of employment and employment becomes another variable which appears to be associated with lower fertility rates in different parts of the world (Kabeer, 2001). Kabeer (2001) provides that studies done by Hobcraft et al. (1984); Mensch et al., (1985) showed that the maternal education effect remained strong even when child spacing had been factored into the equation. Kabeer adds that lower fertility rates and increased periods of child spacing are some of the indirect routes through which mother's attributes including education, affects child

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survival. Analysis from the KDHS (2003) for example provides that women with no education are less likely to space their births less than two years apart when compared to women with education. The survey provides that children born three to five years after their sibling are twice, as likely to survive up to the age of five than children born in periods shorter than two years.

An equally broad based and even more consistently inverse relationship between mother's schooling and child mortality has been documented over the last three decades in Africa, Latin America and Asia in their National Demographic Health Statistics. This association survives controls for other socio-economic variables including husband's education and occupation (Kabeer, 2001).

Child Nutrition

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 2001). This complements KDHS (2003) 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 house-holds where the mother has no basic primary education, in relation to longer term measures of nutritional status. According to KDHS (2003), the prevalence of moderate to severe levels of malnutrition was much lower among children in female headed households where mothers had basic primary education.

2.4 MEETING THE MILLENNIUM DEVELOPMENT GOALS

During the Millennium Summit in year 2000 as part of the Millennium Development Goals, world Governments pledged that by 2015 they will have reduced the under-five mortality rate by two thirds from 93 children of every 1,000 in 1990 dying before they were five to 31 of every 1,000 in 2015. The Millennium Summit called on countries to reduce by two thirds, between 1990 and 2015, the under-five mortality rate. The vision of meeting Millennium Development Goals (MDGs) and the rest of the broader goals of the Millennium Declaration is a strategy to transform lives of millions of children, who would be spared illness and premature death, escape extreme poverty and malnutrition, gain access to safe water and decent sanitation facilities and complete primary schooling.

However, a number of regions and countries have fallen behind on the goals (UNICEF, 2005). The UNICEF projections show that, only 53 developing countries will meet Millennium Development Goal number Four. The UNICEF (2005) report affirms that, of the 98 countries that are 'off track' to meet the goal, 45 are 'seriously off track' reducing their under-five mortality rates by an average annual rate of less than 1%. The vast majority of these suffer from one or more of the three major threats to childhood which include high rates of poverty, conflict, or HIV/AIDS.

The setting of MDG 4 assumed an Average Annual Reduction Rate (AARR) of 4.4 per cent in the under-five mortality rate each year between 1990 and 2015. Conversely, each year a country fell below the 4.4 target called for greater reduction in the remaining years. When the target was set late in 2000, it was already evident that countries that had

faltered in the 1990s would need to intensify their efforts at reducing child deaths between 2000 and 2015, in some cases doubling the AARR if they were to have a chance of meeting the goal (UNICEF, 2005). One of the key measures include striving to achieve MDG goal number two which calls for enrollment of all children in school going age to basic primary education and the completion of it coupled with increased efforts to ensure higher transition rates to secondary school education. With this exposure to education, greater populations of women will be equipped with basic knowledge and skills which will increase their self regulation, self motivation and greater agency in seeking appropriate Healthcare and Nutrition for her household as Katahoire (1998) rightly provides. Intensification of Adult Education and Literacy programmes targeting women especially would greatly complement these efforts, as it would reach the already illiterate adult population which stands at 38.5% with significant higher literacy rates of 64.2 per cent among males compared to 58.9 % among females in Kenya (KNBS, 2007).

2.5 THEORETICAL FRAMEWORK

The theory that was applied in the study is the Social Cognitive Theory by Bandura Albert (1986).

Overview: Social Cognitive Theory

Bandura (1986), with the publication of *Social Foundations of Thought and Action: A Social Cognitive Theory*, advanced a view of human functioning that accords a central role to cognitive, vicarious, self-regulatory, and self-reflective processes in human adaptation and change. The theory views human beings as self-organizing, proactive, self-reflecting and self-regulating rather than as reactive organisms shaped and shepherded by

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environmental forces or driven by concealed inner impulses. From this theoretical perspective, human functioning is viewed as the product of a dynamic interplay of personal, behavioral, and environmental influences, Pajares (2002).

Pajares (2002) gives this example; how people interpret the results of their own behavior informs and modifies their environments and the personal factors they possess which, in turn, inform and alter subsequent behavior. This is the foundation of Bandura's (1986) conception of *reciprocal determinism*, the view that (a) personal factors in the form of cognition, affect, and biological events, (b) behavior, and (c) environmental influences create interactions that result in a *triadic reciprocality*. Bandura altered the label of his theory from social learning to social "cognitive" both to distance it from prevalent social learning theories of the day and to emphasize that cognition plays a critical role in people's capability to construct reality, self-regulate, encode information, and perform behaviors.

Further, Pajares (2002) provides that rooted within Bandura's social cognitive perspective is the understanding that individuals are imbued with certain capabilities that define what it is to be human. Primary among these are the capabilities to symbolize, plan alternative strategies (forethought), learn through vicarious experience, self-regulate, and self-reflect. These capabilities provide human beings with the cognitive means by which they are influential in determining their own destiny.

Relevance of theory to the Study

According to the theory, strategies for increasing well-being can be aimed at improving emotional, cognitive, or motivational processes, increasing behavioral competencies, or altering the social conditions under which people live and work.

This study seeks to investigate how the maternal level of education influences under-five child survival. This theory will help to verify whether the exposure of women to education and literacy, does help the mothers' capability to construct reality of the environment they live in, self-regulate, encode information, and perform behaviors that promote their child health care well-being and that of their general households, and how this influences the incidences of under-five deaths. In addition, it will help verify whether the exposure of women to increased and higher levels of education, increases their behavioral competence as far as child health care is concerned, and also whether it alters the social and environmental conditions under which they live.

CHAPTER THREE

RESEARCH DESIGN AND METHODOLOGY

3.1 INTRODUCTION

This chapter presents the Research Design and Methodology used in the study. The chapter highlights the following; Study design, Study locale, Target population, Sampling Technique and Sample, Data collection techniques, tools and procedures, Quality control which includes validity and reliability, Ethical considerations and Data analysis.

3.2 STUDY DESIGN

The study adopted an exploratory survey design with the aim of collecting both quantitative and qualitative data from Kinango Division.

3.3 STUDY LOCALE

Kinango Division is one of the four divisions that constitute Kinango district of the Coast Province of Kenya which is located in the south-eastern corner of Kenya. Kinango district was curved out from Kwale district in the year 2007. It lies between Latitudes 30^0 31" and $4^0 41$" South and Longitudes $38^0 31$" and $39^0 31$" East. It is bordered by Kwale District in the south, Taita Taveta District in the West, Kilifi district in the North, Mombasa District and the Indian Ocean in the East[9]. The study was conducted in four locations out of the six locations in Kinango division namely; Ndavaya, Kinango, Puma, Vigurungani.

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[9] Kwale District PRSP (2004) *Consultation Report for the period 2001-2004* Ministry of Finance and Planning Government printers.

3.4 TARGET POPULATION

The target population in this study was women aged 15-49 years of age from households within the four target locations, from which a representative random sample of respondents was obtained to participate in this study.

Table 3.1 shows a summary of the total target population.

Table 3.1 Target Population

Location	Number of households	Population of Women aged 15-49 years	Average number of women aged 15-49 years per house-hold
Ndavaya	2,666	5,897	2
Kinango	2,888	5,796	2
Puma	2,212	3,161	1
Vigurungani	2087	3,781	2

Source: Kinango District Demographic trends Survey (2005)[10].

3.5 SAMPLING TECHNIQUE AND SAMPLE

The 30 by 7 sampling technique was applied in the study. This technique was developed by the World Health Organization (WHO) in 1978. The goal of this sampling design was to estimate immunization coverage to within ±10 percentage points of the true proportion, with 95% confidence and has generally become a standard approach to development research sampling. The 30 by 7 cluster survey is a two-stage cluster sample.

Kinango District Health Management team and UNICEF (2005) *Kinango District Demographic trends Survey (2005)[10]* Kinango Hospital.

Before the sampling begins, the population is divided into a complete set of non-overlapping subpopulations, usually defined by geographic or political boundaries. These subpopulations are called *clusters*. In each of the 30 clusters selected, seven households are selected yielding a sample size of 210 respondents. Although the sampling unit is the individual subject, the sampling is conducted on the household level. The subjects are chosen by selecting a household and every eligible subject in the household is included in the sample. The first household is randomly selected and all eligible subjects in that household are sampled. After the first household is visited, the surveyor moves to the "next" household, which is defined as the one whose front door is closest to the one just visited. This process continues until all seven eligible subjects are found (WHO, 2001). This approach was contextualized to the study.

Kinango division has 6 locations. The Area Map (See figure 3.1) was used as the sampling frame from which 4 locations were selected randomly from the six locations within Kinango division. These locations formed the clusters. This sampling technique therefore required that 7 households be sampled from each of the selected location to form a unit of observation. However, when respondents' coverage is extremely high, like it is the case of the household population within the four selected locations (see table 3.1), estimating this proportion to within 10 percentage points may not have been very representative. As a result of this, it was necessary to increase the sample size of the sampled households from seven (7) to sixteen (16). This meant that a total of 64 households were selected to participate in the study. Women of 15-49 years of age within selected households were studied. The age group of 15-49 years covered Women of

Reproductive Age. The rationale of using the probability sampling technique was to ensure that each study element had a non-zero chance of being included in the sample.

Figure 3.1: Area Map
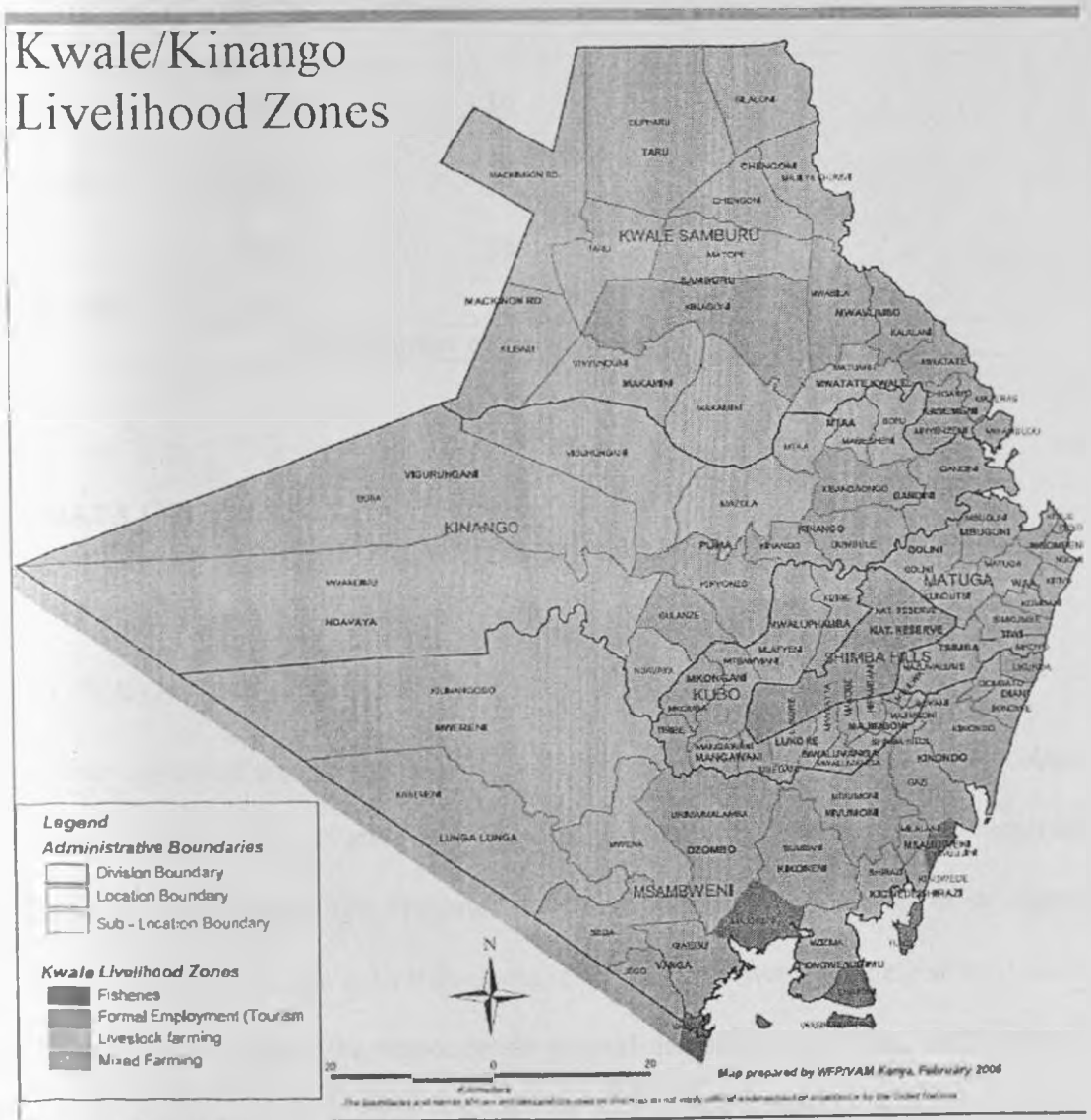
Source: Kwale District Report (2008). *Short rains Food Security Assessment 15th - 18th February 2008*. District Map.

Locations within Kinango Division that were selected, number of households in these locations, and the respondent sample is shown in table 3.2.

Table 3.2 Summary of sample respondents

Location	Number of households	Sample (Households)	Sample (Respondent women aged 15-49 year of age)
Ndavaya	2,666	16	16
Kinango	2,888	16	16
Puma	2,212	16	16
Vigurungani	2087	16	16
	Total number of respondents		64

3.6 DATA COLLECTION

To enrich the study, a triangulation approach was adopted as follows:

3.6.1 IN-DEPTH INTERVIEWS

The data collection process begun with In-depth interviews which were used to collect both quantitative and qualitative data from the targeted 64 respondents who comprised women of 15-49 years of age. The interviews were conducted with the aid of structured questionnaires as the data collection tools. The questions were categorized in 2 main variables which include; the respondent's general demographic profiles and maternal level of education, child health-care and well being. The actual number of responses received was 55.

3.6.2 KEY INFORMANT INTERVIEWS

Key-informant interviews were conducted with the MOH of Kinango District Hospital and the Lead Public Health Worker stationed in Kinango District hospital. The interviews were conducted with the aid of an interview guide as the data collection tool, which was used to capture qualitative data from the MOH and the lead Public Health Worker. The interview guide contained questions related to hospital statistics on child morbidity and mortality, child-health care related services provided by the hospital and community health outreach programs running in Kinango division.

3.6.3 FOCUS GROUP DISCUSSION (FGD)

One Focus Group Discussion comprising of a total of 8 women (2 women from each of the selected locations) of 15-49 years of age, was conducted. A focus group discussion guide was used to capture qualitative data from the Focus Group Discussion members. The focus group discussion guide contained questions related to basic attitudes towards girl-child education in the division, the main causes of child morbidity and mortality in the division, practices regarding child-health care and well-being in the division and general views of the Kinango division inhabitants on the importance of mothers' education with regard to child health-care and well-being.

3.6.4 DATA COLLECTION PROCEDURES

Three trained research assistants drawn from Kinango division personally administered the in-depth interview questionnaires. The lead researcher conducted the key-informant interviews with the MOH and Lead Public Health Officer of Kinango District Hospital

and also moderated the Focus Group Discussion Session with the help of an observer and a note taker. Data collection was completed within a period of thirteen days.

3.6.5 QUALITY CONTROL

Research Assistants were required to administer structured questionnaires through interviews. In order to ensure reliability and validity of data, these research assistants were trained prior to data collection. The training was aimed at ensuring consistency in the interpretation of questions by the research assistants. This was followed by pre-test and correction of errors in the questionnaires. This involved visiting the study site and crosschecking questionnaires to ensure that they are being filled correctly.

To ensure greater validity, the lead researcher conducted the key-informant interviews with the MOH and Lead Public Health Officer of Kinango District Hospital and moderated the Focus Group Discussion Session with the help of an observer and note taker.

3.7 ETHICAL CONSIDERATIONS

Questions about the health of children, illnesses and possible deaths were a key area of focus during the primary data collection. The ill health of children among the Kinango Division community is mainly understood to be as a result of absolute neglect by their care-givers, in this case the mothers. These questions would therefore be embarrassing or seem demeaning to the respondent. In addition, HIV/AIDS was one of the areas covered while exploring the issue of children's health in the division. HIV/AIDS is a very sensitive issue in Kenya and in particular among the Kinango Division Community.

Also, questions on the levels of education of the respondents may have been embarrassing and painful particularly to those who had extremely low or no levels of education, and may have had aspirations to achieve some level of education but circumstances did not allow them to do so. For this reason, the following ethical considerations were taken into account during the research:

a. For the purposes of seeking informed consent, a letter of introduction was written to the office of the chiefs of the four locations that formed the study sites. The letter indicated the overall objectives of the study and the channel through which the results of the study would be shared (see appendix A).

b. A letter of introduction was written to the MOH and the Lead Public Health worker (see appendix C) requesting for an interview on the subject matter. It also indicated the overall objectives of the study and the channel through which the results of the study would be shared. This also served the purposes of seeking informed consent.

c. There was proper rapport creation in the recruitment process of the FGD participants. In addition, at the onset of the discussion, the participants were informed of the overall objectives of the study and the channel through which the results of the study would be shared.

d. Response to the research instruments and participation in the study was purely voluntary.

e. The respondents were assured of confidentiality.

f. The Rights of the respondents were observed whereby; the respondents were encouraged to answer all questions in the data collection tools, while they also had the choice of declining to give answers to questions that they felt uncomfortable with.

g. The questionnaire respondents were given total privacy during their interviews.

3.8 DATA ANALYSIS

3.8.1 DATA PREPARATION

As soon as the data from the in-depth interviews was received, it was screened for accuracy. The following questions were asked:

a. Are the responses legible?

b. Are the responses complete?

A statistical program was set up using SPSS and the data was logged into and stored in the program. The data was then coded and a printed codebook was generated. The entry of data into SPSS included confirmation checks using random questionnaire verification. The data was then cleaned to get rid of outliers that were caused by data collectors and during entry of data into SPSS.

3.8.2 ANALYSIS TECHNIQUES

The data was analyzed using SPSS.

Summaries were drawn from this data using the following methods:

a. Use of Graphical methods.

b. Use of Numerical methods where feasible such as Measures of Central Tendency & Dispersion.

c. Use of Descriptive methods especially with results from the Personal interview with the MOH and the Lead Public Health Officer, and also results from the FGD.

CHAPTER FOUR

DATA PRESENTATION, ANALYSIS AND DISCUSSIONS

4.1 INTRODUCTION

This chapter presents the results of the data collected, analyzed and further gives interpretations and discussions of the findings. The aim of the study was to explore the influence of maternal level of education on child mortality in Kinango division of the Coast Province of Kenya. The four randomly selected locations in Kinango division were studied. The theme of the study was derived from the research objectives that guided the study. The findings are organized according to variables, as they appeared in the questionnaire i.e. the respondent's general demographic profiles, maternal level of education, child health-care and well being. These findings have been complemented by the information collected during the Key Informant interviews with the MOH and the Lead Public Health Worker (PHW) of Kinango District hospital and the Focus Group Discussion with 8 selected women aged 15-49 years, from the four selected locations.

The study had five research questions:

a. What is the general level of education of mothers in Kinango division?

b. What are the main conditions that lead to under-five deaths in Kinango division?

c. How has this level of education of mothers influenced child mortality in Kinango division?

d. What is the incidence of under-five deaths in Kinango Division?

e. Are there efforts by the Government and other development partners in service

    provision, information sharing and awareness creation as a measure of reducing

    child mortality?

4.2 GENERAL DEMOGRAPHIC INFORMATION

4.2.1 Location of Residence

Table 4.1 shows the response rate by location of residence

Table 4.1 Response rate by Location of residence

Location	Targeted number	Actual Respondents	Response Rate (%)
Ndavaya	16	4	7.3
Kinango	16	28	50.9
Puma	16	11	20.0
Vigurungani	16	12	21.8
Total	**64**	**55**	**100.0**

The study was carried out in 4 locations of Kinango division of the Coast Province of

Kenya with the aim of gathering information on the influence of maternal level of

education on child mortality. Whereas it was desirable to collect 25% of the total

responses from each selected location totaling to 64 responses from the sample

population, a total of 55 responses were received with 50.9% from Kinango location,

20% from Puma location, 21.8 % from Vigurungani and 7.3 % from Ndavaya.

4.2.2 Marital status and Mean Age

69.1% of the respondents were married, 29.1% single and 1.8% did not respond. Figure

4.1 shows the average age of the respondents.

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Figure 4.1 Mean Age of respondents
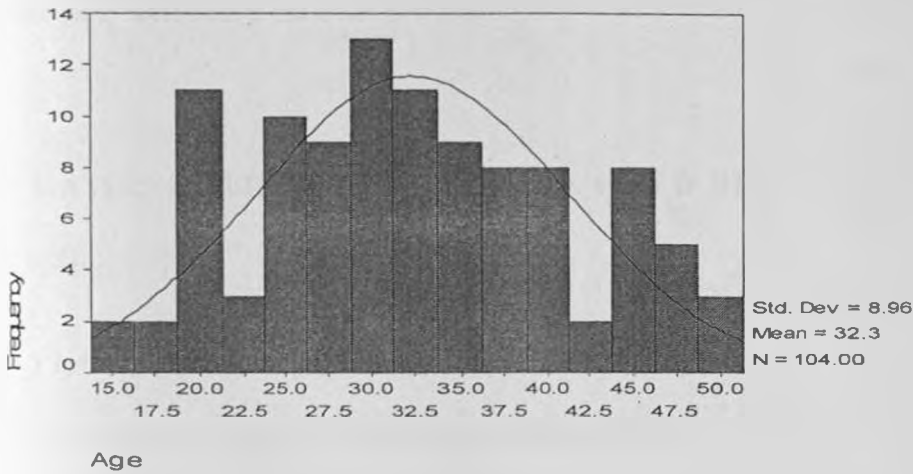
The mean age of respondents was 32.3 years with the oldest respondent being 47 years and youngest being 16 years. Standard deviation in age was 8.96 indicating the age range was close together without much deviation. The age distribution was almost a perfect normal curve. The target age group of 15-49 was therefore well represented.

4.2.3 Occupation

38.9% of respondents were not employed at all with only 5.6% being in formal employment. The rest (55.5%) were either casual employees or self employed. A significant 73.5% of the respondents earned less than Kshs. 1000 per month.

Similarly, the response on the employment of their spouses showed that 26.3% of the spouses were not employed at all with only 7.9% of the spouses being in formal employment. The rest (65.8%) were either casual employees or self-employed. A significant 44.8% of the spouses earned less than Kshs. 1,000 per month. This is an indicator of the extremely high levels of poverty and low rate of money circulation in the

division, which impacts on income generation thus contributing negatively to Child health care, well being and child survival.

4.3 MATERNAL LEVEL OF EDUCATION, CHILD HEALTH CARE AND WELL BEING.

4.3.1 Level of Education of Respondents

Table 4.2 shows the level of education of the respondents

Table 4.2 Level of Education

Level of Education	Response (%)
None	18.2
Pre-primary	16.4
Primary incomplete	25.5
Primary complete	16.4
Secondary incomplete	5.5
Secondary complete	7.3
Post-secondary	10.9

The data analysis results showed very low levels of education amongst mothers in Kinango division, with 60.1% of all respondents having not completed primary education with a significant 18.2% either not having any education at all or not going beyond pre-primary education level.

According to findings from the FGD, there is general awareness creation of the importance of primary school education by the chiefs. However, the enrolment of girls to Primary school especially with the introduction of Free and Compulsory Primary School Education comes too late in the day. It is possible to find an eighteen year old girl in class six. This phenomenon results to early drop-outs because the girls feel compelled to get

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married like their peers who never went to school, as they feel too old to be in school. This concurs with Chege and Sifuna (2006: 43) who provided that Kwale District (from which Kinango District was curved out in year 2007) was among the districts that fell into the bottom of educational attainment in school enrolment and education for girls according to a CBS report (1999), and that 1987, the girls' participation rate in formal education in the district was 42%. This low participation rate of girls in these districts, has been explained to be attributed to cultural factors, especially early marriages leading to early births (GOK and UNICEF, 1992).

The general levels of education among women as revealed in table 4.2 have largely contributed to the high poverty levels hence low regard for education. The FGD revealed that due to the meager earnings at the household level, the basic concern of majority of the Kinango community members is basic survival and not 'complex' issues like education. Further information generated during the FGD showed that due to the high poverty levels in the area, the number of children a household has, gives both the mother and the father a sense of worth, position, wealth and acceptability in the community, therefore explaining the high number of children per house-hold, thus contributing negatively to Child health care, well being and child survival. On the other hand, the KDHS (2003) affirms the importance of education in poverty alleviation by providing that education and training enhances women and men's attainment of overall social economic advancement, improving of their literacy levels and enhancement of their earning capacity and lowers their incidence of poverty and its consequences.

Table 4.3 shows the age of mother at first birth.

Table 4.3 Age of mother at first birth

Age Bracket	Response (%)
Less than 15 years	12.5
15 - 19 years	52.5
20 - 24 years	20.0
25 - 29 years	12.5
Over 30 years	2.5

65% of the respondents had given birth by their 20th birthday with 12.5% having given birth by their 15th birthday. This shows that the larger population of mothers gave birth at an early age with either very low education levels or no education at all (see table 4.2). These mothers therefore lack the appropriate knowledge and skills required in taking care of their children.

4.3.2 Average number of children per respondent

On average, each respondent had 5 children. The results show that the larger population of mothers gave birth at an early age to many children (an average of 5 children)with either very low education levels or no education at all with 60.1% of the respondents having not completed primary education (see table 4.2). Given these extreme low levels of education, coupled with the low levels of income (see section 4.2.3), the high number of children contributes negatively to Child Health care and well-being because these mothers lack the appropriate knowledge and skills required in taking care of their children.This concurs with Chege and Sifuna (2006: 134) who provide that there is a strong and broad-based relationship between women's education and their fertility rates whereby educated mothers have lower fertility rates, which are highly correlated with positive impact on maternal and child health. Figure 4.2 shows the previous birth interval among the respondents.

Figure 4.2 Previous Birth Interval

Previous birth interval

Previous birth interval
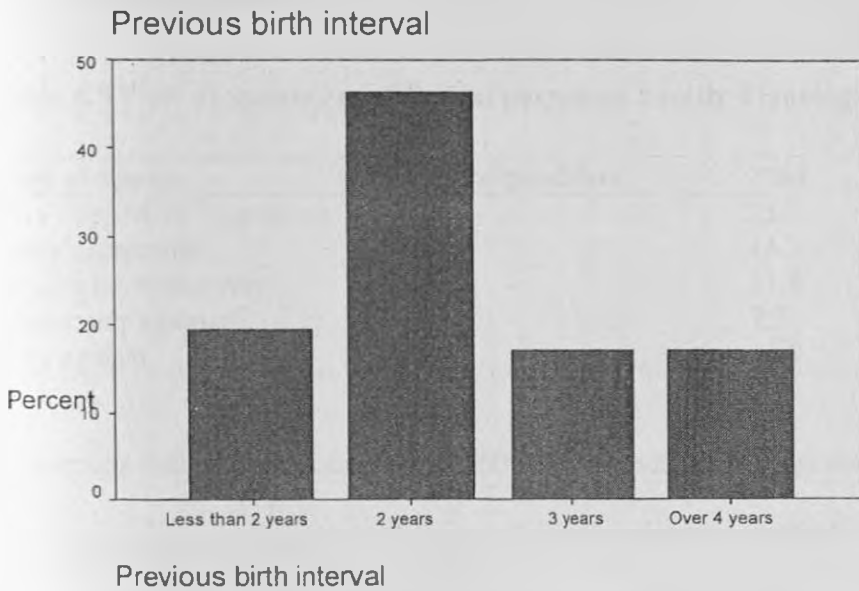
The mean gap between births was 2.32 years with a significant 19.5% of the respondents having less than 2 years spacing in their previous births. These results show high fertility rates manifested by the low birth spacing. Table 4.4 shows awareness and use of family planning methods among the respondents.

Table 4.4 Awareness and use of Family planning methods

Awareness and Use	Response (%)
Never heard	9.3
Know at least one method and use it	14.8
Know a lot and use one	25.9
Know a lot but not using any	50.0

Family planning awareness was very high in the sample group with over 90% of respondents being aware. Only 9.3% had never heard of family planning. Despite the knowledge, a significant 50% were not using any family planning method. The views of

spouses or other influential members of the family on family planning were analyzed and results are shown in table 4.5.

Table 4.5 View of spouse or influential person on Family Planning

View of Spouse	Actual respondents	(%)
Very supportive / accepting	14	25.5
Fairly acceptable	8	14.5
No opinion either way	12	21.8
Moderately against	4	7.3
Very against	17	30.9

The results indicate that a cumulative 60% of spouses had no opinion, were moderately against or very much against the use of family planning methods. This explains the results in table 4.4 with a significant number of respondents who knew a lot about family planning, but did not use any of the family planning methods.

Also, information generated from the MOH and the Lead Public Health worker showed that Boy child preference is in the area and so the women continue giving birth in the absence of a boy child, despite the much sensitization on family planning, hence resulting to poor child healthcare and well being. This agrees with results from the data analysis which show that family planning awareness was very high (see table 4.4). However, despite this knowledge, a significant 50% were not using any family planning method. The views of spouses or other influential members of the family on family planning as indicated in table 4.5 also explain why a significant number of respondents knew a lot about family planning, but did not use any of the family planning methods, hence the high fertility rates.

4.3.3 Anti-natal, Natal and Post-natal care

Figure 4.3 shows the rate at which respondents seek ante-natal care.

Figure 4.3 Anti-natal Care
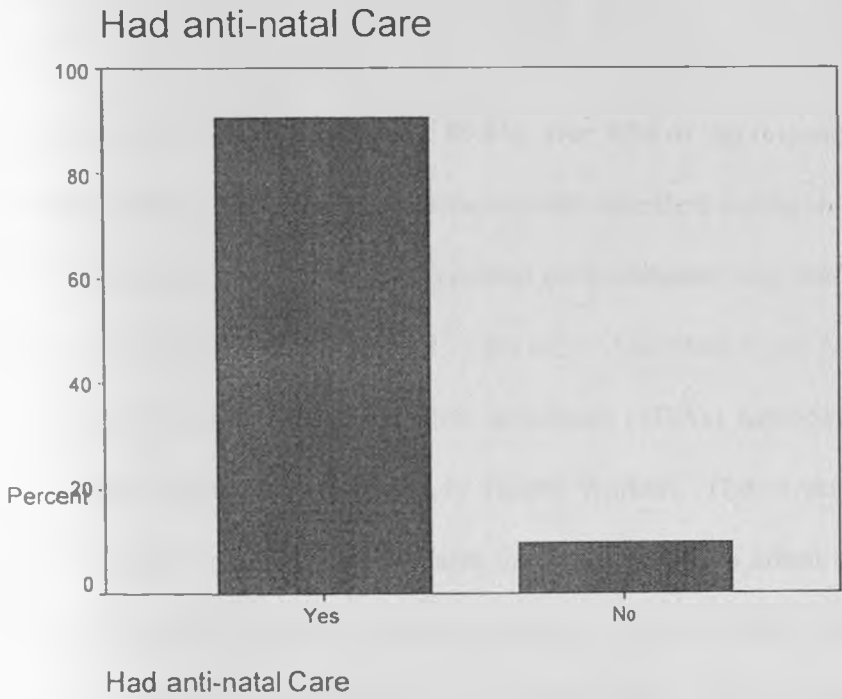
Had anti-natal Care

A significantly high percentage of 90.4% of women undergo anti-natal care. According to information gathered from the MOH of Kinango district hospital; this is highly attributed to the Mother Child Health (MCH) unit at the Kinango District Hospital, which offers free anti-natal and post-natal services. Table 4.6 shows results on the qualifications of the birth attendant/s performing delivery during the previous births of the respondents.

Table 4.6 Birth attendant performing delivery

Birth Attendant performing delivery	Response (%)
None	50.0
Lay person	15.0
Untrained TBA	25.0
Trained TBA	5.0
Medical profession	5.0

Despite high Ante-natal attendance of 90.4%, over 85% of the respondents did not have an attendant, had a lay person or an untrained birth attendant during child birth. A dismal 10% was attended to either by a professional birth attendant or a medical professional. This has a likely effect on the survival of the child. According to the MOH and the Lead Public Health Worker, Traditional birth attendants (TBAs) have been trained by the Public Health Workers and Community Health Workers. This is very crucial because most mothers give birth at home because they are not able to afford the Kshs. 100 bed charges per day, Kshs 500 for a normal delivery or Kshs.1500 for a caesarean section. However, most women are delivered by untrained TBAs or deliver themselves in their homes.

Table 4.7 shows the immunization status of the last child born to the respondent.

Table 4.7 Immunization status

Immunization status	Response (%)
Not immunized	6.8
Not complete for age	29.5
Fully immunized for age	63.6

Immunization coverage was significantly high with over 93.1% of eligible cases having started their immunization. 63.6% of the children were completely immunized for their

age. According to information gathered from the MOH of Kinango district hospital, this high coverage is highly attributed to the Mother Child Health (MCH) unit at the Kinango District Hospital, which offers free anti-natal and post-natal services which include vaccination services.

4.3.4 Nutrition

According to the MOH, malnutrition is very high in the area accounting for 13.3% out of 27 under-five deaths registered in Kinango District hospital, in the last one year. The MOH attributed this mainly to the high cost of food which had to be brought all the way from Mombasa town. In addition, the soil in the area and the poor rainfall pattern is not suitable for intense food crop farming. Besides, there is no permanent river flowing in the area that would encourage irrigation. Most of the water is saline and very poor for irrigation.

On the other hand, the MOH and lead Public Health worker pointed out that the Kinango community members tend to be lazy, in addition to waiting upon hand-outs from NGOs, as opposed to fending for their families. For example, they depend only on the wildly growing food like the famous 'mchicha' vegetable, rather than farm the food crops that can thrive in this area, for example cassava, which they can in turn sell and are able to buy other foods that are not available in the area. With greater levels of education however, community members and specifically the mothers would be in a position to exercise greater agency and motivation by trying out a variety of indigenous crop farming, hence concurring with Universal Declaration of Human Rights and Program of Action report (1994) which provides that education strengthens people's ability, both men and women, to meet their needs and those of their families by increasing their

productivity and potential to achieve higher standards of living and thereby improving their quality of life. This also concurs with Kabeer (2001) who provides that women's ability to exercise greater agency also has positive effects on the nutritional wellbeing of their family, particularly on their children. This agency increases with increased levels of education. This is complemented by the KDHS (2003) report which provides that the prevalence of moderate to severe levels of malnutrition was much lower among children in female headed households where mothers had basic primary education.

4.3.5 Water and Sanitation

Table 4.8 shows the incidence of access to clean and safe drinking water.

Table 4.8 Source of drinking water

Source	Response %
Stream	29.1
Protected spring	5.5
Tap water	40.0
Unprotected hand-dug well	25.5

Only 40% of households had access to tap water. 60% therefore used water from sources that ranged from streams, to hand-dug wells to springs, which required treatment. Table 4.9 shows the incidence of usage of clean and safe drinking water.

Table 4.9 Do you boil drinking water?

Do you Boil drinking water	Response (%)
Yes	54.3
No	45.7

A significant 45.7 % did not boil their drinking water.Figure 4.4 shows the incidence of storage of clean and safe drinking water.

Figure 4.4 Storage of drinking water
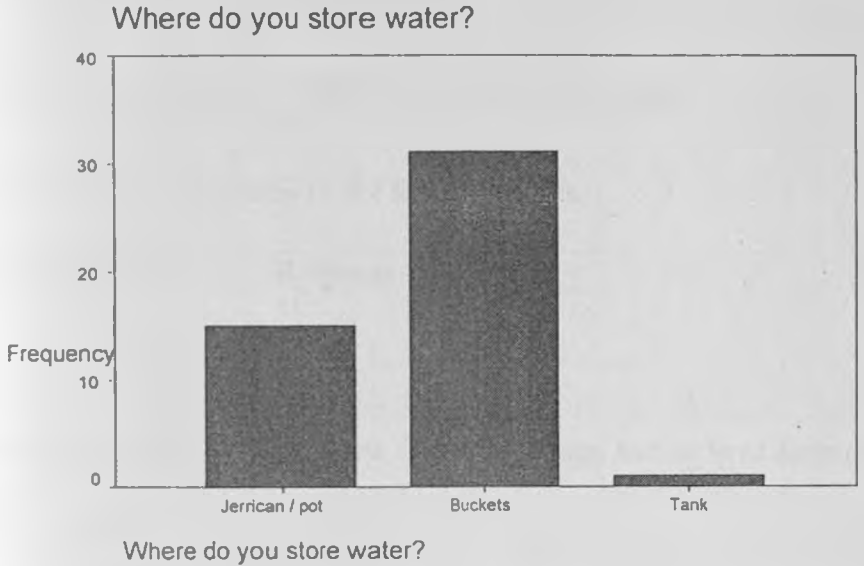
Where do you store water?

Where do you store water?

Despite the need to treat water, only 54% boil their drinking water (see table 4.9). This is worsened by the sources of water which are likely to be contaminated with 60% (see table 4.8) of the respondents using water from sources that ranged from streams, to hand-dug wells to springs, which required treatment and the poor storage of drinking water with 97.9% of households storing water in jerricans or buckets which are highly prone to infections.

Additional information gathered during the Focus group discussion revealed that pit latrines are not valued in the area, and the women and men alike do not appreciate their value in sanitation. More information generated showed that sanitary practices within the households which include cleaning of hands after helping themselves or before eating are rarely practiced despite the several sensitization forums done by the public and community health workers in the community. These poor sanitary habits have led to illnesses like typhoid and diarrhoea. This explains the high incidence of diarrhoea (51.1%) among children less than five years of age in the last one month as shown in

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table 5.0. These poor sanitary habits can be explained by the low levels of education of women in the area which negatively impacts on the mothers.

4.3.6 Diarrhoea incidences of children below five years of age.

Table 5.0 Diarrhoea incidences in the last one month

Diarrhoea incidence	Response %
Yes	51.1
No	48.9

A significant 51.1 % of children below five years of age had suffered from diarrhoea in the past one month.

4.3.7 Malaria incidence in the house-hold

Table 5.1 shows malaria incidence during the last one month in the households of the respondents, while figure 4.5 shows who in the household was suffering from malaria.

Table 5.1 Malaria incidence in the house-hold in the last one month

Malaria Incidence	Response %
Yes	76.9
No	23.1

A significant 76.9 % had a family member in suffer from malaria in the last one month.

Figure 4.5 Household member suffering from malaria

Who was sick?

Who was sick?
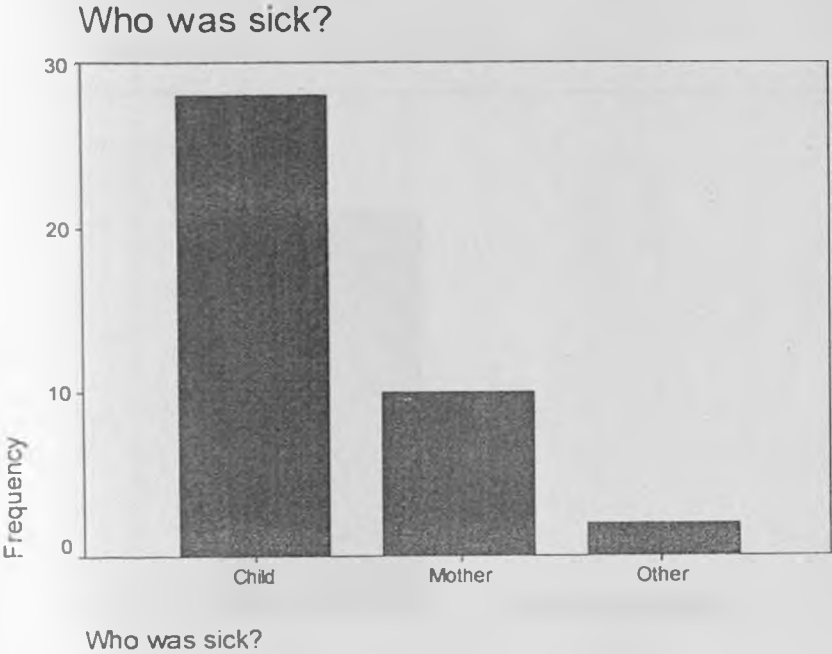
Of the family members suffering from malaria in the last one month, 70% were children. This shows that malaria incidence among children in this area is very high and a likely key cause of under-five deaths. Figure 4.6 shows the malaria preventative measures used by the respondents.

Figure 4.6 Malaria Preventative Measures used
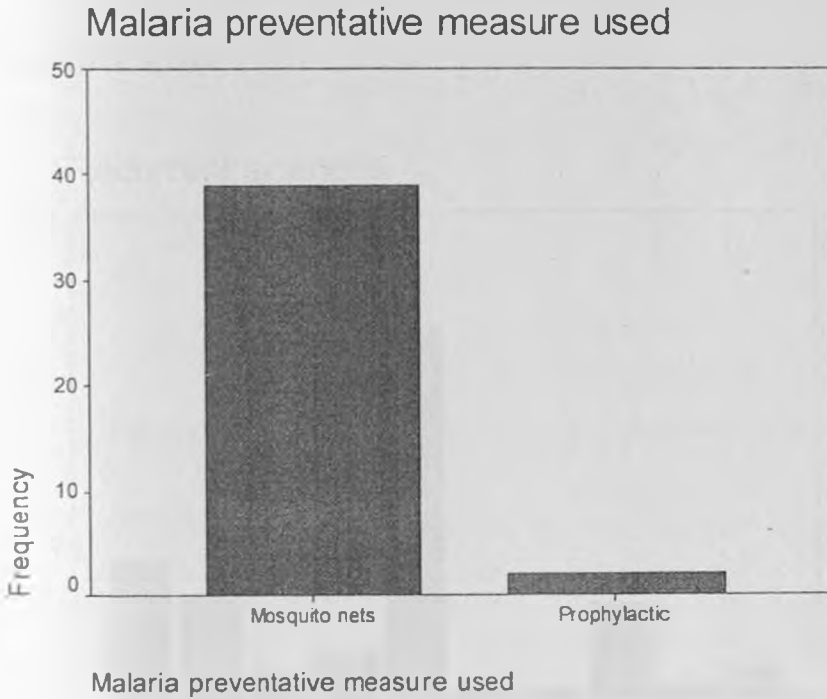
Malaria preventative measure used

Malaria preventative measure used

The main method of prevention is the use of mosquito nets (95%) with only 5% using prophylactic treatment. In addition, the FGD and interviews with the MOH and Lead Public Health Worker revealed that there was poor acceptability of mosquito nets distributed by the Government and NGO's by mothers, who believed that the mosquito nets had been 'possessed' by 'demons' that were out to kill their children. Other mothers said that the mosquito nets were too hot. In other cases, parents covered themselves with the mosquito nets while the children had none. In other cases, the mosquito nets are used as fishing nets by the spouses who were fishermen at the Mombasa Island. This narrowed approach to malaria prevention in the households coupled with the various beliefs and wrong use of mosquito nets is a result of the low education levels among mothers.

4.3.8 HIV/AIDS

Figure 4.7 shows the recurrent sickness among members of the respondents' family.

Figure 4.7 HIV/AIDS
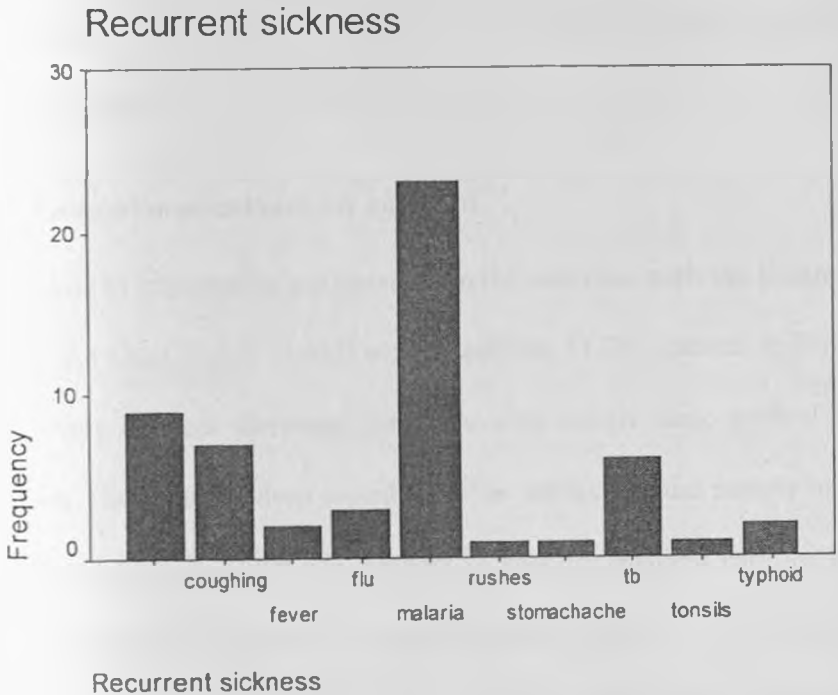
Recurrent sickness

Recurrent sickness

81.5% of the respondents were aware of HIV/AIDS issues. They attributed this to the sensitization forums held by the public health workers and local NGOs. Only 10% of the respondents acknowledged HIV/AIDs in the family with either the spouse or the interviewee being positive. However, the recurrent sicknesses occurring in the household are likely HIV/AIDS related illnesses and their frequency as shown in figure 4.7 is a likely indicator of high prevalence of HIV/AIDS in the area, and possible ignorance, denial or stigma of the status of the infected and affected. From the interview with the MOH and lead PHW it was found out that a person infected with the HIV virus would

rather go to Samburu division which is more than 50 Kms away, to collect ARVs, rather than pick them at the Kinango district hospital. This is an indicator of social stigma which needs to be addressed with increased provision of VCT services. This also calls for the need to investigate in depth, HIV/AIDS prevalence in the area and how the level of education of the mothers as the main care-givers can have effect in addressing the emerging issues.

4.3.9 General medical care for children

According to information generated from the interview with the Kinango District hospital MOH, the Lead Public Health worker and the FGD, mothers in the area are the main care-givers and are therefore, the ones who mainly seek medical attention for their children. However the deep rooted belief in witch-craft and sorcery in the area, results to preference by majority of the mothers to seek for medical care for their children from traditional healers as opposed to professional medical care from hospitals, and only visit the hospital when the condition of the child is complicated, which more often than not, results to death of the child. Given increased levels of education, the mothers would be in a position to make informed choice on where to seek medical care for their children.

In addition, the general low levels of mothers' education in Kinango division makes it difficult for the doctors and other medical practitioners to diagnose the nature of the illness of a child because the mother is not able to construe the child's medical history. This often leads to misdiagnosis and administration of the wrong medicine to children. In addition, they seek medical attention when the child is chronically ill instead of when the early symptoms begin to manifest in the child's body. This often leads to irreversible

chronic medical conditions and deaths hence contributing to the high mortality rates in the division. According to the MOH's information, most child death cases occur after 6-24hrs of admission to the hospital because the cases are reported when it is already complicated.

Further information given by the MOH showed that Kinango district hospital has a Maternal Child Health (MCH) care unit where pre-natal, post-natal, vaccination, family planning methods and general Reproductive Health training services are freely given. The service providers are trained Government nurses. The mothers turn up for these forums and services is good but not consistent as recommended and required, which is a manifestation of the high levels of ignorance contributing to poor child Health care and reduced chances of under-five child survival. For example, the MOH provided that the mother's turn-up for ante-natal health services is mainly when the pregnancy has progressed or near delivery time, hence putting both the life of the mother and the unborn child at risk besides reducing the chances of survival of the child beyond five years.

4.3.10 Incidences of under-five deaths

Table 5.2 shows results on the previous loss of child less than 5 years among respondents.

Table 5.2 Previous loss of child less than 5 years

Previous loss of child	Response (%)
Yes	26.2
No	73.8

26.2% had lost a child who was less than 5 years. Additional information given by the Kinango District hospital MOH showed high morbidity and mortality rates with a total of 860 admissions and 27 deaths in a period of one year. The child mortality rate in the hospital stood at 5.2 %. These incidences of high child mortality in the area are expected in light of the low income levels and low literacy levels, that may have been as a result of the low birth spacing, high fertility rates, sourcing of quark birth attendants as opposed to professional ones, poor water and sanitation practices resulting to high diarrhoea, lack of broad based malaria preventive measures resulting to high malaria incidences, and possible ignorance of HIV/AIDS symptoms among their children despite the sensitization forums conducted.

According to the findings, illnesses were the main causes of under-five mortality. Information received from the Kinango Hospital MOH showed that malaria was the highest under-five killer disease in the area at 24.4 % followed by Pneumonia at 17.8% and Malnutrition at 13.3%. This is mainly as a result of the high poverty levels in the region where the parents can simply not afford warm clothing and proper balanced nutrition for the child, as well as the general ignorance on the use of mosquito nets and other malaria preventative methods and the lack of knowledge on the importance of warm clothing and proper nutrition for the child by the mothers. Other illnesses causing these deaths included Severe Anaemia at 11.1% Neonatal sepsis at 6.7%, HIV related illnesses at 4.4%, Rheumatic Disease at 2.2 % and Meningitis at 2.2%.

Other diseases include Cholera due to poor food handling and dirty water, Typhoid due to poor handling of food and dirty water as well, TB which is very common due to poor ventilation and congestion in households and HIV related illnesses.

Further information generated from the MOH, lead Public Health Worker and the FGD showed that under-five deaths in the area are mainly propagated by mothers not attending ante-natal and post-natal clinic as required as well as late interventions. The low levels of mother's education in Kinango division as shown in the study findings (table 4.2) and the high morbidity and mortality rates agree with study findings by Kabeer (2001) who provides that studies done by Hobcraft et al. (1984); Mensch et al., (1985) suggest that even a small amount of education was associated with improved chances of child survival and the gains increased with increasing the level of maternal education.

CHAPTER FIVE

SUMMARY OF FINDINGS, CONCLUSION AND RECOMMENDATIONS

5.1 INTRODUCTION

The overall objective of the study was to explore how the level of maternal education influences under-five child survival with the aim of recommending evidence-based interventions for Policy Planners and other Development Partners in Kinango division of the Coast province of Kenya. In this chapter, the researcher presents summary of the study findings presented in chapter four, the conclusion, recommendations and suggested studies that could be carried out in future to extend knowledge and improve the living standards of the inhabitants of Kinango division.

5.2 SUMMARY OF THE STUDY FINDINGS

The study was carried out in 4 locations of Kinango division of the Coast Province of Kenya with the aim of gathering information on the influence of maternal level of education on child mortality. The results showed very low levels of education amongst mothers in Kinango division, with 60.1% of all respondents having not completed primary education with a significant 18.2% either not having any education at all or not going beyond pre-primary education level.

The results showed high fertility rates manifested by the low birth spacing with mean gap between births was 2.32 years with a significant 19.5% of the respondents having less than 2 years spacing in their previous births (see figure 4.2) and high fertility rates with an average number of 5 children per respondent. In addition, 65% of the respondents had

given birth by their 20th birthday with 12.5% having given birth by their 15th birthday. The ages of 15-20 years are primary and secondary school going ages, given the late entry levels to schools in the area. This shows that a good percentage of mothers gave birth to children without the appropriate and adequate knowledge and skills on child health care and wellbeing.

Despite high Ante-natal attendance of 90.4%, over 85% of the respondents did not have an attendant, had a lay person or an untrained birth attendant during child birth. A dismal 10% was attended either by a professional birth attendant or a medical profession. This has a likely effect on the survival of the child. Further information showed that Kinango District hospital has a Maternal Child Health (MCH) care unit where pre-natal, post-natal, vaccination, family planning methods and general Reproductive Health training and services are freely given. The service providers are trained Government nurses. The mothers turn up for these forums and services is good but not consistent as recommended and required, which is a manifestation of the high levels of ignorance contributing to poor child Health care and reduced chances of under-five child survival.

Despite the need to treat water, only 54% boil their drinking water (see table 4.9). This is worsened by the sources of water which are likely to be contaminated with 60% (see table 4.8) of the respondents using water from sources that ranged from streams, to hand-dug wells to springs, which required treatment and the poor storage of drinking water with 97.9% of households storing water in jerricans or buckets which are highly prone to infections. In addition, information gathered during the Focus group discussion revealed

that pit latrines are not valued in the area, and the women and men alike do not appreciate their value in sanitation.

More information generated showed that sanitary practices within the households which include cleaning of hands after helping themselves or before eating are rarely practiced despite the several sensitization forums done by the public and community health workers in the community. These poor sanitary habits have led to illnesses like typhoid and malaria. This explains the high incidence of diarrhoea (51.1%) among children less than five years of age in the last one month as shown in table 5.0 and Figure 4.5. This can be explained by the low levels of education of women in the area which negatively impacts on the mothers.

According to the MOH, malnutrition is very high in the area accounting for 13.3% out of 27 under-five deaths registered in Kinango District hospital, in the last one year. The MOH attributed this mainly to the high cost of food which had to be brought all the way from Mombasa town. In addition, the soil in the area and the poor rainfall pattern is not suitable for intense food crop farming. Besides, there is no permanent river flowing in the area that would encourage irrigation. Most of the water is saline and very poor for irrigation. On the other hand, the MOH and lead Public Health worker pointed out that the Kinango community members tend to be lazy, in addition to waiting upon hand-outs from NGOs, as opposed to fending for their families.

According to the data analysis, a significant 76.9 % had a family member suffer from malaria in the last one month 70% of which was a child. This shows that malaria

incidence among children in this area is very high and a likely key cause of under-five deaths. The main method of prevention is the use of mosquito nets (95%) with only 5% using prophylactic treatment. The FGD and interviews with the MOH and Lead Public Health Worker revealed that there was poor acceptability of mosquito nets distributed by the Government and NGO's by mothers.

81.5% of the respondents were aware of HIV/AIDS issues. They attributed this to the sensitization forums held by the public health workers and local NGOs. Only 10% of the respondents acknowledged HIV/AIDs in the family with either the spouse or the interviewee being positive. However, the recurrent sicknesses occurring in the household are likely HIV/AIDS related illnesses and their frequency as shown in figure 4.8 is a likely indicator of high prevalence of HIV/AIDS in the area, and possible ignorance, denial or stigma of the status of the infected and affected.

Table 5.2 showed 26.2% of the respondents had lost a child who was less than 5 years. Additional information given by the Kinango District hospital MOH showed high morbidity and mortality rates with a total of 860 admissions and 27 deaths in a period of one year. According to the findings, illnesses were the main causes of under-five mortality. Information received from the Kinango Hospital MOH showed that malaria was the highest under-five killer disease in the area at 24.4 % followed by Pneumonia at 17.8% and Malnutrition at 13.3%, severe Anaemia at 11.1% Neonatal sepsis at 6.7%, HIV related illnesses at 4.4%, Rheumatic Disease at 2.2 % and Meningitis at 2.2%. The child mortality rate in the hospital stood at 5.2 %.

According to information generated from the interview with the Kinango District hospital MOH, the Lead Public Health worker and the FGD, mothers in the area are the main care-givers and are therefore, the ones who mainly seek medical attention for their children. However the general low levels of mothers' education in Kinango division makes it difficult for the doctors and other medical practitioners to diagnose the nature of the illness of a child because the mother is not able to construe the child's medical history. This often leads to misdiagnosis and administration of the wrong medicine to children. In addition, according to information gathered from the MOH, most child death cases occur after 6-24hrs of admission to the hospital because the cases are reported when it is already complicated.

5.3 CONCLUSION

From the results, discussions and summary of the study findings, it can be concluded that the low levels of education of mothers in Kinango Division contributed negatively to child health care and well being which triggered under-five deaths in the division. The study therefore agrees with the study carried out by Katahoire (1998) who provides that the exposure to increased levels of education increases self regulation and motivation of the mother to seek appropriate Healthcare and Nutrition for her household. In addition, the study agrees with study findings by Kabeer (2001) who provides that studies done by Hobcraft et al. (1984); Mensch et al., (1985) suggest that even a small amount of education was associated with improved chances of child survival and the gains increased with increasing the level of maternal education. Therefore, the study finds relevance for the application of Bandura's (1986) Social Cognitive theory, that the exposure of women to increased and higher levels of education as a strategy for improving well-being increases their behavioral competence as far as child health care is concerned.

The benefits of acquiring basic education amongst girls in relation to child health care and well-being including possible subsequent morbidity and mortality of the children cannot therefore be underrated. This calls for interventions by Policy Planners, Development Partners and Community members of Kinango division through investing in education for all school going-age boys and girls, improved levels of education for girls and adult education for women past school going-age in order to promote child survival in the division. This will greatly contribute to overall economic and social development through

higher labor productivity, improved nutritional status and enhanced partnerships in national development.[11] Education will thus be one key poverty alleviation strategy in the area.

5.4 RECOMMENDATIONS

Based on the study findings, the researcher makes the following recommendations to the Policy Planners and Development Partners:-

5.4.1 EDUCATION

The Government should investigate why education levels of women are so low and come up with means to address this. Some of the recommended means include:

Formal Education

a. Increase awareness on the importance and benefits of girl-child education while giving practical examples with relevance to child health care and well being as they are the main care-givers

b. Increase sensitization on government policies especially on free and compulsory primary school education for all, as well as enforce them.

c. Introduce sanctions on child marriages, in order to promote the enrolment and completion of at least the basic primary level of education among the girls. This will in effect reduce the rate of early child-births hence increasing the rate of child survival.

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[11] Central Bureau of Statistics (CBS) [Kenya], Ministry of Health (MOH) [Kenya], and ORC Macro .2004. *Kenya and Demographic Health Survey 2003*. Calverton, Maryland: CBS, MOH and ORC Macro.

d. The area has very few secondary schools. The Government should embark on constructing more secondary schools for both boys and girls in anticipation of increased transition rates. This will serve as an indirect motivation for the children, their parents, primary school teachers, development partners and community members in general.

Non-formal education

Given general low literacy levels, it is crucial for the Government to increase sensitization on the importance of Adult education as well as a thorough implementation of the Adult literacy program in the division. This will resonate with KNBS (2007) which provides that in order to complement formal education, Adult literacy programmes targeting high enrollments of women who are mainly the excluded and unreached, need to be stepped up and spread across all regions in the country with the aim of reaching the average illiterate adult population of 38.5% in Kenya.

Informal Education

a. Agriculture

The area is an ASAL. Rain scarcity and food shortage is therefore a common phenomenon yet the main occupation is peasant farming. Education by Agricultural extension officers on the variety of crops that can thrive in the area, including the various 'ignored' locally available/indigenous foods, can therefore, help in reducing the high incidences of malnutrition. They also need capacity building through teaching on proper farming methods and provision of land-tillers e.g. tractors.

b. Health

Information gathered during the interview with the MOH and lead public health worker showed that a majority number of Kinango inhabitants who have livestock, prefer keeping the livestock as opposed to slaughtering them for the purpose of meat consumption in the household or selling them and using their proceeds to purchase household food or for medical fees incase of illnesses among family members especially the children. Also, there is need for increased education among community members on the importance of health facilities which are however, underutilized. Also, the study revealed that most child deaths occur after 6-24 hours of admission to the hospital, because the cases are reported when the illness is already complicated. Education on the importance of early intervention is therefore paramount in order to prevent these deaths. In addition, increased community sensitization on the various preventive measures of the common diseases in the area is required. This would include sensitization on the proper use of treated mosquito nets.

c. Boy-child Preference

Boy-child preference to the girl child is rampant in the area. Increased education on the value of both boys and girls will help reduce the high fertility rates prevalent in the area, hence improved child health-care and well-being.

5.4.2 LIVELIHOODS

Absolute poverty characterized by low levels of household income which contribute to poor nutrition, poor housing, poor access to basic health-care, poor entry and completion levels in education, and low regard for education is a key phenomenon which impairs growth, development and fulfillment of the inhabitants of Kinango division. Improving the livelihoods of the Kinango inhabitants therefore, will help alleviate poverty and hence

improving the standards of living. Another indicator of the high poverty levels is, Child

birth as a key expression of self worth and wealth among the women and men hence the low

birth spacing and high number of children in the area. The Government in collaboration

with the development partners in the area and the community members need to look into

ways of improving the livelihoods and most importantly the general living standards of the

inhabitants of Kinango Division. One such intervention is increased education on how to

translate house hold wealth into money that can improve the well being of the household

including health.

5.4.3 CHILD MORBIDITY AND MORTALITY AND GENERAL HEALTH CARE

a. Access to safe water is a major issue and the Government and development
   partners need to address this. This should be coupled with increased awareness of
   hygiene and water storage methods.

b. Increased community sensitization on general sanitation.

c. Increase the number of doctors serving in Kinango District hospital.

5.4.4 HIV/AIDS

a. Due to recurrent illnesses, there is need to investigate in depth, HIV/AIDS
   prevalence in the area and how the level of education of the mothers as the main
   care-givers can have effect in addressing the emerging issues.

b. From the interview with the MOH and lead PHW it was found out that a person
   infected with the HIV virus would rather go to Samburu division which is more
   than 50 Kms away, to collect ARVs, rather than pick them at the Kinango district

hospital which is an indicator of social stigma. This needs to be addressed with increased provision of VCT services.

5.4.5 INFRASTRUCTURE

a. Drilling of more bore-holes, digging of more wells and installing water pipes connecting to the already set-up CDF water tanks.

b. The poor road-network in the area affects the prices of food leading to malnutrition. Grading or tar-marking the various roads linking to the city of Mombasa needs to be done. This will reduce the otherwise high cost of food.

5.4.6 RECOMMENDATIONS TO THE COMMUNITY MEMBERS

a. Community members, especially women who have not gone beyond the basic primary education should enroll in Adult Literacy classes.

b. Community members and especially mothers should educate one another

c. Fathers should participate in the MCH counseling sessions in order to support the mothers in child health –care and well being at both the household and community level.

d. Community members should put into Practice what they learn in the various sensitization forums

e. Community members should establish community norms and rules with regard to child health-care and well-being and establish accountability forums which will be both rewarding and punitive as when applied and not applied respectively.

5.5 SUGGESTIONS FOR FURTHER STUDIES

a. This study was carried out in a rural setting. For the purposes of providing data and information which can be relevant and applicable for both a rural and an urban setting, the study should also be carried out in an urban setting.

b. Strategies for Improving Livelihoods in Kinango division.

c. Further studies on child morbidity should be undertaken.

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APPENDICES

APPENDIX A: LETTER OF INTRODUCTION TO CHIEF/S.

Joyce Muthoni Njagi,
University of Nairobi,
N50/P/7967/2005.
10/06/08.

The Chief,
Kinango/ Puma/ Vigurungani/Ndavaya Location,
Kinango Division,
Kinango District.

Dear Sir/ Madam
RE: COURTESY CALL
I am a student at the University of Nairobi. As a part fulfillment to the requirements for Master of Arts degree in Gender and Development Studies, I am carrying out a small scale research project on the influence of maternal level of education/literacy on child mortality.

This is to inform you that I have chosen the location under your jurisdiction as my study site. My research assistants, who are from Kinango, will be visiting 16 households within your location. The final results of the study will be shared with your office and the Kinango Divisional office and other development agents within the division.

Thank you,
Yours faithfully,
Joyce Muthoni Njagi.

APPENDIX B: INFLUENCE OF MATERNAL LEVEL OF EDUCATION ON CHILD MORTALITY INTERVIEW QUESTIONNAIRE.

Instructions

This questionnaire is to be responded to through interviews, by women who are aged 15-49 and are biological parents, in the sampled households in Kinango division.

The interviewer (data collector), as much as possible, will try and record the response without modifications. Interviewer can only explain questions of not clear.

The interviewer should let the respondent know that information provided will be treated with confidentiality.

( )-This provides for options to be ticked appropriately

Date ....

SECTION A: GENERAL DEMOGRAPHIC INFORMATION

1. Age............................
2. Sex...... ....
3. District of Birth...............................
4. District of residence...........................
5. Division of residence............................
6. Location of residence...........................
7. Marital status...................................

OCCUPATION

Occupation of interviewee
1. Not employed; housewife only ( )
2. Self employed ( )
3. Casual laborer ( )
4. Office Employee ( )
5. Other (Specify) ( )

Occupation of the Spouse
1. Not employed; houseman only ( )
2. Self employed ( )
3. Casual laborer ( )
4. Office Employee ( )
5. Other (Specify) ( )

Monthly Income of interviewee
1. <1,000 ( )
2. <5,000 ( )
3. <10,000 ( )
4. >10,000 ( )

Monthly Income of the Spouse
1. <1,000 ( )
2. <5,000 ( )
3. <10,000 ( )
4. >10,000 ( )
5. Other (dead, divorced, e.t.c)

SECTION B: MATERNAL LEVEL OF EDUCATION, CHILD HEALTH CARE

AND WELL BEING.

LEVEL OF EDUCATION
(Tick where appropriate)
1. Pre-primary ( )
2. Primary Incomplete ( )
3. Primary Complete ( )
4. Secondary Incomplete ( )
5. Secondary Complete ( )
6. Post secondary training ( )
7. Other ( )
8. None ( )

AGE OF MOTHER WHEN FIRST GAVE BIRTH
1. <15 ( )
2. 15-19 ( )
3. 20-24 ( )
4. 25-29 ( )
5. 30+ ( )

NUMBER OF CHILDREN
1. Given birth to so far (total)...................
2. Living................. Not living...............

PREVIOUS BIRTH INTERVAL
1. <2 ( )
2. 2 years ( )
3. 3 years ( )
4. 4+ years ( )

ANTI-NATAL, NATAL AND POST-NATAL CARE

Only if respondent was previously or currently pregnant.
Had Antenatal check up/follow up?
1. Yes ( )
2. No ( )

AWARENESS AND USE OF FAMILY PLANNING SERVICES

1. Have never heard about family planning ( )
2. Know at least one method of family planning and I am using it ( )
3. Have learnt a lot about family planning methods and I am using one method ( )
4. Have learnt a lot of family planning methods but I am not using any method ( )

View of spouse and other influential figures in the household about contraceptive or use
Family Planning methods or services if applicable
1. Very supportive / acceptable ( )
2. Fairly acceptable ( )
3. No opinion either way ( )
4. Moderately against( )
5. Very against ( )

Who was the Birth Attendant?
1. None( )
2. Lay person ( )
3. Traditional birth attendant (untrained) ( )
4. Traditional birth attendant (trained) ( )
5. Medical professional( )
6. Other, Specify _____

Immunization Status of the last child: Age_____
1. Not immunized ( )
2. Immunization not complete for the age: ( )
3. Fully immunized for age: ( )
4. Other _____

WATER AND SANITATION
Please indicate water source of drinking water used.
1. Stream ( )
2. Protected spring ( )
3. Tap water ( )
4. Boreholes ( )
5. Hand dug well (unprotected) ( )
6. Other specify_____

Do you boil water for drinking?
1. Yes ( )
2. No ( )

Where do you store water at home? _____

Did any of the children when less than 5 years have diarrhoea in last one month before this study?
1. Yes ( )
2. No ( )

OTHER HEALTH ISSUES
Malaria Related
Any incidence of malaria infection in the home in the past one month?
1. Yes( )
2. No( )

Who was sick?
1. Child (ren) ( )
2. Mother( )
3. Father( )
4. Other _____

Preventative method used for malaria (if any)?
1. Mosquito nets
2. Prophylactic treatment
3. Modern mosquito repellants
4. Traditional mosquito repellants
5. Clean / clear environment (stagnant water, bush)
6. Others

HIV/AIDS
H.1 Is there are any awareness creation done on HIV/AIDS issue?
1. Yes ( )
2. No ( )

H. 2 If yes or done by whom? _____
H. 3 Is there anybody in home who is HIV positive?
1. Yes( )
2. No( )
H. 4 If yes, who?
1. Myself ( )
2. Spouse ( )
3. Children ( )
H. 5 If children, How many_____

H. 6 What illnesses are recurrent, which is becoming a problem for the interviewee?

_____

The End

APPENDIX C: LETTER OF INTRODUCTION TO MEDICAL OFFICER OF HEALTH (MOH) AND LEAD PUBLIC HEALTH WORKER.

Joyce Muthoni Njagi,
University of Nairobi,
N50/P/7967/2005.
10/06/08.

The Medical Officer of Health (MOH) and Lead Public Health Worker,
Kinango District Hospital,
Kinango Town,
Kinango District.

Dear Sir/ Madam
RE: INTERVIEW ON INFLUENCE OF LEVEL OF MATERNAL EDUCATION ON CHILD MORTALITY

I am a student at the University of Nairobi. As a part fulfillment to the requirements for Master of Arts degree in Gender and Development Studies, I am carrying out a small scale research project on the influence of the level of maternal education/literacy on child mortality. I have chosen four locations within Kinango division as my study site. The final results of the study will be shared with your office, the Kinango Divisional office and other development agents within the division.

I am kindly requesting for an interview with you on 3rd July 2008 at 12.30 p.m., on the topic. Your time and availability will be highly appreciated.

Thank you,
Yours faithfully,
Joyce Muthoni Njagi.

APPENDIX D: SCHEDULED INTERVIEW GUIDE FOR THE MOH AND LEAD PUBLIC HEALTH WORKER.

Date:

1. According to your hospital statistics, what is the number admission cases and deaths recorded for children between one and five years of age in the last one year (i.e. August 2006-Septmeber 2007?

2. What are the main causes of these deaths and how would you rate these causes of deaths i.e. from the most prevalent cause of death to the lowest?

3. Do you have a Maternal Child Health Care Unit?

4. What is the average attendance rate of mothers from Kinango division to the antenatal health unit in the past one year?

5. What is the average attendance rate of mothers from Kinango division to the postnatal health unit in the past 5 years?

6. Is this attendance (both in question 6 and 7) consistent and as required?

7. Do you have community health workers attached to the hospital? ....If yes, do you have community reproductive health forums?

8. Do you train TBAs ?

9. Who are the main service seekers when children fall ill?

10. Who do these service seekers mainly consult?

11. In your opinion, what influence do you think the level of education of mother has had towards Under-five mortality in Kinango division?

12. Suggest ways in which under-five mortality can be reduced in relation to the discussion we have just had.

APPENDIX E: FOCUS GROUP DISCUSSION GUIDE FOR THE STUDY ON THE INFLUENCE OF THE LEVEL OF MATERNAL EDUCATION ON CHILD MORTALITY

PARTICIPANTS: - 8 women aged 15-49 from the four locations forming the study site i.e. Ndavaya, Puma, Kinango and Vigurungani locations.

1. Basic attitude towards elementary schooling for girls.

2. Basic attitude towards primary schooling for girls.

3. Basic attitude towards secondary schooling for girls.

4. Basic attitude towards post-secondary training for girls.

5. Average age at marriage for girls and possible explanations.

6. Main causes of under-five morbidity.

7. Main causes of under-five mortality.

8. What are the current practices of taking care of children general? How is this exhibited? What is the understanding behind it?

9. General beliefs in the community in terms of family size.

10. Awareness about family planning in the area and acceptability.

11. Views in the community on the importance of education of mothers with regard to child morbidity and mortality.

12. How can the local administration and development agencies in the community positively influence this attitude?

APPENDIX F: ACTIVITY SCHEDULE

Activity	Site	Human resource	Duration (In days-year 2008)	Output
Visiting Kinango District Development Planning Office	Kinango town	Principal Researcher	June 23rd (1 day)	Obtain the Sampling Frame.
Sampling and identification of the 4 locations within the division which will from the study site	Kinango division,	Principal Researcher	June 23rd (1 day)	Sample drawn and locations identifie
Develop data collection tools	Kinango town	Principal Researcher	June 24th (1 day)	Data collection too developed.
Recruitment of Research Assistants	Kinango town	Principal Researcher	June 25th (1 day)	Research Assistan recruited
Training research Assistants	Kinango town	Principal Researcher	June 25th (1 day)	Trained Research Assistants
Pre-testing of questionnaire	Kinango location	Principle Researcher, Research assistants and 10 respondents	June 26th (1 day)	Mistakes and gaps the questionnaire a identified and correc
Data collection	Selected locations in Kinango division	Principle Researcher Research assistants and respondents	June 27th- July 4th (7 days	Data collection completed
Data entry	Office	Principle Researcher, Research assistants and data entry persons	July 7th-9th (3 days)	Data entry complet
Data Analysis	Office	Principal Researcher	July 10th-14th (5days)	Data analysis comple
Report Writing	Office	Principal Researcher	July 15th -25th (10 days)	Report completed

Total Duration of Study	29 days

APPENDIX G: BUDGET

A: COST OF PROPOSAL	Kshs.
Printing 46 pages @ Kshs. 10	4,600
Photocopying 5 Copies @ Kshs 100 per copy	500
Binding 5 copies @ Kshs 100	500
Traveling expenses	5,000
	10,600

B: PROJECTED COST OF THE PROJECT	
Traveling expenses	15,000
Printing/photocopying Questionnaires	2,000
Allowances for 3 Research Assistants @3000	9,000
Refreshments for FGD participants	3,000
Cost of processing data	2,500
Data analysis	15,000
	46,500

C: COST OF PROCESSING FINAL DOCUMENT	
Printing 100 pages @ Kshs 10	1,000
Developing 5 copies @ Kshs200	1,000
Binding 5 copies @ Kshs. 1000	5,000
	7,000
Total Cost	64,100
10% Contingency	6,410
Grand Total	**70,510**