

**THE ROLE OF COMMUNICATION IN MATERNAL AND CHILD HEALTHCARE  
OUTCOMES: A CASE OF MACHAKOS COUNTY, KENYA**

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**DECLARATION**

I declare that this is Research Project is my original work and has not been presented for award in any college or university for academic credit.1

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K50/69640/2013

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This Research Project has been submitted to the University of Nairobi for examination with my approval as the candidate's supervisor.

Dr. Ndeti Ndati

Signature.....

Date:.....

## **DEDICATION**

I dedicate this work to the mothers of Kenya.

## **ACKNOWLEDGEMENT**

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## ABSTRACT

This study sought to find out the role of communication in maternal and child healthcare outcomes in Machakos County, Kenya. The objectives of the study were to (i) examine the basic levels of knowledge on maternal and child healthcare among women of reproductive age, (ii) identify the existing modes of communication between maternal and child healthcare providers and the women of reproductive age and finally, (iii) determine the effectiveness of various types of communication used in maternal and child health communication in Machakos County. The study used Social Cognitive Theory, Health Belief Model and the Uses and Gratification theories to explain perceptions, knowledge, attitudes, practices and behaviour change in maternal and child health. The research utilized mixed-methods design, which utilizes the strengths of both qualitative and quantitative data from respondents. Interviewer-guided questionnaires were used for the quantitative data while interviews were used for qualitative data. The study target population was of women of reproductive age between 15-44 years, with a sample size of three hundred respondents. A total of five interviewees were selected through purposive sampling technique for the in-depth interviews. From the findings, the researcher can categorically state that women of reproductive age in Machakos County were aware about maternal and child health care. Most women of reproductive age were in the age cohort of 20-24 and had attained at least secondary school level education and were therefore able to comprehend maternal and child healthcare matters communicated to them. The study established that there were existing modes of communication between maternal and child healthcare providers and the women of reproductive age, the most frequent being the use of healthcare workers (doctors and nurses) on one-on-one discussions. The respondents preferred this as healthcare workers took adequate time to interact with them, at any time or when necessary. From the study, it can be deduced that healthcare workers using one-on-one communication was the most effective mode of communication in maternal and child healthcare. This is attributed to the interpersonal nature of communication, use of a language that the woman will be conversant with and an interactive engagement between the healthcare worker and the woman. The most communicated aspect of maternal and child healthcare according to this study findings were matters relating to antenatal care, family planning, and exclusive breastfeeding. The research recommends that healthcare workers ought to have regular training and capacity building in order to equip them with relevant up to date information that they would relay to the women during clinic visits and other forums of interaction. The study also recommends that healthcare workers ought to do more preemptive programs on health communication and education, not just when there is need like during disease outbreaks. The study therefore recommends that more emphasis should be laid on strengthening the healthcare workers' communication skills and on updating their knowledge on maternal and child healthcare since this was identified as the most effective mode of communication on maternal and child healthcare. Both levels of government at county and national level should have proper policies on health communication, and departments within the ministry whose focus is strengthening aspects of health communication, and not only on maternal and child health.

## CHAPTER ONE

### INTRODUCTION

#### 1.0 Background of the Study

The World Health Organisation (WHO) estimates that almost 800 women die every day due to complications in pregnancy and childbirth. The lifetime risk of a woman dying during pregnancy and childbirth is 1 to 3,300 in Europe, compared to 1 to 40 in Africa. WHO further states that the most dangerous place to give birth is Sub-Saharan Africa. Quality care before and after childbirth is identified as one of the five essential things needed to save women's lives ([www.who.int](http://www.who.int)).

In December 2010, the UN Secretary General Ban Ki-moon established the UN Commission on Information and Accountability for Women's and Children's Health which developed 11 indicators for women's and children's health. These are; maternal mortality ratio, under-five child mortality (with the proportion of new born deaths), stunting prevalence, demand for family planning satisfied (met need for contraception), Antenatal care (four or more visits) Antiretroviral therapy for HIV-positive pregnant women, skilled attendant at birth, postnatal care for mothers and babies within two days of birth, exclusive breastfeeding (0–5 months of age), Three doses of combined diphtheria, tetanus pertussis vaccine (DTP3) immunisation coverage and antibiotic treatment for childhood pneumonia. ([www.who.int](http://www.who.int)).

The Millennium Development Goals (MDGs) 4 and 5 addressed maternal and child health. It is clear that these were not be achieved despite various robust campaigns on maternal and child healthcare. In Kenya, maternal mortality, neonatal deaths, infant mortality and child mortality rates are still high. The United Nations Department of Economic and Social Affairs has the third

UN Sustainable Development Goal (SDG), as launched at the UN Post-2015 Summit, has its first two targets focused on maternal and child health, namely; by 2030, reduce the global maternal mortality ratio to less than 70 per 100,000 live births and end preventable deaths of newborns and children under 5 years of age, with all countries aiming to reduce neonatal mortality to at least as low as 12 per 1,000 live births and under-5 mortality to at least as low as 25 per 1,000 live births ([www.sustainabledevelopment.un.org](http://www.sustainabledevelopment.un.org); 2015).

According to Kenya Demographic and Health Surveys (KDHS) data over the years since KDHS 1988, KDHS 1993, KDHS 1998, KDHS 2003, KDHS 2008 and KDHS 2014, maternal mortality and morbidity has always been high despite vigorous efforts by the Ministry of Health to disseminate information on maternal care to both healthcare providers and consumers, mainly women. Various health campaign programs to address maternal and child health have been rolled out through the Ministry of Health, but the average maternal mortality for example, is still high at 488 deaths per 100,000 live births (KDHS 2008). This is compared to 414 deaths per 100,000 live births as per KDHS 1998, indicating a rise in maternal mortality over the ten years. Child mortality indices were at, 22 per 100,000 live births for neonatal mortalities, 32 per 100,000 live births for infant mortality rates and 59 per 100,000 live births for the under-five mortalities, a reduction from the prior KDHS findings, but still high compared to the MDGs targets for 2015 which were 22 per 100,000 live births for infant mortality rates and 32 per 100, 000 live births for the under five mortality rates.

Health communication as defined by Parvanta (2011) is the use of communication strategies to inform and influence individual and community decisions that enhance health, and it plays an integral part in maternal and child health practice and promotion (Parvanta 2011). According to

Muhiuddin Haider (2005) effective communication is essential for every health promotion and disease prevention project. The promotion of good health often requires changes in perceptions, attitudes, behaviours and practices among target population (Haider 2005). Choice of health communication tools is key in effective message delivery. As discussed by Parker (2009) there is an ecological model of social determinants of health, and hence the various factors under each level determine the different choices of health communication tools. Such tools include websites and music videos at the social (macro) level, billboards at the community (meso) level, text messaging, brochures and pamphlets at interpersonal (micro) level, lastly medical records at an individual and population levels. The different levels interact with each other and the net result is a health outcome, whether desired or not (Parker, 2009).

Schiavo (2007) states that health communication, as quoted by Clancy in Krisberg, (2004) is “the main currency of healthcare in the 21st century”. Ready access to relevant, reliable, and culturally appropriate information enables the general public, patients, health care providers, public health professionals, and others to address personal and public health concerns far more effectively than in the past (U.S. Department of Health and Human Services, 2001). The Centre for Disease Control and Prevention (CDC) define *health communication* as “the study and use of communication strategies to inform and influence individual and community decisions that enhance health” (2001; U.S. Department of Health and Human Services, 2005).

Yudell (2012) argues that public health communicators often attempt to persuade their audience to adopt a particular belief or pursue a particular course of action. To a large extent, the ethical defensibility of persuasion appears to be assumed by public health practitioners; however, a handful of academic treatments have called into question the ethical defensibility of persuasive risk and health communication (Yudell, 2012).

Health communication interventions have been successfully used for many years by non-profit organizations, the commercial sector, and others to advance public, corporate, or product-related goals in relation to health. As many authors have noted, health communication draws from numerous disciplines, including health education, mass and speech communication, marketing, social marketing, psychology, anthropology, and sociology (Bernhardt, 2004; Institute of Medicine, 2003; World Health Organization, 2003). It relies on different communication activities or action areas, including interpersonal communications, public relations, public advocacy, community mobilization, and professional communications.

However, communication provides a long-term solution through creating understanding between players in the health sector and the public. Communication therefore is integrated into maternal and child health to provide a multifaceted and multidisciplinary approach to reach different audience and share maternal and child health related information, with the goal of influencing community health professionals and policy makers to achieve the desired child health care outcome, through encouraging behavior modification and social change (Schiavo, 2007; Parker 2009).

### **1.1 Statement of the Problem**

Any health communicator has a variety of media from which to choose when attempting to influence health beliefs, behaviours, and policies. Many people use the media because they believe the content carried in the channels of communication (Parker, 2009). Women of reproductive age will actively or passively seek information from various channels whether at the community (local) or interpersonal level using the various tools of communication in each different level. The choice of the source of information depends on the basic education levels,

inherent knowledge on maternal and child healthcare and their ability to comprehend their desired health outcome, whether positive or negative (Parker 2009).

One of the key objectives of health communication is to influence individuals and communities; it aims at improving health outcomes by sharing health-related information (Schiavo 2007).

Schiavo (2007) further elaborates that another important role of communication is to create a receptive and favourable environment in which information can be shared, understood, absorbed, and discussed by the program's intended audiences. This requires an in-depth understanding of the needs, beliefs, taboos, attitudes, lifestyle, and social norms of all key communication audiences. It also demands that communication is based on messages that are easily understood.

This is well characterized in the definition of *communication* by Pearson and Nelson (1991), who view it as “the process of understanding and sharing meanings” (p. 6). Health information can be accessed through various communication channels that are both traditional and modern.

Availability and accuracy of this information has a direct impact on its effectiveness, and therefore health outcomes, whether desired or not (Parker and Thorson, 2009).

Government and health sector players focus more on policies and do not really know why the policies fail during implementation, because they are top down thereby citizen participation is limited. In health communication, as discussed by Schiavo (2007), the audience is not merely a target but an active participant in the process of analyzing the health issue and finding culturally appropriate and cost-effective solutions. Parker (2009) outlines the various health communication tools at each level of society that can be used to deliver messages targeted at changing perception, attitudes, behaviour and practices of the target population (Parker, 2009). Various modes of communication exist and are already in practice but as to which is more effective in information delivery in maternal and child health care is yet to be determined (Parker

2009). According to Kenya Demographic and Health Survey (KDHS 2014) Machakos county's infant mortality rate is 27 per 100,000 live births, while the under-5 mortality rate (U5MR) is 38 per 100,000 live births. It shows that for every 100,000 children born in the county, 27 do not live up to their first birth day and 38 do not live up to the fifth birth day. This data implies that about 71 per cent of Under- Five mortality occur in the first year of life. Furthermore, 67 per cent of the deaths during infancy occur in the first month of life. Despite the county and national government's communication mechanisms to promote maternal and child healthcare, its adoption has been challenging, affecting implementation and therefore the higher level of morbidity and mortality rate.

### **1.3 Study Objectives**

#### **1.3.1 General Objective**

The main objective for this study was to find out the role communication plays in maternal and child healthcare outcomes in Machakos County.

#### **1.3.2 Specific Objectives**

- (i) To examine the knowledge levels on maternal and child health care among women of reproductive age in Machakos County.
- (ii) To identify the existing modes of communication between maternal and child healthcare providers and women of reproductive age in Machakos County.
- (iii) To determine the effectiveness of different types of communication used in maternal and child healthcare communication in Machakos County.



## **1.4 Research Questions**

- (i) What are the knowledge levels on maternal and child healthcare among women of reproductive age in Machakos County?
- (ii) What modes of communication are there between MCH providers and women of reproductive age in Machakos County?
- (iii) Which are the most effective types of communication in maternal and child healthcare in Machakos County?

## **1.5 Justification of the study**

For behavior change to happen there is need for skilled health care providers who would use various channels and modes of communication (Schiavo 2007) to educate their target audience on the desired behaviour. Communication approaches to the rural communities are essential ways to change their status in places such as Machakos County. This is because to a greater extent improving health depends on information disseminated to women of reproductive health on issues regarding maternal and child health care. Schiavo further elaborates that accessibility and availability of this information in a manner that the audience can understand is also crucial. This study comes at a time when Kenya has a devolved form of government (The Kenya Constitution 2010). The study will hence enable policy makers ensure they design the most appropriate tools of communication as well as provide health communication materials designed for the County governments.

According to Kenya Demographic and Health Surveys (KDHS 1988-2014) data over the years maternal mortality and morbidity in Kenya and specifically has always been high despite vigorous efforts by the Ministry of Health to disseminate information on maternal care to both

healthcare providers and consumers, mainly women. Various health campaign programs to address maternal and child health have been rolled out through the years. However, data on Machakos county shows that for every 1000 children born in this district 27 do not live up to their first birth day and 38 do not live up to the fifth birth day. This data implies that about 71 per cent of Under-Five mortality occur in the first year of life. Furthermore, 67 per cent of the deaths during infancy occur in the first month of life (KDHS 2008). There is hence need for this study to identify communication gaps in tools used to communicate and how well that can be mitigated.

The findings of this study will inform how maternal and child healthcare providers interact and communicate with women of reproductive age and therefore influence maternal and child health outcomes positively.

The study findings will also inform policy makers on maternal and child health and other stakeholders on health communication strategies that work best for improved outcomes among women and children.

The study will provide additional literature in health communication in the field of maternal and child health.

## **1.6 Scope of the Study**

The study sample population was derived from women of reproductive age attending MCH clinics in Machakos County Referral Hospital.

The study focused on only women attending MCH clinics regardless of their parity and whether they have children who have reached the age of five.

The study focused on five of the 11 indicators for maternal and child healthcare outcomes which are; demand for family planning satisfied (met need for contraception), Antenatal care visits, hospital delivery, exclusive breastfeeding for the first six months of life and three doses of DPT (Diphtheria, Pertussis and Tetanus) vaccination coverage.

### **1.7 Definition of Terms**

**Women of Reproductive Age:** In this study, this referred to women aged between 15-44 years of age attending maternal and child health clinics.

**MCH Clinics:** Maternal and Child Health Clinics. These are daily specialized clinics run specifically for women of reproductive age and children.

**MCH Providers:** Maternal and Child Healthcare Providers are healthcare workers providing Maternal and Child Healthcare services in MCH clinics.

**ANC Clinics:** Antenatal Care Clinics are specialized clinics run specifically for expectant women during their pregnancy and puerperium, which is the six-week period after delivery.

**Health communication:** In this study, this will refer to the use of different modes of communication and communication strategies to inform and influence individual and community decisions that enhance maternal and child healthcare.

**Maternal health:** This will refer to the health of women during pregnancy, childbirth and puerperium (the postpartum period).

**Health promotion:** This will refer to the process of enabling people, including healthcare providers and consumers, to increase control over, and to improve, their health beyond a focus on individual behaviour and towards a wide range of social and environmental interventions.

**Infant mortality rate:** In this study, this will denote a measure of the yearly rate of deaths in children less than one year old.

**Maternal mortality rate:** In this study will refer to the number of deaths of women arising during pregnancy, due to pregnancy-related complication or from puerperal causes during one year per number of live births during the same period of time.

## **CHAPTER TWO**

### **LITERATURE REVIEW**

#### **2.0 Introduction**

This literature presents theories, models, and conceptual approaches on maternal and child healthcare communication. It draws from communication and mass media theories and sociological, psychological, social-psychological, political science, and community development perspectives, as well as from marketing and public relations strategies.

#### **2.1 Theoretical Review**

Communication today is a sine qua non of everyday life. The rapid growth of communication technology and the availability of a varied number of communication media and their application have contributed substantially to improving the lives of people. Communication influences and shapes how people conduct their daily lives (Karki, Yagya B., and Gajan and Agrawal. 2008).

Women's and children's health has been at the forefront of most organizations efforts worldwide. This commitment is consistent with the movement's fundamental principles and its mission to build capacities of people and communities to find sustainable solutions for their most pressing needs and vulnerabilities. Resilience and livelihood security of hazard-prone communities where National Societies work are, to a great extent, determined by the health of the most vulnerable groups: mothers, newborns and children. More than 1,000 women die each day – 358,000 a year during pregnancy and child birth mainly due to poor access to effective interventions: skilled care during childbirth is available only to 60 per cent of women; and even fewer – less than 40 per cent – receive a postnatal visit (WHO, 2010).

Nearly 50% of the population of East Africa is children. Almost all of them are born healthy, but approximately 250 out of every 1000 children born alive die before the age of 5 years (*under 5 mortality*). This figure is made up of an infant mortality of 150 per 1000 live births, and an additional 100 deaths between their first and fifth birthdays. There are also many non-fatal diseases in this age group, which are an important source of both suffering and permanent damage to health and development (Balldin, 1975).

Balldin (1975) goes ahead to say that from other countries and times, these figures can decrease dramatically when the general standard of living rises, preventive measures are introduced, and basic curative services become available to every child. This is the challenge for every health worker in East Africa. Even with limited resources and staff there is much that can be done.

### **2.1.1 Disease patterns in Children**

Balldin (1975) summarizes the most important diseases as encountered at different ages in childhood. The commonest causes of neonatal morbidity and mortality are obstetric complications and birth injuries, asphyxia (failure to breathe at birth), low birth weight babies (prematurity), congenital abnormalities, infections leading to septicaemia, tetanus (from infected cord) and death of mother because the newborn baby is likely to die of starvation, (or gastroenteritis, if bottle-fed unless another woman can be found to breast feed him). In infancy, commonest diseases in this period of life are respiratory diseases (pneumonia, whooping cough, etc), diarrhoeal diseases (especially likely if baby is bottle-fed), malaria, measles and marasmus, due either to lack of an adequate diet or to a chronic disease. From the second to fifth year of life, commonest causes of illness during this stage of life are due to malnutrition (Marasmus and Kwashiorkor - sometimes both together), pneumonia, (often caused by measles or whooping

cough), diarrhoeal diseases, measles, malaria, anaemia, sometimes caused by hookworms, tuberculosis and accidents. After the 5<sup>th</sup> year, intestinal worms (e.g. hookworm, roundworm), malnutrition, malaria skin and respiratory diseases are the commonest diseases. Most of these childhood diseases are preventable. This is why such a great emphasis must be put on preventive programs, including nutrition, education, immunization, and environmental sanitation. Successful programs will quickly and dramatically change this disease picture.

20 newborns in East Africa; what can they expect from life? Three will die before 1 year, two will die before 5 years, and ten will be normal healthy children. That means 25% will die under the age of 5 years unless better food is eaten to prevent malnutrition, clean water is provided and environmental sanitation improved, immunization for all children has controlled preventable diseases like measles, tuberculosis, and whooping cough and simple treatment –following early diagnosis –is available for common diseases (Balldin, 1975).

Promoting health includes much more than just treating sick patients. The health worker's role as a promoter and provider of better health practices means he must start and support other types of health programs, particularly those concerned with preventing diseases. These areas are nutrition, environmental sanitation and protection and the influence of traditional practices (Balldin, 1975).

Balldin goes ahead to elaborate three main ways in which health workers can protect children from a serious illness or even death due to infections. The first is good nutrition, which enables a child to fight off the infecting organisms, immunization, which can completely prevent many of the worst infections and finally, encouraging early and effective treatment for each serious infection. Each of these measures, according to Balldin, form an integral part of child health programs.

### **2.1.2 Methods to Use in Maternal and Child Health Promotion**

The primary contact of mothers and children with health workers is at the various outpatient clinics that are run at every dispensary, health centre, and the hospital. One of the most effective ways of promoting child health is to have special clinics just for the mothers and children. These are called Maternal (mother) and Child Health clinics, or just MCH clinics. They provide both minor curative services for sick mother and children and all of the many preventive services which are also important.

Combining all these programs into one clinic saves a mother's time and ensures better attendance and coverage of the population. The goal of every MCH clinic is to keep its mothers and children in complete health. When disease does begin, the clinic aims to detect it as soon as possible, to treat it effectively, and thus return the person to complete health.

There are three stages to development of a disease. These are complete health, early disease and developed disease. These can also be called degrees of prevention, because you are preventing the disease from developing, or getting worse.

Primary (1°) prevention includes those things which are done for healthy people to keep them healthy. Immunizations, good nutrition, clean water and proper sanitation are all a part of primary prevention.

Secondary (2°) prevention takes place after the disease has started, but before it becomes very serious. Many of the activities included here a mother should know how to do at home to help a child who is not feeling well. Keeping him extra warm, preparing special foods and encouraging him to eat, perhaps controlling his fever, giving him extra fluid if the child has a fever or



diarrhoea, or cleaning a wound can all be considered a part of secondary prevention (Balldin, 1975).

If these previous measures haven't cured or prevented further progression of the disease, the child will develop more severe symptoms. This is the time for specific treatment, which is called tertiary (3<sup>o</sup>) prevention, because it prevents the disease from getting worse. Most diseases can be treated in the MCH clinic, or perhaps referred elsewhere for additional help.

These three stages of prevention are all an integral part of an MCH clinic and any child health program which does not promote all three is incomplete (Balldin, 1975).

The specific activities which should be a regular part of every MCH program are antenatal and delivery care, immunization, nutrition evaluation advice, family planning services and care of sick children, including their prompt treatment.

#### **2.1.4 Values in Public Health Communication Interventions**

Guttman (2000) elaborates that public health communication interventions are inherently value laden and are a purposeful attempt to bring about desired health-related changes. These interventions aim to help people lead healthier lives in healthier environments. As such, they are a social-change phenomenon which involves taking value positions in seeking to influence health policies and, in general terms, collaborating with the establishment in various ways.

Guttman (200) explains that values are embedded in all facets of the intervention process and both influence and serve as justifications for the choice of the intervention goals and objectives. They also underlie the reasons for choosing what populations should be targeted by the intervention, what strategies and techniques should be used, and how to evaluate the

intervention. Although values associated with helping, being of service, or doing good, they appear self-evident as part of the public health communication effort (Rogers, 1994), other important values linked to the intervention tend to be implicit. These embedded values can constitute a key to a more profound understanding of the intervention as a social change phenomenon and to its accomplishments (Salmon, 1989).

### **2.1.5 Interventions in Public Health**

When a person or an organization aims to intervene whether in the name of health or for any other reason, the intervention's goal is to change and influence someone, a social institution, or a certain situation. People intervene when they intend to stop something from happening or when they aim to change the course of affairs. In the health promotion context, communication interventions aim to intervene by helping bring about desired changes in people's beliefs and behaviours or in their physical or social environments. Such interventions mainly include two types of intended changes: (a) to reduce, inhibit, or modify behaviors or social and physical environments considered hazardous or disease promoting or (b) to increase behaviors or enhance social and physical environments considered health promoting. Intervention objectives cover a wide array of contexts and topics.

Examples of the first type are efforts to influence people to refrain from smoking or to modify behaviours related to excessive alcohol consumption or non-medical drug use. Some aim to increase people's compliance with prescribed medical regimens, whereas others urge the persistent use of seat belts when traveling in motor vehicles, or, in more intimate circumstances, the consistent use of condoms or other latex barriers when engaging in sexual intercourse, to prevent the spread of infectious diseases. The foregoing also exemplifies interventions mainly

directed at behavioural changes made at the individual level. Examples of the second kind of interventions are those that aim to increase people's physical activity, make sure their children are immunised, have them practice self-exams to increase the likelihood of the detection of early signs of disease, or have them adopt dietary practices that conform to recommended guidelines.

Some interventions specifically aim to make changes in social systems or institutions. To accomplish this, they typically aim to change or enforce social policies and regulations. Their strategy to influence people's behavior corresponds to the two main approaches outlined earlier: (a) limiting people's access or exposure to substances or physical environments or inhibiting behaviors considered disease promoting or (b) increasing behaviors or amplifying environments that are considered health promoting by making them more feasible, attractive, or accessible. An example of the use of policies to modify individuals' behavior by inducing them to adopt certain practices is the mandate to use seat belts. Some policies aim to regulate commercially manufactured products. The purpose is to manufacture products that will literally force consumers to adopt particular health-promoting practices. For example, car manufacturers can be mandated to produce cars with air bags, or milk producers may be asked to add certain vitamins or minerals to milk.

Promoting health through policies may, in turn, focus on societal institutional arrangements: for example, the legislation of national health insurance coverage to ensure that all members of the population can have access to preventive health services. Other types of policies may identify and enforce corporate responsibility for environmental pollutants and develop guidelines and regulations regarding the protection of the environment through discourse with the public and its representatives.

The topics of public health communication interventions can range from highly intimate and personal matters associated with individual lifestyle and personal choices to societal and macroeconomic issues. Each of the health-related topics mentioned earlier, and many others, has been the subject of numerous public health communication interventions carried out in local, national, and international arenas. Interventions may focus on topics associated with medical care: these include encouraging people to take medications as prescribed by their physicians or to engage in screenings (procedures that identify medical symptoms or conditions that indicate that a person is at risk for certain diseases or actually has a disease). Other types of interventions are tie-tied to psychosocial topics that may be indirectly linked to a specific health topic.

For example, programs may aim to enhance the self-esteem of adolescents considered high risk, to prevent substance abuse. Programs may also aim to promote processes associated with community development and economic issues. For example, they would focus on activities to increase employment opportunities as a means to promote health-related issues. Clearly, this diverse spectrum of intervention objectives reflects a multitude of goals and strategies, as well as distinct underlying assumptions on what makes people do what they do and what is likely to influence the target population to adopt recommended changes.

Planned health-related interventions have a long history. Ancient Hebrew religious authorities called on their people to purify themselves after being in contact with the dead or to wash their hands before eating. In the Middle Ages, when plagues spread in Asia and Europe and masses of people were dying, interventions to protect the public ranged from creating smoke for the purpose of fumigating the air, quarantining individuals, and literally isolating whole towns. Isolation remained an important strategy up to the 19th century (in certain instances, attempts even continue today') and it can be viewed as compatible with the contagion theory of its time.

The social, political, and economic circumstances of the 19th century, however, could no longer uphold isolation as a viable disease-prevention approach because modernisation and the industrial revolution called for openness of borders, and dominant players enthusiastically embraced values proclaiming individualism and personal freedom. This brought about an era that envisioned the cause of disease and ways to control it differently than previous generations and gave way to interventions that placed more prominence on the role of personal behaviours both as causes of and factors that can affect the course of illness (Tesh, 1988).

In the United States in the 1990s, relatively wide-scale federally funded interventions were designed to add less specific topics, including mental health topics (e.g., depression), high blood pressure, cholesterol, AIDS, substance abuse, smoking, family planning, cancer, asthma, and maternal and infant health. Interventions in other countries abounded and often addressed the same topics, though with different emphases. Topics across countries, though, have differed. For example, a topic highly emphasized in some of the less industrially developed nations, but not in more industrially developed ones, has been the prevention of dehydration in infants for example (Hornik, 1989).

In some countries, state-supported major intervention approaches have relied heavily on the use of entertainment media to disseminate and promote health-related messages, for example, through popular music, radio and television soap operas, or telenovelas (Piotrow et al , 1997). Some interventions are formally structured as field experiments or employ "before-and-after" measurements to control for potential effects (Rogers et al, 1995). Most interventions, however, are not reported in the scholarly literature, and many apply limited evaluation procedures.

In Europe, following the First World War, the notion that the state had the responsibility to be concerned with the health of its citizens gained prominence. Combined with medical science's increasing focus on nearly invisible germs as major causes of diseases, this resulted in a growing emphasis on public education for infectious disease prevention. One early effort was a British program to prevent the spread of sexually transmitted diseases (STDs). British soldiers were warned to resist temptation and to avoid any physical intimacy with women while overseas. In the meantime, back home in Britain, laws were passed to provide public education for civilians, because it was feared that the soldiers would bring the diseases with them on their return. This public education campaign, concerned almost exclusively with sexual continence, was primarily carried out through public meetings, school biology lessons, pamphlets and films produced by the National Council for Combating Venereal Disease, officially formed "to fight the terrible peril of our imperial race" (Sutcliffe & Duin, 1992, p. 131).

In the United States in the 18th century, public health communication interventions addressed topics that included the promotion of immunisation for smallpox and reducing alcohol consumption. The latter, when addressed again in the 19th century, was noted for its use of mass media and characterised as the most sustained organised mass communication initiative on a social issue (Scherer Scjuanillo, 1992). The American temperance movement paid its tribute to Benjamin Rush (1746-1813), who was considered the most prominent medical professor of his era. Rush was an advocate for reducing alcohol consumption and launched an educational campaign to warn the public about the hazards of distilled beverages. True to his training as a physician at the University of Edinburgh, where distilled beverages were considered strong nervous stimulants that caused imbalances in the nervous system and such imbalances were considered the main cause of disease, he was horrified at the increased production and

consumption of these beverages in the newly independent nation. Earlier in his career, he had been a strong believer in the force of rational arguments regarding the hazards of alcohol to win over the minds and practices of people to dispel notions about its presumed beneficial effects. Later, however, he moved to advocating taxation policies to inhibit the production of distilled drinks. Rush's justifications for promoting temperance were based on his medical orientation and on what were considered scientific grounds. After his death in the 19th century, however, as the temperance message was taken over by clergy and other groups, it became more of a moral rather than health-focused crusade. The blend of medical science and moralism was not new and was viewed as natural at the time (Katcher, 1993).

The American Temperance Society, formed in 1826, extended Rush's ideas but moved them to a more prohibitionist approach. This movement has been characterised as one of the biggest and most important social movements in American history. Sections of this movement successfully campaigned for what they called public "scientific temperance" instruction, which eventually became mandated for public education in nearly every state at the time. In addition, the movement's efforts led to the 18th Amendment to the Constitution, prohibition, which went into effect in 1920 and was repealed in 1933 following the economic, social, and political changes of the Depression (Katcher, 1993).

With increasing emphasis on the prevention of chronic illness and with heart disease elevated to the status of the "number one killer" in industrially developed countries, one of the most cited demonstration research projects in public health communication is the Stanford heart disease prevention project (Winkleby, Taylor, Jatulis, & Fortinann, 1996). This project, sponsored by the U.S. National Institutes of Health, began in 1972 and tested the effects of two types of interventions: mass media alone and mass media supplemented with interpersonal contacts.

Behavioural objectives of the intervention included reduction in cholesterol levels, high blood pressure, and smoking and increase in physical exercise and weight control. Findings indicated that certain (but not all) risk-reduction behaviours (as defined by the intervention) could be learned through mass media alone. Other modifications of health-related high-risk behavior were found to need the enhancement of social support and skills training (Farquhar, 1985).

A plethora of public health communication interventions, both large and small scale and publicly and privately funded, have become almost ubiquitous. The topics they address are numerous, diverse, and often overlapping. Interventions may focus on a specific medical condition, such as high blood pressure or tooth decay in children; the importance of consumption of particular food substances, such as dietary fiber; or the dangers in the consumption of tobacco and marijuana. Interventions may also address broader topics, such as good nutrition and physical activity.

## **2.2 Empirical Review**

Evidence from a number of studies suggests that individuals' exposure to mass media messages promoting family planning may affect their contraceptive behaviour (Piotrow, 1990; Bankole, 1996; Westoff and Bankole, 1997; Kincaid, 2000).

For example, in Nigeria, the use of modern contraceptives, intention to use them, and desire for fewer children were found to be associated with exposure to media messages about family planning (Bankole, 1996). Research in Malawi shows that mass media exposure to family planning messages and exposure to advertising that promotes condom use can have a significant positive effect on use of modern contraceptives (Cohen, 2000). Research has shown, for example, that women who learn about family planning from the *Radio Doctor* program are more likely than others to use modern contraceptives (Lawrence, 2000).



Significant effects of communication campaigns promoting family planning have also been documented in other countries in the region (Rogers, 1999). Because behaviour change theories indicate that discussion often precedes behavioural change, assessing the effects of mass media programs on discussion of family planning between spouses as a step toward adoption of a contraceptive method is important.

Studies in Nepal have shown that female contraceptive users are more likely than nonusers to either perceive or actually know that their husbands approve of family planning, indicating the important influence of spousal communication and approval on contraceptive behaviour (Schuler,

McIntosh, Goldstein, & Pande, 1985; Schuler and Goldstein, 1986; Ministry of Health, Nepal and Johns Hopkins University Communication Services, 1994; Stash, 1996), yet in 1996, 55 percent of married women reported that they had never discussed family planning with their husband (Pradhan, 1997).

Several empirical studies have confirmed that mass media campaigns are effective at different stages in the process of altering reproductive behaviour. According to a study conducted in Nepal, exposure to messages in mass media had an indirect effect on contraceptive use by increasing interpersonal communication and encouraging positive changes in attitudes and perceived social norms regarding family planning (Storey, 1999). Similarly, women exposed to a mass media campaign in Tanzania were found to have developed more positive attitudes toward family planning and were more likely to discuss family planning issues with their spouses than were those who were not exposed (Jato, 1999).

In Mali, exposure to a campaign was linked to an increase in favourable attitudes toward contraception and a decline in the proportion of men and women who believed that Islam opposes family planning (Kane, 1998).

Key results of grandmother-involvement by The Grandmother Project (an American non-profit NGO) revealed that in all four sites in Asia and Africa, grandmothers have considerable influence on all matters related to women and children's well-being and on other household members' attitudes and practices in this regard. While some of their practices are harmful, overall, their experience, motivation and commitment to caring for women and children are very positive. The majority of grandmothers, including illiterate ones, are capable of learning new things when the pedagogical approach used is based on respect and dialogue. They are very open to combining "new" practices with "old" ones, even when this means abandoning certain traditions.

The Stanford project consequently expanded to a 5-year intervention. Similar demonstration projects in the United States were implemented in Minnesota (Loken, Swim, & Mittelmark, 1990; Carlaw, Mittelmark, Bracht, & Luepker, 1984), and Pawtucket, New England (Flora, Maccoby, & Farquhar, 1989), both supported by the National Institutes of Health. Parallel projects in other countries have been hailed for holding significant promise for the development of models for community-level interventions (Bracht, 1990) and social marketing-style health promotion campaigns (Lefebvre c: Flora, 1992; Andreasen, 1995), the most noted being in North Karelia, Finland (McAlister et al., 1982; Puska, Nissinen, & Tuomilehto, 1985). One of the main components of these interventions has been the emphasis on the development of networks and social-support systems in the community. This approach expanded the social-marketing

perspective (e.g., Solomon, 1989), which traditionally did not include such a component (Rogers & Storey, 1987).

### **2.3 Theoretical Framework**

This study dealt with use of various channels of communication on maternal and child health care for women of reproductive age in Machakos County. The three theories the study used explain well the behavior patterns and how they use different tools of media to get information on reproductive healthcare. On health, the three theories elaborate on health communication, how audiences get that information by use of specific modes of communication and how they consume such information to affect health outcomes in the study area.

This study used three theories that included health belief model, social cognitive theory and users and gratification theory. These theories apply to a broad range of health behaviors and subject populations by use of various tools of communication to gratify their needs. In health belief model it identifies three broad areas (Conner & Norman, 1996); preventive health behaviors, which include health-promoting and health-risk behaviors as well as vaccination and contraceptive practices. Secondly it deals with sick role behaviors, which refer to compliance with recommended medical regimens, usually following professional diagnosis of illness. And lastly clinic use, which includes physician visits for a variety of reasons.

Social cognitive theory used in psychology, education, and communication, holds that portions of an individual's knowledge acquisition can be directly related to observing others within the context of social interactions, experiences, and outside media influences. The theory is relevant to health communication. First, the theory deals with cognitive, emotional aspects and aspects of behavior for understanding behavioral change. Second, the concepts of the SCT provide ways for

new behavioral research in health education. Finally, ideas for other theoretical areas such as psychology are welcome to provide new insights and understanding.

The social cognitive theory explains how people acquire and maintain certain behavioral patterns, while also providing the basis for intervention strategies (Bandura, 1997). Evaluating behavioral change depends on the factors environment, people and behavior. SCT provides a framework for designing, implementing and evaluating programs.

Users and gratification theory explains how people use media for their need and gratification. The theory explains that people use media for their specific need.

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### **2.3.1 Health Belief Model**

The Health Belief Model (HBM) by Hochbaum (1958) is one of the most commonly used models in health education and promotion, particularly preventive healthcare behaviours.

The Health Belief Model (Becker, Haefner, and Maiman, 1977; Janz and Becker, 1984; Strecher and Rosenstock, 1997) was originally intended to explain why people did not participate in programs that could help them diagnose or prevent diseases (National Cancer Institute and National Institutes of Health, 2002). The major assumption of this model is that in order to engage unhealthy behaviours, intended audiences need to be aware of their risk for severe or life-threatening diseases and perceive that the benefits of behaviour change outweigh potential barriers or other negative aspects of recommended actions. HBM is one of the first theories developed to explain the process of change in relation to health behaviour. It has also inspired—among many other influences and models—the field of health education. Health education is

defined as “any planned combination of learning experiences designed to predispose, enable, and reinforce voluntary behaviour (Schiavo, 2007).

One of the Goals of the HBM is to change perceptions of susceptibility in order to move towards behaviour change (Burke, 2010).

### **Individual Perceptions**

Individual perceptions speak directly to the knowledge and beliefs that a person has about his behaviours and the outcomes they could have.

Within the context of the HBM, perceived susceptibility examines the individual’s opinions about how likely the behaviours they partake in are going to lead to a negative health outcome (Burke, 2010).

For example, a mother who does not take her children for immunisation yet immunisation against childhood diseases is known to prevent children from developing illnesses such as Poliomyelitis, Measles, whooping Cough etc. If such a mother does not feel that her children are at risk of developing any of these diseases, she has no reason in her mind to make a behaviour change.

In the HBM, perceived severity addresses how serious the diseases that a person is susceptible to can be (Burke, 2010). In the case of a mother not taking her children for immunisation, some of these illnesses like Polio can cause serious disability in children for life. A mother may not understand how difficult it can be to bring up a child with disability and who is recurrently. The HBM seeks to increase awareness of how serious the outcomes of behaviours can be in order increase the quality of one’s life.

While Individual Perceptions were internalised, in the Health Belief Model, modifying factors step outside the body to examine and use outside influences to affect the how threatened a person feels by the outcomes of continuing the same behaviours that put him at risk (Burke, 2010).

Susceptibility as stated before displayed how someone acknowledged that their behaviour could lead to a specific disease. Threat takes the idea one step further by examining just how likely it is that the disease could be developed (Burke, 2010). To use Polio again, a mother who did not take her children for immunisation may feel threatened by potential disease because they have not been doing it and if they start; their children may be spared of disease. On the other hand, a mother whose child was not immunised and consequently developed Polio may feel very threatened by Polio and will have all her subsequent children immunised.

Environmental factors can add to the threat of disease. Demographic background can cause one to be more at risk such as race, ethnicity, and socioeconomic status. Someone living in poverty would be more threatened by a disease if they could not afford health care. Also peers and other influential people can have an influence. If an entire community does not immunise their children, then it may be difficult for one mother or family to start.

Lastly cues to action are reasons why an individual realises he could be threatened by serious disease or complications. These could be media, healthcare practitioners or concerned loved ones. Cues to action are anything that triggers a decision to change behaviour.

After becoming aware of the potential for developing a disease if behaviour does not change, it is important to weigh out the benefits and the barriers to taking action and determine if it is worth it. What are the benefits to change? In the HBM the goal is greater quality of life for an individual both mentally and physically. Clearly a benefit to change would be increased health but there could be other factors that exist on an individual level (Burke, 2010). In maternal and

child healthcare, benefits would be increased demand of family planning methods and better child spacing, hospital deliveries under skilled personnel, early management of pregnancy related diseases and complications, exclusive breastfeeding for the first six months of life, increased immunisation rates of children etc. What are the reasons that one cannot change their behaviour? Barriers could be anything from losing friends to not having enough money or even self-efficacy problems such as not believing in one self. For change to take place the benefits must be stronger than the barriers (Burke, 2010).

Burke (2010) concludes the HBM by stating that it is a simultaneous process used to encourage healthy behavior among individuals who put themselves at risk of developing negative health outcomes.

*“A person must evaluate their perceptions of susceptibility and severity of developing a disease. Then it is necessary to feel threatened by these perceptions. Environmental factors can contribute as well as cues to action such as television ads or caring relatives. Lastly the benefits to change must be weighed against the barriers to change behavior in order to determine that taking action will be worthwhile”* (Burke. E; 2010, pg 3).

### **2.3.2 Social Cognitive Theory**

Social Cognitive Theory is a learning theory of psychology that explains human behaviour patterns by understanding the cognitive aspects, emotional aspects and aspects of behaviour for understanding behaviour change. Social cognitive theory is a subset of cognitive theory which focuses on ways in which people learn to model the behaviour of others. The social cognitive theory originated from social learning theory, the work of Albert Bandura (1989).

It was developed with an emphasis on the acquisition of social behaviours and continues to emphasise that learning occurs in a social context and much of what is learned is gained through observation. It further states that, people can influence their own behaviour in a purposeful, goal-oriented way (Bandura, 2001). The theory highlights the idea that much human learning occurs in a social environment. By observing others, people acquire knowledge, rules, skills, strategies, beliefs, and attitudes. Individuals also learn the functional value and appropriateness of modeled behaviors by observing their consequences, and they act in accordance with their beliefs concerning the expected outcomes of actions (Bandura, 1989).

Social cognitive theory emphasises on the acquisition of social behaviours in addition to the cognitive thought processes that influence human behaviour and processes. It seeks to explain how behaviour standards and norms are learned through an interaction of the individual and his environment, through the observation of others/vicarious learning.

In Social Cognitive Theory, learning is largely an activity in which information about the slim line of behaviour and about environmental events is transformed into symbolic presentations that serve as guides for action (Bandura, 1989). The theory also argues that, people can also through their self-reflection and self-regulatory processes exert pressure over their own outcomes and the environment. It can be referred to as an interpersonal level theory, which sees human behaviour as forming under a triad of behavioural, personal and environment determinants.

Operant conditioning theory also says that people learn by doing, but social cognitive and conditioning theories have different explanations. Skinner (1953) noted that cognitions may accompany behavioural change but they do not influence it. Social cognitive theory contends that behavioural consequences, rather than strengthening behaviours as postulated in operant theory,



serve as sources of information and motivation. Consequences inform people of the likely outcomes of the behaviour. If the outcome is failure, they know that they are doing something wrong and they take steps to produce success the next time.

While learning, people selectively process information; they engage in such activities as attending to instruction and rehearsing information, which they believe will promote learning. From a motivational perspective, people strive to learn behaviours they value and believe will have desirable consequences (Bandura, 1989). A pregnant woman may attend ANC clinics for example, if other women in the community attend. She may go ahead and have a hospital delivery if her peers have done hospital deliveries, or had complications and timely skilled attendance and service was provided with good outcomes for both mother and baby.

### **2.3.3 Uses and Gratification Theory**

This theory is interpretive, where the message is what the receiver makes of it not what the sender intends (McQuail, 1972). In the uses and gratification theory a person is said to have certain needs that can only be met or gratified through mass communication. The person therefore chooses what in the media will meet those needs and then he/she chooses the medium. The uses and gratification approach has been centrally concerned with choice reception and manner of response from the media audience (McQuail, 1994).

The audience choices of media are determined by particular needs, which the audience have. These need of the media are similar to function that are surveillance, the cognitive ordering of the environment, personal relationships, substitute of mass media for companionship, diversion, escape from routine and problems, personal identity, the sense of self meaning value reinforcement or reassurance (Little John, 1983, Severin and Tankard, 1997).

McQuail (1994) has his own list of needs categories, which he refers to as motives and satisfactions for media use. These are getting information and advice, reducing personal insecurity, learning about society and the world finding support for one's own values, gaining insight into one's own life, experiencing empathy and problems of others having a basis for social contact, having a substitute for social contact, feeling connected with others, escaping from problems and worries, gaining entry into an imaginary world, filling time, experiencing emotional release and acquiring a structure for daily use (McQuail, 1994).

Women of reproductive age may use media to acquire information on family planning and use of contraceptive methods for example. Media here is used as a source of information and advice, to reduce the woman's own insecurities by getting support for one's own values in regards to family planning practices.

## **2.4 Research Gap**

Maternal and child health promotion has been a major focus by healthcare providers, with various policies having been developed to promote this, but demographics on morbidity and mortality keep on rising, despite these robust measures and policies (KDHS 2008).

Factors that may contribute to this problem include lapses in communication between researchers and policy makers, health practitioners, and the final consumers of the service delivery. Lapses could be from failure to identify the various levels of interaction with the target populace in order to design communication tools that are specific, appropriate and appealing to them (Parker 2009).

Additional issues cited by public health practitioners are that interventions may be too narrowly focused, complex, difficult and costly, or may not engage or meet the perceived needs of the

community. What is lacking therefore is a multifaceted and multidisciplinary approach to reach different audience and share maternal and child health related information, with the goal of influencing community, health professionals and policy makers to achieve the desired health care outcome, through encouraging behavior modification and social change (Schiavo, 2007).

## **CHAPTER THREE**

### **RESEARCH METHODOLOGY**

#### **3.0 Introduction**

This chapter describes the methods used in this study. It entails the research design, research site, study population, sample size and sampling procedures, data collection instruments and methods, data analysis techniques and presentation, testing validity and reliability of research tools as well as ethical considerations for the research.

#### **3.1 Research Site**

The study was conducted in Machakos Municipality, Masaku Township located within Machakos County. It rests in an area of about 1,975.5 square kilometers and has a population of 41, 917, of which 21, 469 are female, based on 2009 census. There are 49 nurses, 7 clinical officers and 8 doctors per 100,000 populations (Machakos County Fact Sheet, 2013).

The study only took place in MCH clinics in order to track mothers who have had prior visits or during scheduled revisits. Additionally, women of reproductive age visiting the clinics were preferable as they sought these services as opposed to other women of the same age, not seeking these services. Other aspects of healthcare were not interrogated.

#### **3.2 Research Design**

This study employed mixed-methods design, utilising the strengths of both qualitative and quantitative data (Creswell 1997:2009). The importance of this design was that the mixed method approach taken to complement each methodology so as to ensure validity and reliability

of data collected (Campbell et al; 1999). The mixed-methods design allowed for collection of data through guided questionnaires and interviews with key informants. As elaborated by Ndeti (2013), by using mixed-methodology, the researcher hopes to better understand the concept being explored and overcome the weaknesses or intrinsic biases and the problems that come from single study methods.

This study therefore used mixed-method design in order to get confirmation of findings through convergence of different perspectives, contradictions and get entirely new perspectives. This design also enabled the researcher to develop new insights and scope into the research problem.

### **3.3 Study Population**

Population refers to the entire group of individuals who have a common observable characteristic (Mugenda & Mugenda, 2003).

The study mainly targeted women of reproductive age making MCH Clinic visits in Machakos County Referral Hospital as this is the biggest facility with the largest MCH clinic capacity in the county.

To ensure that the actual target population was captured, the respondents were targeted while attending MCH clinics as opposed to other clinic visits not related to maternal and child health or in a different environment.

The study targeted maternal and healthcare service providers, i.e. the healthcare workers that run the clinics. These were mainly a doctor, nurses and a clinical officer. Policy makers and officials in the ministry of health in Machakos were also be targeted.

### 3.4 Sample Size and Sampling Procedures

#### 3.4.1 Sample Size

The formula for finite population correction applied was:

$$n' = \frac{NZ^2P(1-P)}{d^2(N-1) + Z^2P(1-P)}$$

Where:

$n'$  = Sample size

$N$  = Study population. This is the average total number of patients attending MCH clinic in one month (20 working days).

$Z$  =  $Z$  statistic for a level of confidence which was put at 95% which gives a value of 1.96

$P$  = expected proportion women attending MCH Clinics. Since there was no published data, a proportion of 50% was selected to estimate the highest sample size.

$d$  = Precision with a 95% confidence interval which gives a margin of error of  $\pm 0.05$ .

$$n' = \frac{1500 \times 1.96^2 \times 0.5 (1-0.5)}{(0.05)^2 (1500-1) + 1.96^2 0.5 (1-0.5)}$$

$$n' = \frac{1500 \times 3.84 \times 0.25}{0.0025 \times 1499 + 3.84 \times 0.25}$$

$$n' = \frac{1440}{3.7475 + 0.96}$$

$$n' = \frac{3840}{4.7075}$$

$$n' = 305.3 \approx 305$$

### 3.4.2 Sampling procedures

The sample size comprised of 305 respondents, 300 of whom are the women of reproductive age, and the other 5 are key respondents drawn from among healthcare providers, Ministry of Health officials and local health leaders in the County.

Due to the fact that the number of women attending the MCH clinics averages at 75 per day (from researcher's interviews with the MCH in charge), selecting the 15 women per day as demanded by the study required a systematic random sampling using the daily registry, by simply establishing the class interval 'k'. From each scheduled clinic day throughout the 5 days in a week, a total of 15 women per day were drawn on each alternate day for a total of 20 clinic days. That is an average number of 300 respondents. Using this procedure each respondent in the population had a known and equal probability of selection, and it is more efficient. Respondents were selected from an ordered sampling frame (the clinic's registry). The sampling started by selecting an element from the list at random and then every  $k^{\text{th}}$  number in the registry was selected, where  $k$ , was the sampling interval. This was calculated as:

$$k = \frac{N}{n}$$

where  $n$  is the sample size, and  $N$  is the population size

$$k = \frac{1500}{300}$$

$$k = 5$$

Purposive sampling was used to select the five key informants for qualitative data. These are the nurse in charge of the MCH clinic, a Clinical Officer running the clinic, and a doctor running the clinic, and a paediatrician in the facility, these being the primary healthcare providers in the MCH. A senior official, the County Executive Committee Member of Health and Emergency Services in Machakos was also selected as a local health leader.

### **3.5 Data Collection Methods**

#### **3.5.1 Quantitative Data**

The survey method used to collect quantitative data was a structured questionnaire. The questionnaires entailed both close and open-ended questions targeting women on maternal and child health clinic visits.

The rationale for this method was informed by the fact that respondents are aware and able to respond to the questions on the basis of their experiences and to also solicit the women's views as individuals. With questionnaires, the researcher was able to collect large amounts of information from a large number of people in a short period of time and in a relatively cost effective way. The results of the questionnaires were then quickly and easily quantified by either a researcher or through the use of a software package, saving time given the time limitation for this study.

#### **3.5.2 Qualitative Data**

Qualitative data was collected through Key Informant Interviews. Personal interviews were conducted with all the key informants to document their views on the adoption use and influence of communication on maternal and child health care outcomes. Interview guides were used to



collect qualitative data from the key respondents comprising of the healthcare providers and the county health ministry official to document their opinions on adoption, use and influence of communication in maternal and child healthcare outcomes.

The value of this method was that it provided general or expert views on the subject matter. The interviewer is the one that has control over the interview and can keep the interviewee focused and on track to completion. The interviewer is also able to capture verbal and non-verbal cues, e.g. enthusiasm over the subject.

### **3.5.3 Data analysis Procedures and presentation**

In analysing quantitative data, data from all questionnaires were coded and analyzed using basic descriptive and inferential statistical methods and techniques. Statistical Package for the Social Sciences (SPSS) was used to aid in the analysis. The data was presented using charts, tables and figures.

Qualitative data was analyzed using five standardized steps: documenting data and the processes of data collection, organizing and categorizing data into concepts, creating connections of data to indicate connections between concepts, corroborating data by evaluating alternative explanations, and representing the account of collected information (reporting the findings). A narrative report with quotations from key informants was written.

### **3.6 Ethical Considerations**

The researcher explained the implications of the study to the respondents. No respondent was forced to complete the questionnaire or engage in interviews. The researcher was not to lead the respondents to a desired outcome of the study objectives. All information submitted by the respondents was considered confidential. The respondents' availability and limited time was taken into account by having short and understandable questions to complete in approximately 10 minutes.

## **CHAPTER FOUR**

### **DATA ANALYSIS, PRESENTATION AND INTERPRETATION**

#### **4.0 Introduction**

Data was analysed and tabulated in form of tables and charts. Qualitative method of data was also used and analysed.

Data was collected from women of reproductive age making MCH Clinic visits in Machakos County Referral Hospital that is located within Masaku township as this is the biggest facility with the largest MCH clinic capacity in the county.

300 questionnaires were given for response to the women of reproductive age. 5 key informants were drawn from among the healthcare providers and Machakos Ministry of health leaders.

#### **4.1 Social demographic aspects of the respondents**

In social demographic aspects of the respondents, various issues were put into consideration in order to understand the respondents appropriately. Among the issues discussed in this section were age, education level, marital status, number of children and whether there was anyone of them who had passed on.

#### 4.1.1. Age of the respondents

In this question the respondents were asked to state their age. The chart below shows the age of various respondents.

**Table 4.1: showing ages of the respondents**

Age cohorts	Frequency	Percent
15-19	18	6.0
20-24	58	19.3
25-29	84	28
30-34	58	19.3
35-39	48	16.0
40-44	34	11.3
<b>Total</b>	<b>300</b>	<b>100.0</b>

Source: *Researcher 2015*

From the study, as shown in the table above, majority of the respondents fell between the ages of 25-29, representing 28 percent of the study population. Although it is the age bracket where most women of reproductive age fall under, the figures were relatively higher compared to the national average of 19.6 percent of women in the same age bracket (KDHS 2014).

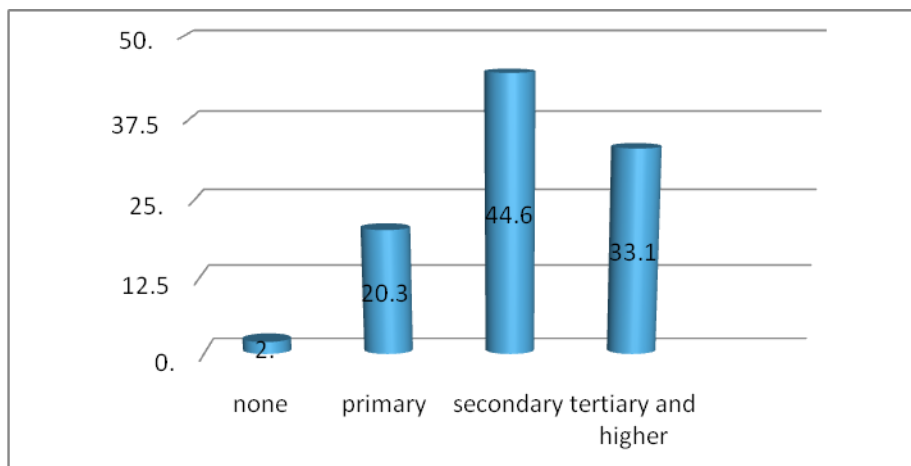
This was followed by women within the age cohorts of 20-24 and 30-34 at 19.3 percent. Those between the ages of 35-39 were represented by 16.0 percent while ages 40-44 were represented

by 11.3 percent while the rest, ages 15-19 represented 6 percent. From the study, almost 60 percent of the women of reproductive age are between the ages of 25-39 years, a slight departure from the data in the KDHS (2014) where majority of women are at 15-39 years.

#### 4.1.2 Education level of the respondents

In this question the respondents were asked to state their education level. The chart below shows the variation in education level of the various respondents.

**Chart 4.1: showing education level in percentages**



Source: *Researcher 2015*

Most of the respondents had attained a secondary school education as from the data analysed. This was represented with 44.6 percent. Those who had attained tertiary education were 33.1 percent. The tertiary education included having undergone a vocational training in a college or university. It is only 20.3 percent who had just attained a primary school education while it was only 2 percent who had not attained any form of education. National statistics are in keeping with these findings, where 42.7 percent of women of reproductive age have attained at least a secondary education (KDHS 2014).

From the Health ministry in Machakos, the Nursing Officer in-charge had this to say on the women’s literacy levels:

*“Majority of the women who visit the clinics have attained a minimum of primary education. The class 8 drop-outs are very many, more than secondary level educated mothers. Poverty is the worst challenge in ensuring that women advance in education. When they complete their schooling, they are married off. Others are not even able to complete their education. They even conceive before reaching the age of 18. This affects the number of women having attained secondary level of education and beyond.”*

#### 4.1.3 Marital status of the respondents

This question sought to find out the state of the family within which the women fall, whether it’s a polygamous, monogamous, single, divorced widowed or separated kind of family.

**Table 4.2: showing marital status**

<b>Marital Status</b>	<b>Frequency</b>	<b>Percent</b>
Single	56	18.8
Monogamous marriage	176	59.7
Polygamous marriage	38	12.8
Divorced	5	1.7
Widowed	16	2.7
Separated	4	1.3
Missing	5	3.4
<b>Total</b>	<b>300</b>	<b>100.0</b>

Source: *Researcher 2015*

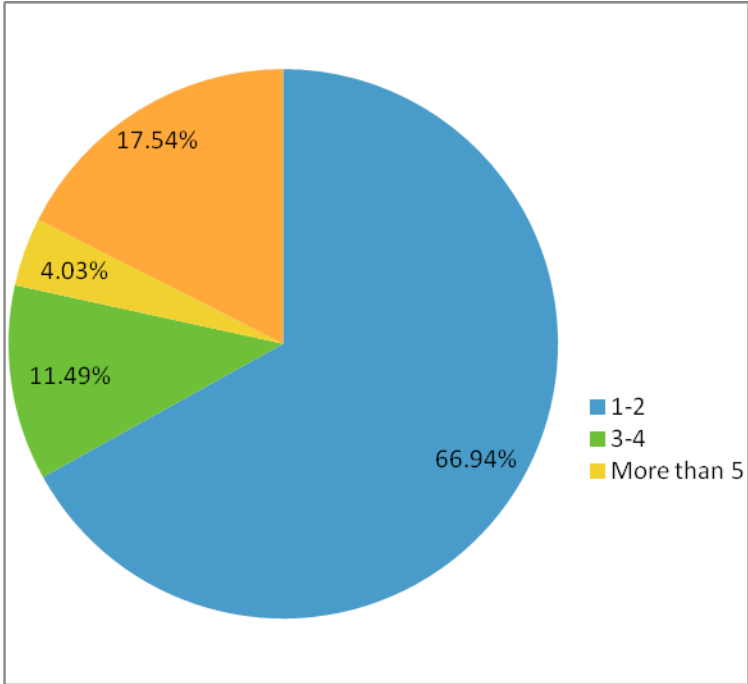
Most of the respondents were from a monogamous kind of family. This was represented by 59.7 percent of the respondents. Those who belong to a polygamous family were represented by 12.8

percent. Those who had been divorced were represented by 1.3 percent while the widowed women were represented by 2.7 percent. The separated couples were represented by 1.3 percent while the rest 18.8 percent were single women. However, 5 respondents did not respond to the question representing 3.4 percent.

**4.1.4 Number of children per woman**

The respondents were asked to state whether they have children or not. If they had children the respondents were supposed to indicate how many they had.

**Chart 4.2: showing number of children per woman**



Source: *Researcher 2015*

Most of the respondents, 66.9 percent had between 1-2 children. Those who had 3-4 children were represented by 11.5 percent while those who had no children were 17.4 percent of the respondents. Fewer women, 4 percent, had more than five children was represented.

From the study, total fertility rate was 1-2, compared to 3.9 as the national average (KDHS 2014).

#### 4.1.4 Children who had passed on

The respondents were asked to state whether out of the children they have, there is any of them who had passed on.

**Table 4.3: showing number of children who had passed on**

<b>Children who passed on</b>	<b>Frequency</b>	<b>Percent</b>
Yes	38	12.8
No	262	87.2
<b>Total</b>	<b>300</b>	<b>100.0</b>

Source: *Researcher 2015*

From the data, 12.8 percent of the respondents had children who had passed on. The rest at 87.2 percent had no children who had passed on. The women who reported death of their children cited that most of the children had died below the age of 5, a critical age for most children growing up as this is when they are most vulnerable to childhood illnesses (WHO).

#### 4.2. Knowledge of maternal and child health care

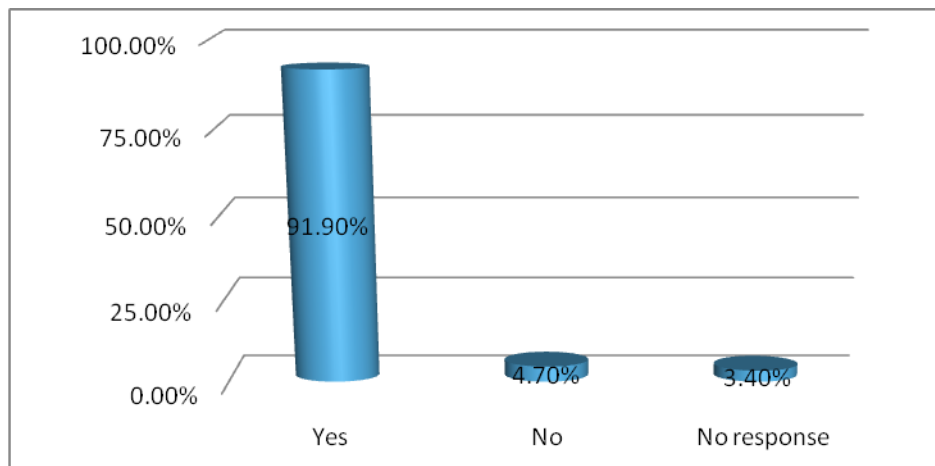
This section set out to find out the knowledge of the respondents on maternal and child health care, and the channels used to communicate maternal and child healthcare information.



#### 4.2.1. Knowledge about maternal health care.

The respondents were asked to state whether they were aware of any information on maternal and child health care. The chart below shows how the respondents responded.

**Chart 4.3: showing knowledge on maternal and child healthcare**



Source: *Researcher 2015*

Data analyzed showed that 91.9 percent of the respondents were aware of maternal and child health care while only 4.7 percent of the respondents said they were not aware or had no information on maternal and child health care.

The hospital's paediatrician's response regarding women's knowledge on maternal and child health was;

*"There is no survey that has been done to ascertain the knowledge level in maternal health and child care among women of reproductive health. A few women have some level of knowledge in maternal health and child care in general. The knowledge gap can be attributed to poverty, education levels and social economic dynamics within the region."*

#### 4.2.2. Channels used to communicate maternal and child health care

Various channels were used to communicate about maternal and child care.

**Table 4.4: showing channels of communication**

<b>Channels of communication</b>	<b>Frequency</b>	<b>Percent</b>
Health care worker (doctors and nurses), Newspapers, Magazines	1	0.3
Healthcare workers (Doctors and nurses) only	165	55.0
Radio only	54	18
Radio, Relatives and friends	1	0.3
Relatives and friends only	28	9.3
Relatives and friends, Healthcare workers(Doctors and nurses	11	3.7
TV only	21	7.0
TV, Health care worker(doctors and nurses)	1	0.3
TV, Radio, Healthcare workers(Doctors and nurses)	2	0.6
TV, Radio, Relatives and friends	6	2.0
TV, Radio, Relatives and friends, Healthcare workers (Doctors and nurses)	10	3.3

Source: *Researcher 2015*

55 percent of the respondents stated that they received information on maternal and child health care through health care workers who include doctors and nurses. This is information which they received most of the time when they visit the clinics or hospitals for care. The healthcare workers take time to educate them on how to take care of their health and that of that of their children. 9.3 percent received such information through relatives and friends. These channels of communication through healthcare workers or relatives and friends underscore the importance of interpersonal communication in a sensitive area such as health. 18 percent of the respondents said they received such information through radio only while another 7 percent of the respondents said that they received such kind of information through TV. This is through airing of programs and campaigns on maternal and child healthcare.

This was in contrast with what the healthcare workers and the Ministry of Health had to say on the channels of communication used. The nurses' view on this was;

*"The commonest channel used to communicate maternal and child healthcare is through radio, specifically vernacular radio stations. This is due to the socio-economic dynamics of the women, most of whom would be home going about their daily chores, and their most accessible media channel being radio. Since most women were secondary school educated, access to print media in form of magazines and newspapers is limited."*

However, the paediatrician was of the opinion that door-to-door campaigns by healthcare workers were a channel of communication from which the women get information.

*"I believe that most women got their information from door-to-door campaigns run by healthcare workers, especially during specific campaigns, e.g. Polio*

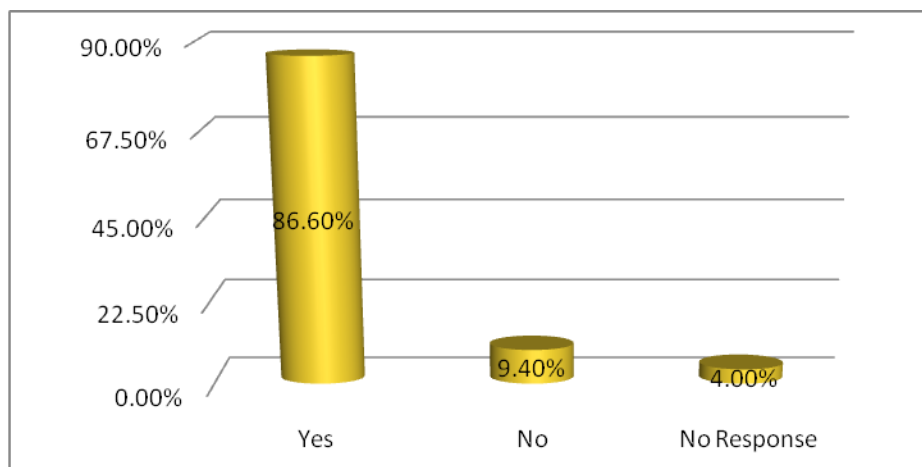
*campaigns, though this only interests affected women as opposed to all women of reproductive age.”*

#### **4.2.3. Knowledge of antenatal care clinics**

The respondents were asked to state whether they were aware about the antenatal care clinics.

This is illustrated in the chart below.

**Chart 4.4: showing knowledge on antenatal care clinics**



Source: *Researcher 2015*

86.6 percent of the respondents said they were aware about the antenatal care clinics while 9.4 percent of the respondents said that they were not aware. Additionally views were sought from the health workers on the knowledge level of the women visiting the antenatal care clinics. According to the Reproductive Health Clinical Officer, majority of the women were aware of the antenatal care.

*“This they learn from their fellow women or older women who had had prior experiences on pregnancy and a need for maternal care services.”*

The health ministry in Machakos attributed this knowledge to the robust media campaigns for women to seek antenatal care services while expectant.

*“Numerous health campaigns, especially on mass media, on antenatal care for women to attend clinics while pregnant are the major reason why women are knowledgeable on the topic. Learning from their fellow mothers and relatives also contributes to the awareness of this topic.”*

#### **4.2.4 Channels used to communicate antenatal care clinics**

This question set out to find out how they came to know about the antenatal care clinics for those who knew about them. Various channels were used to communicate, as represented in the table below:

**Table 4.5: showing knowledge about channel of communication on antenatal care**

<b>Channels of communication</b>	<b>Frequency</b>	<b>Percent</b>
Attending ANC clinic	1	.7
Healthcare workers(Doctors and nurses)	175	58.3
Internet	1	.7
Radio	33	11.0
Radio,Relatives and friends,Healthcare workers(Doctors and nurses)	2	1.3
Relatives and friends	47	15.7
Relatives and friends,Healthcare workers(Doctors and nurses)	2	1.3
Relatives and friends,Healthcare workers(Doctors and nurses)	5	3.4
TV	21	7.0
TV,Radio,Healthcare workers(Doctors and nurses)	2	1.3
friends,Healthcare workers(Doctors and nurses)TV,Radio,Relatives and	2	1.3
TV,Radio,Relatives and friends,Healthcare workers(Doctors and nurses)	4	1.3
TV,Relatives and friends,Healthcare workers(Doctors and nurses)	2	.7

Source: *Researcher 2015*

Most of the respondents reported that they were aware about antenatal care clinics through health care workers who include doctors and nurses. This was represented by 45.3 percent. This information most of the time got it when they visited the clinics or hospitals while pregnant or when they take their children for immunisation or during hospital visits when sick. 18.3 percent of the respondents received the same information through radio. Those who used TV to get such

information were represented by 5.0 percent. 19.3 percent of the respondents got information through a combination of radio, TV and health care workers.

This study found out that healthcare workers (nurses, doctors, clinical officers etc) played a key role in communication of antenatal care as a key indicator of maternal and child healthcare.

#### 4.2.5 Knowledge on Hospital Delivery

The respondents were asked whether they knew about delivering in hospitals.

**Table 4.6: showing knowledge about delivery in hospital**

<b>Knowledge on hospital delivery</b>	<b>Frequency</b>	<b>Percent</b>
Yes	284	94.6
No	12	4
No Response	4	1.4
<b>Total</b>	<b>300</b>	<b>100.0</b>

Source: *Researcher 2015*

94.6 percent of the respondents said that they were aware about delivering in hospitals while only 4 percent of the respondents said they were not aware. 61 percent of deliveries take place in health facilities, all influenced by a mother's urban residency, education level and wealth (KDHS 2014). From this study, most women were aware of this, and it could be attributed to their education level, and that most were women of 25-29 years of age, hence knowledgeable.

#### 4.2.6 Channels of communication on hospital delivery

The respondents were asked how they knew about hospital delivery, and the findings are as the chart below.

**Table 4.7: showing channels of communication on hospital delivery**

Channels of communication	Frequency	Percent
Healthcare workers(Doctors and nurses)	180	60.0
Internet	2	0.6
Radio	20	6.7
Radio, Relatives and friends, Healthcare workers(Doctors and nurses)	11	3.7
Relatives and friends	47	15.7
Relatives and friends, Healthcare workers(Doctors and nurses)	14	4.7
TV	10	3.3
TV, Radio, Healthcare workers(Doctors and nurses)	7	2.3
Healthcare workers(Doctors and nurses)TV, Radio, Relatives and friends,	5	1.7
TV, Relatives and friends, Healthcare workers(Doctors and nurses)	4	1.3

Source: *Researcher 2015*

60 percent of the respondents reported to have known about hospital deliveries through healthcare workers. Those who used radio as a channel of communication was at 6.7 percent. Those who used relatives and friends were represented by 15.7 percent while those who used TV were at 3.3 percent. A combination of relatives and friends and healthcare workers was at 4.7 percent. Those who used a combination of TV, Radio, Relatives and friends, Healthcare workers (Doctors and nurses) were represented by 1.7 percent while those who used TV, Relatives and



friends, Healthcare workers (Doctors and nurses) were at 1.3 percent. Lastly those who used both TV, Radio, Healthcare workers (Doctors and nurses) were at 2.3 percent and those on Radio, Relatives and friends, Healthcare workers (Doctors and nurses) 3.7 percent. Most of the respondents from the data analyzed preferred the interpersonal communication channels

#### **4.2.7 Knowledge on contraceptive (Family Planning) Methods**

The respondents were asked whether they knew about family planning. The results are as illustrated in the chart below.

**Table 4.8: showing knowledge on contraceptive (family planning) methods**

<b>Knowledge on contraceptives</b>	<b>Frequency</b>	<b>Percent</b>
Yes	268	89.3
No	24	8.0
Missing	8	2.7
<b>Total</b>	<b>300</b>	<b>100.0</b>

Source: *Researcher 2015*

89.3 percent of the respondents from the data analysed reported to be aware of family planning methods. 8.1 percent did not know, and a further 2.6 percent did not respond to this. Knowledge on family planning is notable high compared to statistics by the KDHS 2014.

#### **4.2.8 Channels of communication on family planning methods**

The respondents were asked to state the channels they used to get information about family planning methods.

**Table 4.9: showing Knowledge on Family Planning Methods**

<b>Channels of communication</b>	<b>Frequency</b>	<b>Percent</b>
Healthcare workers (Doctors and nurses) only	175	58.3
Radio only	33	11.0
Radio, Relatives and friends, Healthcare workers(Doctors and nurses)	2	0.7
Relatives and friends	47	15.7
Relatives and friends, Healthcare workers(Doctors and nurses)	13	4.3
TV only	21	7.0
TV, Radio, Healthcare workers(Doctors and nurses)	5	1.7
TV, Radio, Relatives and friends, Healthcare workers(Doctors and nurses)	4	1.3

Source: *Researcher 2015*

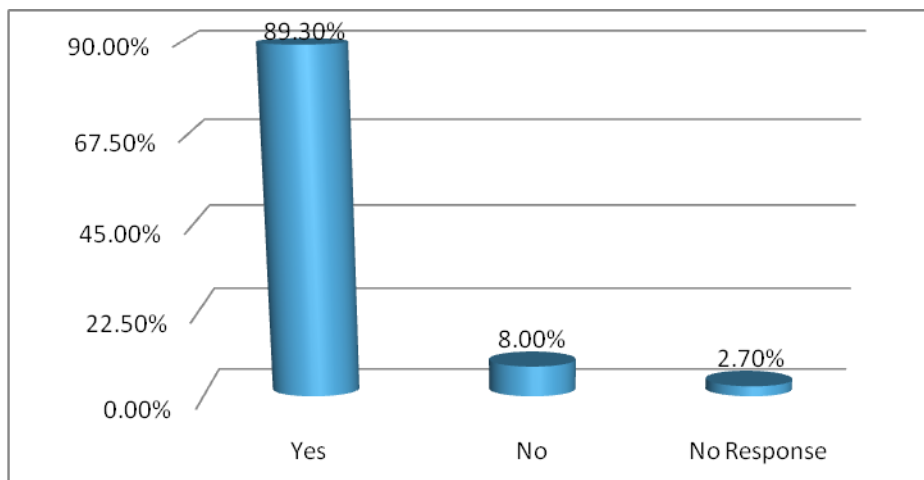
Most of the respondents said that they were aware of family planning methods, represented by 58.3 percent. They got the information from healthcare workers i.e. nurses and doctors. Those who received the information through relatives and friends represented 15.7 percent while those who received the information through radio were represented by 11 percent. Those who received the information through TV were at 7.0 percent while the rest got the information from varied

other channels, or combination. This finding underscores the importance of the interpersonal communication used.

#### 4.2.9 Discussions with partner about family planning

The respondents were asked whether they discussed information on family planning methods with their partners. The chart below shows how they responded.

**Chart 4.5: showing discussions about family planning with partner**



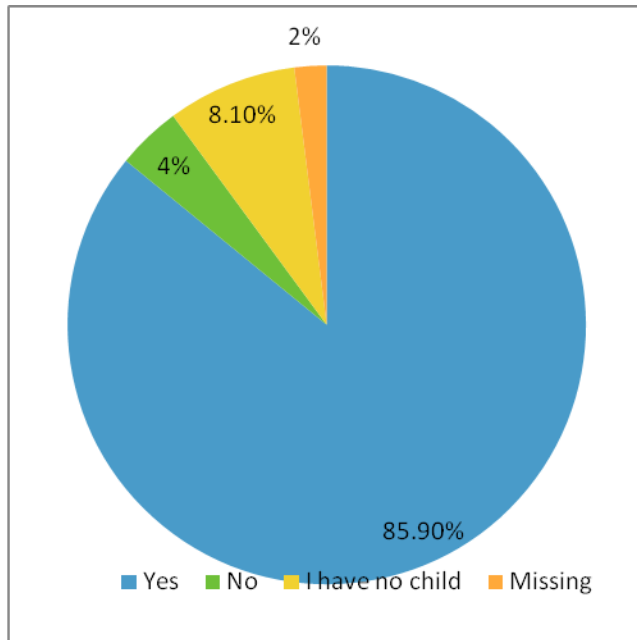
Source: *Researcher 2015*

89.3 percent said that they shared such information with their partners while 8 percent of the respondents said that they did not share such information with their partners. The respondents noted that their partners were aware of the importance of regulated births of children depending on the resources they have.

#### 4.2.10. Knowledge on breastfeeding the child exclusively for 6 months

The respondents were asked to state whether they were aware about breastfeeding exclusively for the first 6 months after child birth. Below is a chart showing how they responded.

**Chart 4.6: Chart showing Exclusive breastfeeding for six months**



Source: *Researcher 2015*

85.9 percent of the respondents stated that they were aware about exclusively breastfeeding their child for the first 6 months of life. Only 4 percent of the respondents said that they were not aware of exclusively breastfeeding their child for the first six months, majority of whom attributed this to lack of information on the topic, while some reported unclear messages on the same, especially from relatives and friends. 8.1 percent of the respondents said that they had no children hence they had not taken time to learn about exclusively breastfeeding the children for the first 6 months.

#### 4.2.11 Channels used to educate on exclusively breastfeeding

**Table 4.10: chart showing how women learnt about exclusively breast feeding**

<b>Channels of communication</b>	<b>Frequency</b>	<b>Percent</b>
Healthcare workers(Doctors and nurses)	106	35.3
Radio Only	58	19.3
Relatives and friends	40	13.
Relatives and friends, Healthcare workers(Doctors and nurses)	60	20
TV Only	22	7.3
TV, Radio, Relatives and friends, Healthcare workers (Doctors and nurses)	14	4.6

Source: *Researcher 2015*

35.3 percent of the respondents said that they received information on exclusive breastfeeding through health workers who included doctors and nurses. While only 19.3 percent of the respondents received the information through radio, 7.3 percent of them received the same information through TV. Those who received information through relatives and friends were represented by 13.3 percent. Those who received the information both through relatives and friends and healthcare workers (doctors and nurses) were represented by 20 percent while those who received the same information through TV, Radio, Relatives and friends, healthcare workers (doctors and nurses) were represented by 3.3 percent.

From this data, the study found that healthcare workers played a pivotal role in information dissemination and health education to the women of reproductive age. The nurse in-charge

attributed this to the trust that the women still have on healthcare workers as professionals who are knowledgeable and informative on their areas of expertise.

#### 4.2.12 Knowledge about children’s immunization/vaccination

The respondents were asked about children’s immunization program. The table below shows how they responded.

**Table 4.10.1: showing knowledge about children’s immunization/vaccination**

<b>Knowledge on childhood immunization</b>	<b>Frequency</b>	<b>Percent</b>
Yes	280	93.3
No	12	4
No Response	8	2.7
<b>Total</b>	<b>300</b>	<b>100.0</b>

Source: *Researcher 2015*

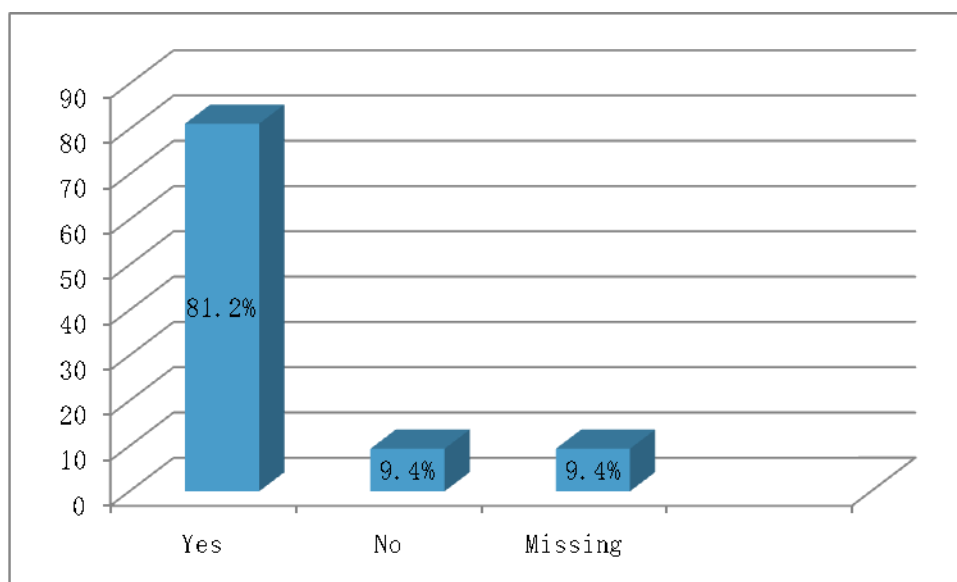
Majority of the respondents said that they were aware of the various types of childhood immunizations/vaccinations. From the data, 93.3 percent of the respondents said that they were aware about children’s immunization/vaccination. Only 4 percent of the respondents said they were not aware of immunization/vaccination of children. Compared to the vaccination coverage in Kenya of 67.5 percent (KDHS 2014), this means that most children in Machakos are fully immunised against childhood illnesses as per WHO recommendations of full immunisation.

The paediatrician alluded that knowledge on children’s immunisation by the women was due to robust media campaigns on the same, and particularly polio eradication campaigns.

*“Robust media campaigns on childhood immunisations contribute majorly to mother’s knowledge on childhood immunisations. The mother’s level of education is also important. Women who have attained a secondary level education and further are more likely to be aware of some of these programs, and not only the basic vaccines available as per Kenya Expanded Program for Immunisation (KEPI), but also other available vaccines in the market.”*

#### **4.2.13 Women who have taken their children for immunisation**

**Chart 4.7: showing the percentage of women who have taken their children for immunisation**



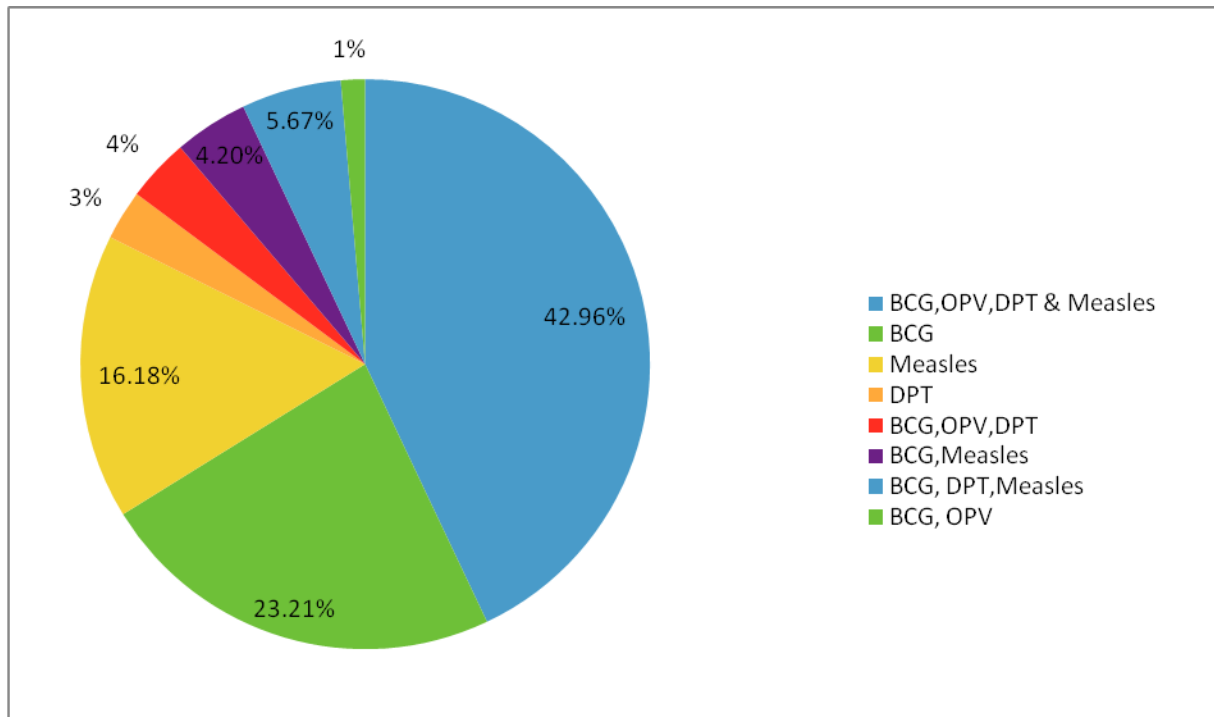
Source: *Researcher 2015*

81.2 percent of the women reported to have taken their children for immunisation, while 9.4 had not. Those that had not were reported that they did not have any children yet. This high number is comparable to the national average where majority of women take their children for immunisation (KDHS 2014).

#### 4.2.14 Types of vaccination/immunization they were aware of

Below is the analysis of the specific types of childhood vaccinations that the women had knowledge on.

**Chart 4.8: showing various childhood immunizations/vaccinations**



Source: *Researcher 2015*

From the above, 42.9 percent of the women were aware of all the major childhood immunisations, that is BCG, OPV, DPT and Measles, representing the majority of women. This are the WHO recommended immunisations for a child to be considered fully immunised. 23.2 percent were only aware of BCG and the women attributed this to its mandatory administration for all women who deliver in hospital, and the characteristic mark it leaves on the child's left forearm. Those aware of only measles were represented by about 16.2 percent, and they termed it as the '9-month vaccine'. Only 2.8 percent of the respondents were aware of DPT. Those who were aware of BCG, OPV and DPT were represented by 3.6 percent while those only aware



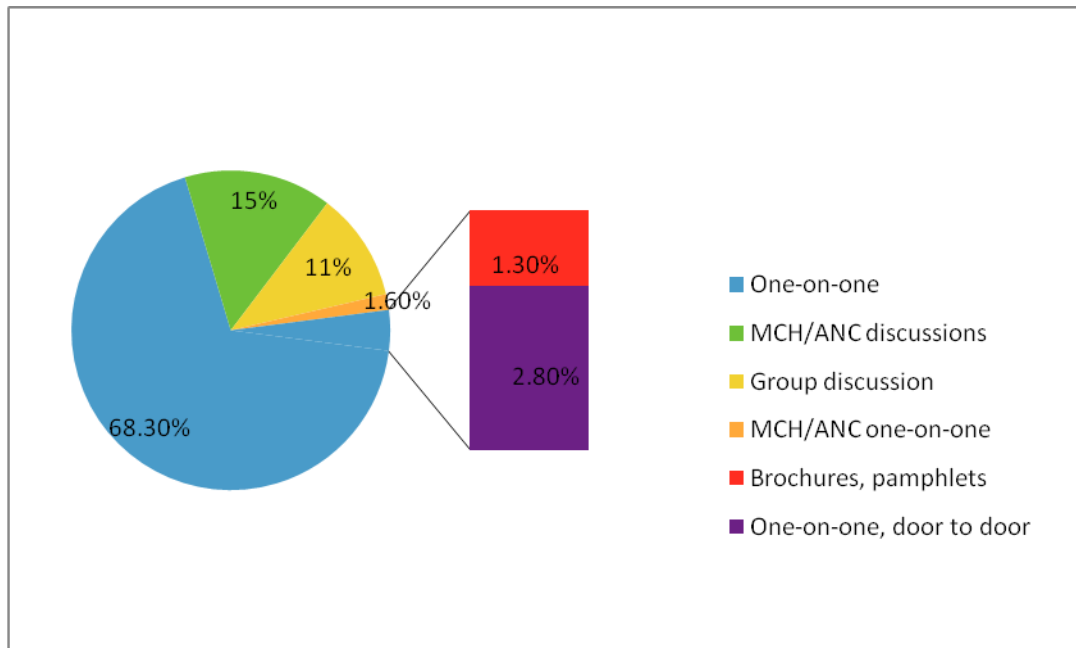
about BCG, and measles were 4.2 percent. BCG, DPT and measles were represented by about 5.7 percent. Only 1.4 percent of the respondents were aware of only BCG and OPV.

### 4.3 Mode of communication between health care providers and the women of reproductive age

#### 4.3.1 Communication between health care providers and women

The respondents were asked to state how the health workers communicated to them. The communication was done through the tools as analysed below.

**Chart 4.9: showing mode of communication between health care providers and the women of reproductive age**



Source: *Researcher 2015*

From the data, the study found that a one-on-one direct communication at MCH/ANC clinics by healthcare workers with the women of reproductive age accounted for the major mode of

communication represented by 68.3 percent. 15 percent cited group discussions at MCH/ANC clinics as a channel of communication while those who reported just group discussions were represented by 12 percent. Those who cited use of one-on-one discussion at MCH/ANC, use of other mothers and use of public address during community outreach were represented by 1.6 percent. Those who cited use of one on one, group discussions, pamphlets, brochures and public address were also represented by 1.3 percent. Lastly those who used one-on-one and door to door discussions represented 2.8 percent, and especially during specific campaign schedules, particularly polio and epidemic outbreaks.

It is evident from the data collected that the most preferred source of communication between healthcare workers and women of reproductive age was a one-on-one communication. Although they may not spend so much time with them it provided a question and answer session on issues affecting the women on maternal health and child healthcare. The women reported to feel more at ease and could confide the healthcare provider during one-on-one discussions.

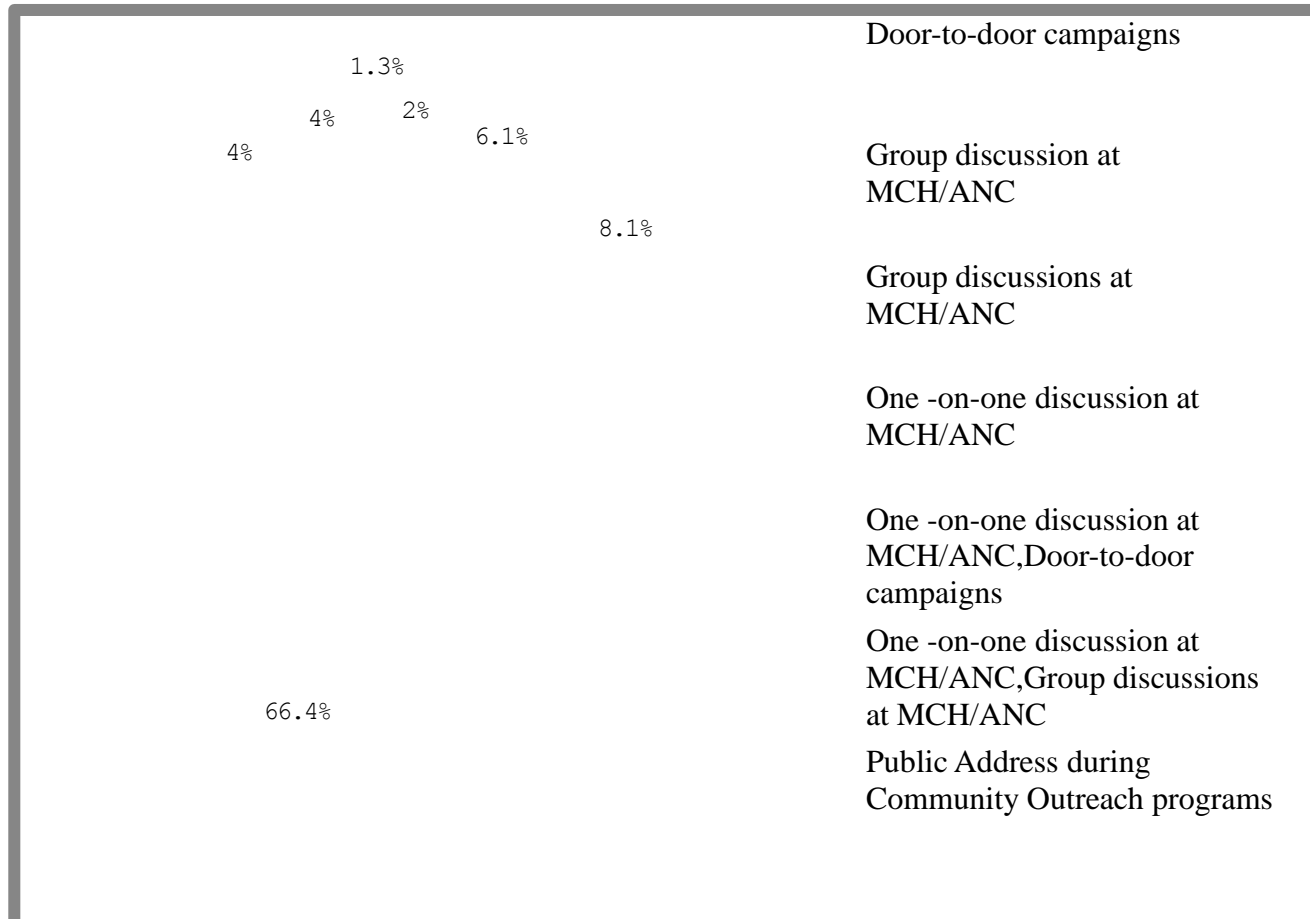
The paediatrician concurred with this, saying that the best and most effective channel of communication employed was a one-on-one discussion with the women of reproductive age.

*“The best and most effective channel of communication is a one-on-one discussion with the women. Group discussions also conducted with the women where they share information with each other and vernacular radio stations are also effective.”*

Of note from the data is the combination of various channels used to communicate. Whereas the women cited a one-on-one method, a combination of various other channels was evident in effective and widespread communication of maternal and child healthcare information.

### 4.3.2 Preferred modes of communication

Chart 4.10: showing the preferred modes of communication by the women



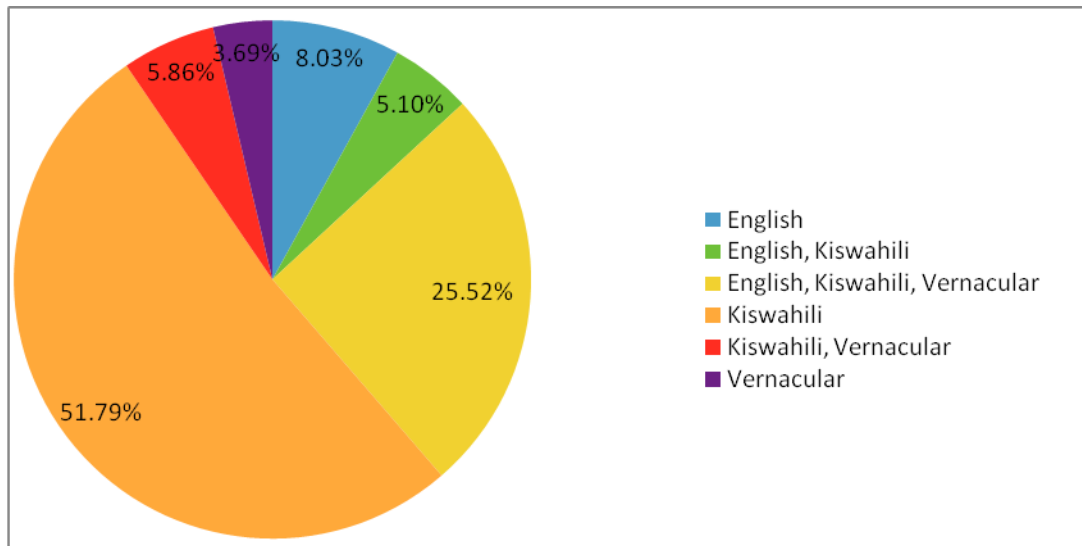
Source: *Researcher 2015*

One-on-one discussions at MCH/ANC is the most preferred mode of communication by the women of reproductive age at 66.4 percent while group discussions were second most preferred mode of communication. This underscores the importance that the women of reproductive age have attached to interpersonal communication. From the data analysed, the women preferred discussions with the healthcare workers.

### 4.3.3 Language used to communicate to the women of reproductive age

The respondents were asked to state the language used to communicate to them. Among the languages used were English, Kiswahili and Vernacular, or a combination of any of them.

**Chart 4.11: showing language used to communicate**



Source: *Researcher 2015*

Kiswahili was the most popular language used in communication, where more than half of the respondents (51.8%) stated it as the commonest language used. Those who used English only were represented by 8 percent of the respondents. Those who used English, Kiswahili and Vernacular in combination were represented by 25.5 percent while those who used Kiswahili and Vernacular were represented by 5.8 percent. Only 3.7 percent of the respondents used only their Vernacular language to communicate.

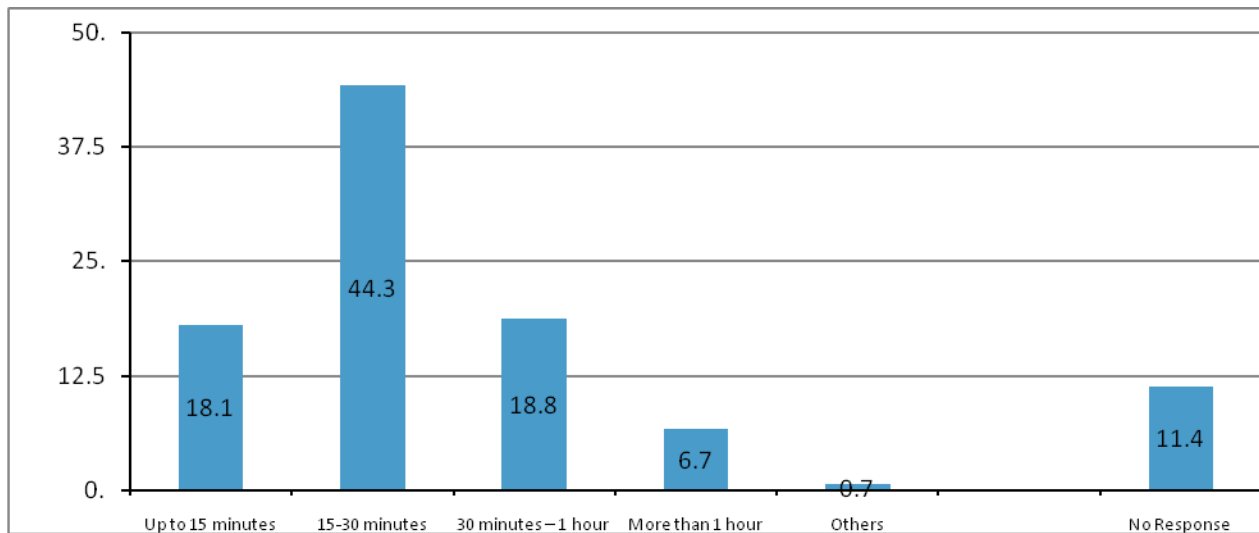
Since majority of the respondents were secondary school educated, closely followed by those who were primary school educated, or have never been to school, Kiswahili and Vernacular therefore were the most commonly used languages in their communication and therefore the

most effective in message conveyance and delivery. As noted from the study, several combinations of the Kiswahili language were employed by the respondents.

#### 4.3.4 Time spent by health workers to explain on maternal and child health related topics

The respondents were asked to indicate how much time healthcare workers took to communicate/educate them on maternal and child health care. The chart below shows how much time was used by healthcare workers to communicate to these women.

**Chart 4.12: showing time spent with health workers**



Source: *Researcher 2015*

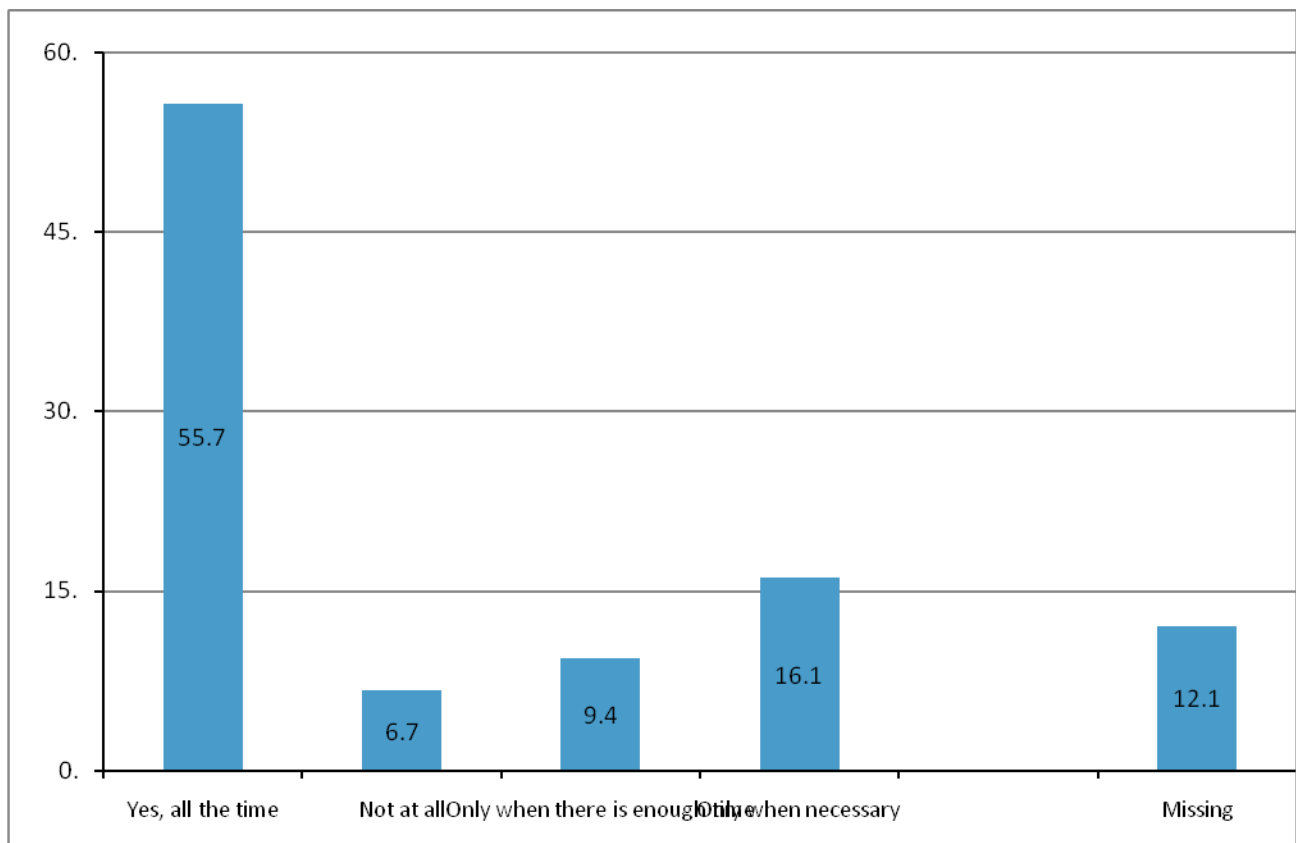
From the data, 44.3 percent of the respondents said that healthcare workers spent an average of 15-30 minutes with them on maternal and child healthcare discussions. 18.8 percent spent 30 minutes to 1 hour, almost the same percentage as those that spent up to 15 minutes with health care workers. Those who used more than one hour were represented by 6.7 percent while only 0.7 percent did not specify how much time they spent with health workers. WHO recommends

that healthcare workers should attend to 3-4 patients per hour in order to give effective and quality services. From the study, an average of 2-4 women was attended to in 1 hour, which is in keeping with the WHO standards. This explains why women throughout this study reported healthcare workers as the source of information on maternal and child health.

#### 4.3.5 Engagement with health workers during these MCH clinics

This question sought to find out how often the women of reproductive age engaged with the health workers during MCH clinics visit.

**Chart 4.13: Engagement in interactive discussions with healthcare and respondents**



Source: *Researcher 2015*

Majority of the respondents said that they engaged with the health workers all the time during the MCH clinic visits. These were 55.7 percent of the women of reproductive age. 16.1 percent of

the respondents reported to engage with the healthcare workers only when necessary and 9.4 percent engaged interactively when they had enough time. Only 6.7 percent reported not to engage at all with the healthcare workers, while 12.1 percent had no response.

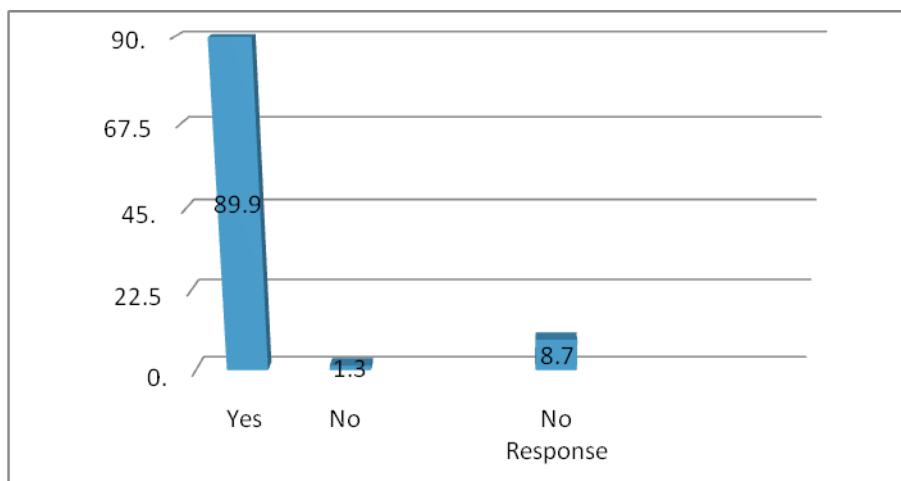
According to the nurse, women were encouraged to get information from the healthcare workers and to ask them to clarify any issues or information that was not clear, as this was their only way to get maximum help from the healthcare workers when they needed it.

*“Women coming to the clinics are encouraged to get information from their healthcare providers so that they get maximum help. The women also trust the healthcare workers, and therefore trust the information from them.”*

#### 4.3.6 Understanding of information given by health workers

This question wanted to gauge whether the information given by the health workers was well understood by the respondents. The chart below shows how they responded.

**Chart 4.14: showing understanding of information given by health care workers**



Source: *Researcher 2015*

Majority of the respondents, about 90 percent said that they understood the information relayed to them by healthcare workers. This, the women attributed to the language used, the time spent by the healthcare workers with the respondents and the use of one-on-one discussions as noted from the data in this study. It was only 1.3 percent of the respondents who said they did not understand the information given to them by health workers.

*“The health workers engage a lot with the women of childbearing age, this is in order to offer advice on the issues that affect women most among them, family planning, and antenatal care, hospital delivery, immunisation of their children and the effect of breastfeeding exclusively for the first six months.”*

#### **4.4 Effectiveness of communication between women and health workers**

This section sought to find out the effectiveness of the modes of communication used in maternal and child healthcare.

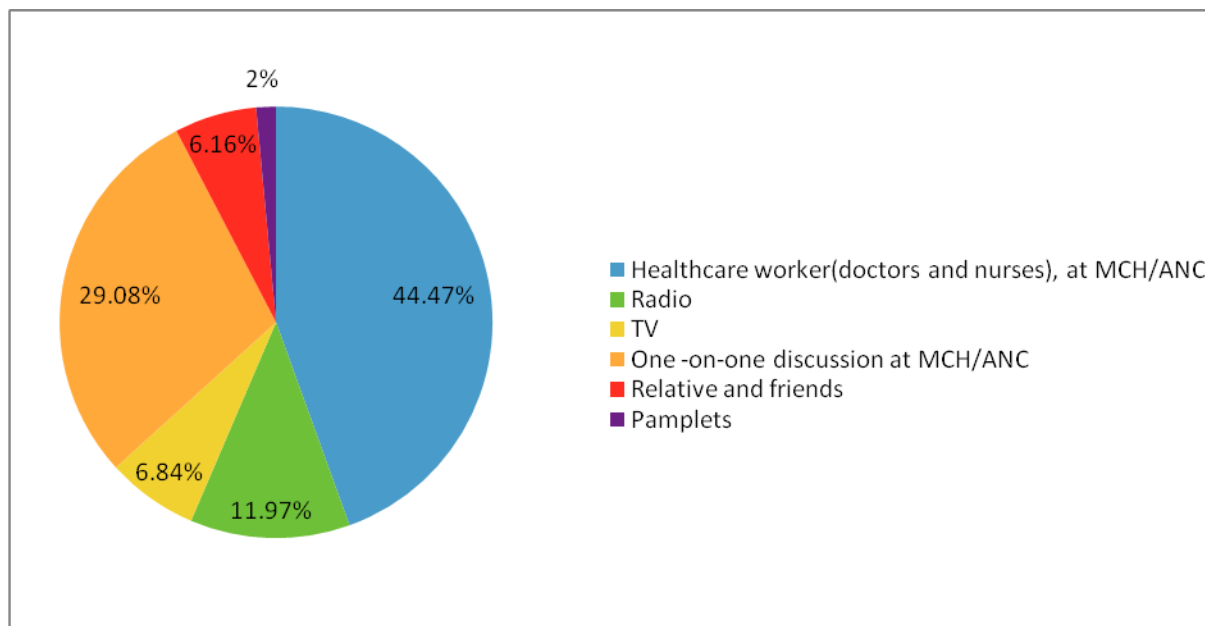
##### **4.4.1. The most effective channel of communication on maternal/child health**

Various channels of communication were used between the health workers and women in Machakos Hospital. The effectiveness of the tool was determined by how the women would pick such information communicated and use or share it with other fellow women of reproductive age.

Here is the chart showing the tools and their effectiveness.



**Chart 4.15: showing effectiveness of communication on maternal/child health**



Source: *Researcher 2015*

Healthcare workers and one-on-one discussions at MCH clinics were cited as the most effective mode of communication by the respondents. This was represented by 44.5 and 29.1 percent of the respondents respectively. Radio and TV were also used and were represented by 12 percent and 6.9 percent respectively. Use of relatives and friends were represented by 6.2 percent.

From the data analysed it can be deduced that healthcare workers and one-on-one communication was the most effective mode of communication in maternal and child healthcare. This is attributed to the interpersonal nature of communication, use of a language that the woman will be conversant with and an interactive engagement between the healthcare worker and the woman. The level of trust given to the healthcare workers by the women allows for opportunities for appropriate messages to be disseminated.

The ministry of health in Machakos also confirmed this through the interviews carried out where all the interviewees agreed that one-on-one interaction between healthcare workers and the

women of reproductive age is the most effective mode of communication because the health workers communicate in a language that the women can understand hence provide instant solutions to their problems relating to maternal or child care health. The women are reported to tend to trust relatives and friends and a one-on-one discussion with doctors or nurses in clinics

Other channels that they said they employed is use of posters that are displayed on the notice boards in hospitals and clinics as well as electronic media that include radio and TV, the later of which are mainly employed by the National Government Ministry of Health..

The nurse and the clinical officer said that the evidence of the effectiveness of communication has been an increase of child births in the hospital.

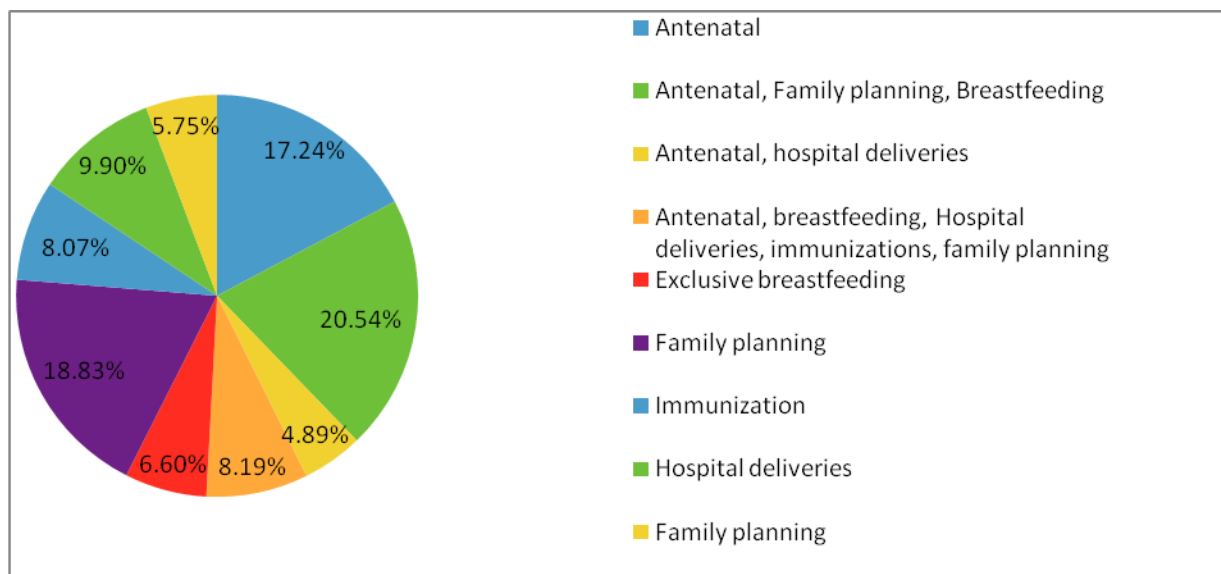
*“Previously, we had 400 births a month to 900, which is more than double. This is due to educating women on the importance of hospital delivery. There was also noted increase in attendance of maternity although ANC and immunisation has not changed. This could be due to various socio-economic challenges amongst them being poverty.”*

The health ministry official had this to add in regard to effectiveness of the communication;

*“We need a department of health communication to tackle health matters which in my view are special therefore requiring special attention. The demand for not only availability of services but quality services as evidenced by the number of deliveries calls for proper health information dissemination by the county.”*

### 4.4.3 Most aspects of maternal and child healthcare communicated frequently

**Chart 4.16: showing aspects of maternal and child healthcare most communicated**



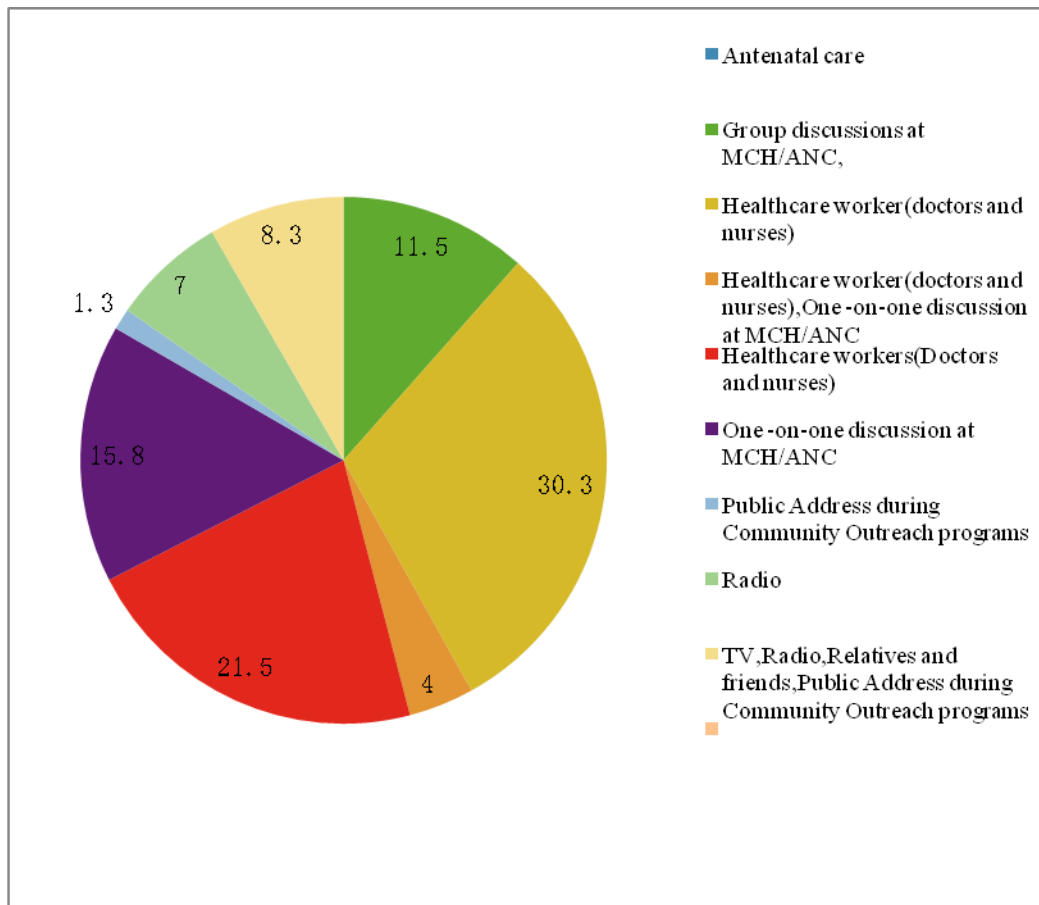
Source: *Researcher 2015*

The most communicated aspect of maternal and child healthcare according to this study findings were matters relating to antenatal care, family planning, and breastfeeding, represented by 20.5 percent of the respondents. Communication on family planning alone was represented by 18.8 percent of the respondents followed by antenatal care at 17.2 percent. Exclusive breastfeeding was represented by 6.6 percent while Family planning was 18.8 percent. Communication on matters of hospital delivery was at 9.9 percent, immunization only was represented by 8 percent of the respondents and lastly, exclusive breastfeeding was at 6.6 percent.

These findings explain the responses earlier in the study where the women of reproductive age responded positively to whether they knew about aspects maternal and child healthcare like

family planning, antenatal care, immunizations, hospital deliveries and exclusive breastfeeding. These are the five aspects of maternal and child healthcare that formed the scope of this study in assessing the role of communication in maternal and child healthcare. Communicating these aspects to the women equips them with knowledge on them in order to make decisions that ultimately affect their healthcare outcomes (WHO 2011).

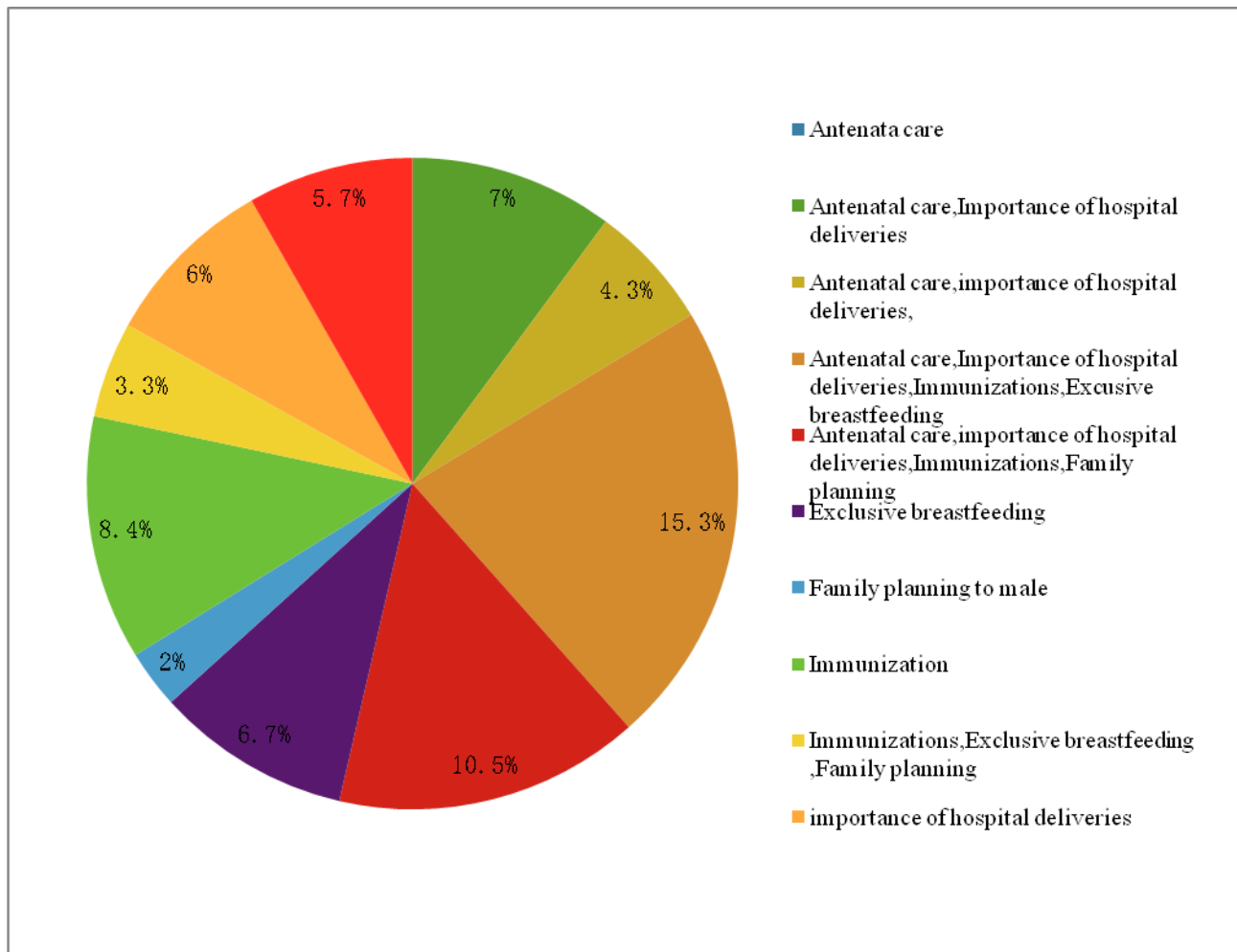
**Figure 4.17: modes of communication are mostly used**



Source: *Researcher 2015*

Healthcare workers (doctors, nurses) were the most commonly used mode/source of information at 30.3 percent.

**Chart 4.18: The least Communicated aspect of maternal and child healthcare**

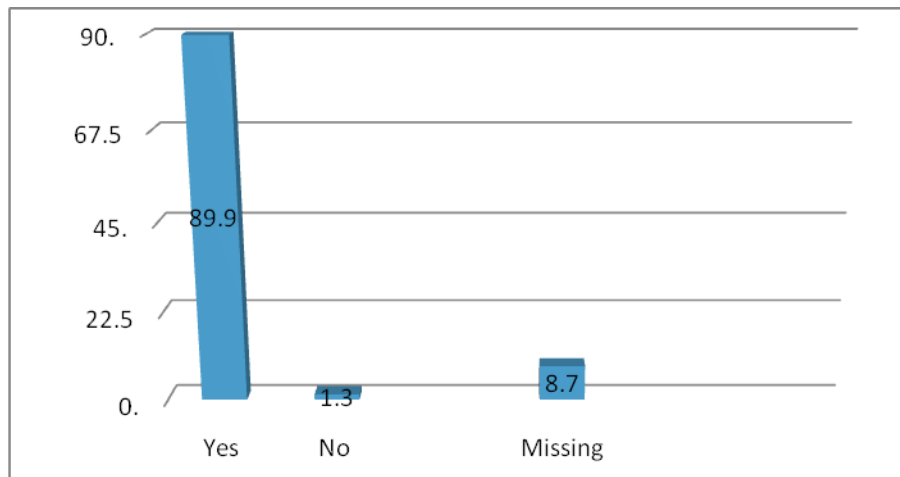


Source: *Researcher 2015*

A combination of antenatal care, importance of hospital deliveries, immunisation and exclusive breastfeeding were noted to be the least communicated indicators of maternal and child healthcare. Antenatal care alone was at 2 percent, meaning it was amongst the most communicated aspect of maternal and child healthcare.

#### 4.4.6 Information passage to relatives and friends

**Chart 4.19: showing passage of information to relatives and friends**



Source: *Researcher 2015*

89.9 percent of the respondents said that they shared information with relatives and friends while only 1.3 percent of the respondents said that they did not share such information with relatives and friends. 8.7 percent of the women opted not to answer this question. This was attributed to the fact that most respondents said that they understood the information relayed to them mainly by the healthcare workers and hence ease of passage of the same to their relatives and friends, and therefore other mothers.

#### 4.4.4 Understanding the information passed on

The respondents were asked whether the information they passed on was used by the rest of the people they shared it with. This is illustrated by the chart below.

**Table 4.10.2: showing understanding of information given**

<b>Understanding of information</b>	<b>Frequency</b>	<b>Percent</b>
Yes	244	81.3
No	56	18.7
<b>Total</b>	<b>300</b>	<b>100</b>

Source: *Researcher 2015*

Majority of the respondents said that 81.3 percent of the people with whom they shared the information used it, while only a few 18.7 percent, said that it was not used. This illustrates that the informants have well understood the message and information for them to successful convey it to someone else who will equally understand the information. Those that did not pass the information reported to not have understood, no one approached them seeking the information or they simply did not see the need to pass this information.

As much as the women of reproductive age would understand most of the messages given, some of the communication tools were found not to be effective. Among the channels to be discontinued as suggested by the healthcare workers interviewed, were barazas and health outreaches that are only attended by those who need the service.

*“Barazas and health outreaches may no longer be relevant in this digital age. These can be discontinued, use of mass media, workshops and seminars for the health workers and community health providers whom the women relied on can be encouraged and improved.”*

## CHAPTER FIVE

### SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

#### 5.1 Summary of key findings

After close analysis and presentation of the data collected on the role communication plays in maternal and child healthcare outcomes in Machakos County, here is the summary of data presented.

##### 5.1.1 Knowledge levels on maternal and child healthcare

Data analyzed indicated that women of reproductive age in Machakos County were aware about maternal and child health care. The demographics showed that most of these women of reproductive age were in the age cohort of 25-29 and in a monogamous marital union with one to two children. They are hence aware about matters on family planning, antenatal care, hospital deliveries, exclusive breastfeeding and childhood immunizations. Data analysed indicated that most of the respondents had attained a secondary school education represented by 44.6 percent. This indicates that they would read and understand any information on maternal and child healthcare. These are among the eleven core indicators of maternal and child healthcare according to the World Health Organisation (2011), and the basis of the scope of the study.

The respondents were aware of the key indicators of maternal communication through various modes of communication, the most popular being interpersonal communication through healthcare workers on one-on-one discussions at the MCH clinics and also through relatives and friends. The use of experienced mothers who shared their knowledge and experience on maternal and child healthcare to other younger women of reproductive age was also reported. Various aspects of face-to-face interpersonal communication make it more salient and effective e.g. non-verbal cues



allows the communicator to gauge reception of the information in real time and they can therefore respond accordingly, not forgetting that dialogue can emerge, and hence one can easily be convinced of the message being delivered.

Interpersonal communication in healthcare matters, which most people consider very personal, therefore cannot be belittled. Other popular channels of communication through mass media (TV, Radio, print media) were also key in information dissemination to the women. Total fertility rate nationally has been on a steady decline from 1978 at 8.1 to 3.9 in 2014, the lowest recorded statistic (KDHS). This low average from the study can be attributed to the education level of the women at secondary level, where women can read and write, access information and make decisions on their fecundity. The high number of women aware of maternal and child healthcare can be attributed to the education levels, and hence an ability to read, write and comprehend information, and also that most of the women of reproductive age were of the cohort between 25-29 who are more mature women.

### **5.1.2 Existing modes of communication between maternal and child healthcare providers and women of reproductive age**

From the data, there were existing modes of communication, the most common being healthcare workers (doctors and nurses). This provided the most articulate mode of communication since it was mainly on a one-on-one interpersonal communication hence the respondents could ask questions and get answers on maternal child and health care promptly. The respondents also said they got such information from relatives and friends, another aspect of interpersonal communication.

Radio, TV and print media were also cited, though by a few of the respondents. Among the information picked from mass media were on family planning, antenatal care clinic visits, hospital deliveries, exclusive breastfeeding for the first six months and following up on immunization through programs aired on radio and TV. Posters, pamphlets and brochures were reported to be accessed at the MCH or ANC clinics during routine visits.

Door-to-door channels of communication were reported to be employed during specific campaigns e.g. on Polio, and this was only applicable to women who needed this information, hence limited in reach.

### **5.1.3 The effectiveness of the different types of communication used in maternal child and health care communication**

The study found that health workers were the most effective mode and channel of communication in maternal and child healthcare due to a one-on-one personalised interaction and the amount time healthcare workers dedicated per woman, which was on average 15-30 minutes for a majority of them. The respondents also revealed that they would engage with healthcare workers all the time or when necessary, hence affording them the opportunity to raise and clarify issues. WHO recommends that a healthcare worker, for effective service delivery, spend 15 to 20 minutes per patient. From the study, this was the case. The Ministry officials, including the MCH clinic care providers reported an increase in hospital deliveries, which they pointed out as evidence of effective communication on maternal and child healthcare.

Electronic media, i.e. radio and TV were other types of communication used due to availability and accessibility. Though the study found that Kiswahili the most popular language in communication, vernacular radio stations were reported to be the most popular with the women,

hence message delivery was in a language that the target audience comprehends best, and hence the effectiveness in message delivery. The limitation however was that mass media is impersonal and will therefore not address issues on the spot when need arises. From the study, the most communicated information was on family planning and antenatal care. The effectiveness of this communication is noted by the women's parity of 1-2 children which is below the national Total Fertility Rate of 3.9 as per KDHS (2014). The least communicated indicators of maternal and child healthcare was on exclusive breastfeeding, hospital deliveries and childhood immunisations.

From the social cognitive theory, learning occurs in a social context and through observation (Bandura 1986). The theory explains the human behaviour depending on the information available and the context within which this information is shared. From the findings, it can be deduced that the women of reproductive health considered health workers and other relatives and friends to be more credible and trustworthy in giving information on maternal and child healthcare. Hospitals are considered to be social settings within a locality hence when they visit them, they would get such information. Family is a social gathering within which there are experienced mothers who share information on maternal health with young women of reproductive age. Social cognitive theory also talks about human behaviour and how learning occurs within a social setting (Bandura 2001). Most behaviour tends to be copied or influenced from one person to another. In hospitals on other social settings like the family, women would tend to copy and apply such behaviours they felt were good in improving their knowledge on maternal health and child care.

People tend to learn behaviour mostly through observation. McQuail (1994) in his description of the uses and gratification theory elaborates that users tend to use different type of media as long

as they would make them satisfied and feel fulfilled. The women of reproductive age in Machakos used various types of channels of communication to get information as long as such channels would give them the gratification and security they sought. The respondents would use the channels and types of communication they would deem trustworthy to get most information on maternal and child healthcare. The study found that this was through healthcare workers and relatives and friends and even discussions with their partners on family planning methods. Without family planning discussions for example, partners might end up bearing children that the other partner might not be able to take care of. Discussing this with their partners for example helps them to make the best decision on what contraceptive method to use. It is therefore crucial for partners to share such information. This will also help the already born children be raised in the best way possible by the two partners.

Knowledge on aspects of maternal and child healthcare and the perceived benefits led to behavioural change as noted in this study where the number of hospital deliveries have more than doubled from 400 per month previously to about 900 currently. One of the goals of the Health Belief Model is to change perceptions of susceptibility in order to move towards behavioural change (Burke, 2010), as is evidenced in this study. Noted also is the knowledge on childhood immunisations by the women, and subsequent action of taking their children for immunisation against childhood illnesses. The perceived threats to the child's life and the perceived benefits of immunisation as is communicated to the mothers gives them reason to act by taking their children for immunisation, and also disseminate this information to other women, relatives and friends. This applies to knowledge on exclusive breastfeeding, family planning, antenatal care clinics amongst other core indicators of maternal and child healthcare (WHO, 2011).

## **5.2 Conclusion**

Maternal and child health care is very important for the protection and reduction of maternal and child morbidity and mortality rates in the country. Communication of such information is also supposed to be timely and properly communicated in a language and mode that the recipient understands to ensure that women get the correct information.

There are various tools of communication used. The effectiveness of such tools depend on how the recipient of the information given comprehends and responds to it, whether positively or negatively. These tools include interpersonal communication channels through healthcare workers or friends and relatives, mass media channels through electronic media such as TV and radio or print media like newspapers, magazines, posters, brochures or any other printed material. The most effective mode of communication, as the study found was interpersonal communication through healthcare workers' interaction with the women in the clinics, hospital visits when sick and during door-to-door campaigns during specific campaigns. Other interpersonal means through relatives and friends were also popular.

Lastly, well understood information led to use of the same and sharing amongst various other women hence the information is spread amongst themselves and other immediate relatives and friends.

## **5.3 Recommendations**

### **5.3.1 Recommendations for Policy**

The study has revealed that there is a similarity between the national government and county governments' policies. Most policies however are donor driven and both national and county government do not have their self-driven policies. These need to be developed.

While we appreciate the efforts applied to enhance communication in reducing maternal mortality rates in the country, there is much that needs to be done for improvement. From the discussions above, it was found out that most women preferred a one-on-one engagement with the healthcare workers. There needs to be a paradigm shift from this because they can only be with health workers for limited periods of time and in hospital settings. Women need to start being educated about other credible channels of communication available and accessible to them. Due to the limited number of health workers per square kilometre other forms of media to communicate needs to be introduced by the Ministry of Health and the county governments. This will ensure wider coverage and accurate information dissemination to the target audience, who in this case are the women of reproductive age.

Majority of women cited healthcare workers as the most effective mode of information. These healthcare workers should get regular training through workshops and seminars on maternal and healthcare to ensure that they are up to date with their information. This ensures uniformity of information disseminated to all women not only in a county but across the country. These training should also encompass communication skills for healthcare workers so that they are better communicators and educators on maternal and child healthcare.

Finally, Machakos County does not have a working health communication department to address the communication challenges and needs within the county. This needs to be established and set

up as a conduit to implementing health communication policies in order to have improved outcomes on maternal and child healthcare.

### **5.3.2 Recommendations for further research**

This study had limited scope as earlier outlined. The study identified a few gaps for further research in order to address emergent issues from the study. These are:

The study recommends further research on the impact of specific channels of communication, especially communication through healthcare workers, in improving the maternal and child healthcare and whether use of such channels have directly or indirectly impacted on the reduction of maternal mortality rates as well as childhood morbidity and mortality rates.

The study found out that most of the policies used in county level were from the national government and have not been modified in line with the counties. A study has not yet been conducted on the impact of those policies in improving maternal and child health care. It is hence appropriate for a study to be carried out on the same to analyze the impacts of such policies.

There is need to carry out research in rural areas of Machakos County and do a comparative study, since this research was only limited to Machakos Municipal, an urban region. Research could also be extended to the private health facilities within the county.

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**APPENDIX I**  
**QUESTIONNAIRE**

**SECTION ONE: SOCIO-DEMOGRAPHIC CHARACTERISTICS**

1. Please state your age (Please tick):

- 1. 15 -19
- 2. 20-24
- 3. 25-29
- 4. 30-34
- 5. 35 - 39
- 6. 40-4s4

2. What is your education level?

- 1. No Education
- 2. Primary
- 3. Secondary
- 4. Tertiary and higher

3. What is your marital status?

- 1. Single
- 2. Monogamous Marriage
- 3. Polygamous Marriage
- 4. Divorced
- 5. Widowed
- 6. Separated

4. How many children have you given birth to?

1. None

2. 1-2

3. 3-4

4. More than 5

5. Has any of them passed?

1. Yes

2. No

6. a) If No to Q5, move to Q7.

b) If yes to Q5 above, at what age did they die? \_\_\_\_\_

## SECTION TWO: KNOWLEDGE OF MATERNAL AND CHILD HEALTH CARE

7. Do you know about maternal health care?

1. Yes

2. No

8. a) If NO to Q7, move to Q9.

b) If YES, through which channel of communication did you know?

1. TV

2. Radio

3. Relatives and friends

4. Healthcare workers (Doctors and nurses)

5. Others (please specify) \_\_\_\_\_

9. Do you know about antenatal care clinics (ANC)?

1. Yes

2. No

10. a) If NO to Q9, move to Q11.

b) If YES to Q9, how did you know about these clinics?

1. TV

2. Radio

3. Relatives and friends

4. Healthcare workers (Doctors and nurses)

5. Others (please specify) \_\_\_\_\_

11. Do you know about delivering in hospital?

1. Yes

2. No

12. a) If NO to Q11, move to Q13

b) If YES, how did you know about this?

1. Family and friends

2. Healthcare workers (Doctors/nurses)

3. Attending ANC clinic

4. I got complications at home

5. TV/Radio/Newspapers/Magazines/Internet (Specify) \_\_\_\_\_

6. Others (specify) \_\_\_\_\_

13. Do you know about any contraceptive (family planning) method?

1. Yes

2. No

14. a) If NO to Q13, move to Q15.

b) If YES to Q13 above, how did you know about family planning methods (tick where appropriate)?

1. TV

2. Radio

3. Relatives and friends

4. Healthcare workers (Doctors and nurses)

5. Others ( specify) \_\_\_\_\_

15. Have you had discussions with your partner about family planning options?

1. Yes

2. No

16. Do you know about exclusively breastfeeding your child for 6 months?

1. Yes

2. No

3. I have no child

17.a) If YES to Q16, how did you learn about this exclusive breastfeeding?

- 1. TV
- 2. Radio
- 3. Relatives and friends
- 4. Healthcare workers (Doctors and nurses)
- 5. Others (please specify)\_\_\_\_\_

b) If NO to Q16, explain \_\_\_\_\_

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18. Do you know about children's immunization/vaccination?

- 1. Yes
- 2. No

19. a) If NO to Q18, move to Q21.

b) If YES to Q18, how did you learn about immunization/vaccination for children?

- 1. TV
- 2. Radio
- 3. Relatives and friends
- 4. Healthcare workers (Doctors and nurses)
- 5. Others (please specify)\_\_\_\_\_

20. a) Have you taken your child/children for immunization/vaccination?

- 1. Yes
- 2. No

b) If YES which immunization/vaccinations? (tick where appropriate)

- 1. BCG
-



2.OPV

3.DPT

4.Measles

5.Others(Specify)\_\_\_\_\_

**SECTION THREE: MODES OF COMMUNICATION BETWEEN HEALTHCARE PROVIDERS AND THE WOMEN**

21. How do healthcare providers (doctors/nurses), communicate with you? (Tick appropriately)

1. One-on-one discussions at MCH/ANC

2. Group discussions at MCH/ANC

3. Pamphlets and brochures

4. Through other mothers

5. Posters/billboards

6. Public Address during Community Outreach programs

7. Door-to-door campaigns

8. Other (Please Specify)\_\_\_\_\_

22. Which of these methods of communication do you prefer?

1. One-on-one discussions at MCH/ANC

2. Group discussions at MCH/ANC

3. Pamphlets and brochures

4. Through other mothers

5. Posters/billboards

6. Public Address during Community Outreach programs

7. Door-to-door campaigns

8. Other (Please Specify) \_\_\_\_\_

23. Which language is used to communicate to you?

1. English

2. Kiswahili

3. Vernacular

4. Others (Specify) \_\_\_\_\_

24. How much time do the healthcare workers take to explain maternal and child health related topics to you in the clinics?

1. Up to 15 minutes

2. 15-30 minutes

3. 30 minutes –1 hour

4. More than 1 hour

5. Others (Specify) \_\_\_\_\_

25. Do you engage in interactive discussions with the healthcare workers during these MCH clinics?

1. Yes, all the time.

2. Not at all

3. Only when there is enough time

4. Only when necessary

26. a) Do you understand the information given to you by the healthcare workers?

1. Yes

2. No

b) Explain your answer in Q26 a) above. \_\_\_\_\_

**SECTION FOUR: EFFECTIVENESS OF COMMUNICATION**

27. In your view, which has been the most effective source of information on maternal and child related health?

- 1. TV
- 2. Radio
- 3. Relatives and friends
- 4. Healthcare workers (Doctors and nurses)
- 1. One-on-one discussions at MCH/ANC
- 2. Group discussions at MCH/ANC
- 3. Pamphlets and brochures
- 4. Through other mothers
- 5. Posters/billboards
- 6. Public Address during Community Outreach programs
- 7. Door-to-door campaigns
- 8. Others (please specify) \_\_\_\_\_

28. Which source of information do you most prefer?

- 1. TV
- 2. Radio
- 3. Relatives and friends
- 4. Healthcare workers (Doctors and nurses)

- 2. One-on-one discussions at MCH/ANC
- 3. Group discussions at MCH/ANC
- 4. Pamphlets and brochures
- 5. Through other mothers
- 6. Posters/billboards
- 7. Public Address during Community Outreach programs
- 8. Door-to-door campaigns
- 9. Others (please specify)\_\_\_\_\_

29. Which of the following aspects of Maternal and Child Healthcare are **MOST** communicated to you?

- 2. Antenatal care
- 3. Importance of hospital deliveries
- 4. Immunizations
- 5. Exclusive breastfeeding
- 6. Family planning
- 7. Others \_\_\_\_\_

30. Which mode(s) of communication is most used for your answer in Q29?

- 1. TV
- 2. Radio
- 3. Relatives and friends
- 4. Healthcare workers (Doctors and nurses)
- 10. One-on-one discussions at MCH/ANC
- 11. Group discussions at MCH/ANC

- 12. Pamphlets and brochures
- 13. Through other mothers
- 14. Posters/billboards
- 15. Public Address during Community Outreach programs
- 16. Door-to-door campaigns
- 17. Others (please specify)\_\_\_\_\_

31. Which of the following aspects of Maternal and Child Healthcare are **LEAST** communicated to you?

- 1. Antenatal care
- 2. Importance of hospital deliveries
- 3. Immunizations
- 4. Exclusive breastfeeding
- 5. Family planning
- 6. Others \_\_\_\_\_

32. Do you pass information you get on maternal and child health to your relatives and friends?

- 1. Yes
- 2. No

33. a) If YES to Q32 above, do they understand the information you give?

- 1. Yes
- 2. No

b) If No to Q32, explain your answer.

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## **APPENDIX II**

### **INDEPTH INTERVIEW QUESTIONS**

#### **PART ONE: KNOWLEDGE LEVELS OF MATERNAL AND CHILD HEALTHCARE**

1. What is the literacy level among the women of reproductive age that attend clinics in this region?
2. Do women of reproductive age know about maternal and child healthcare? Explain.

#### **PART TWO: MODES OF COMMUNICATION BETWEEN HEALTHCARE PROVIDERS AND THE WOMEN**

3. What communication modes are employed by the Ministry of Health (at both national and county) in promoting maternal and child health care? Explain.
4. What modes of communication are the women more conversant and comfortable with? Explain.

#### **PART THREE: EFFECTIVENESS OF COMMUNICATION**

5. Have communication strategies been effective in communicating to the women of reproductive age? If so, how?
6. What communication strategies should be discontinued in promoting maternal and child healthcare?