

**INFLUENCE OF MASS MEDIA ON CONTRACEPTIVE USE AMONG KENYAN
WOMEN**

BY

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DECLARATION

This research project is my original work and has not been presented for a degree award in this or any other University.

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DEDICATION

To my family, relatives and friends

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ABSTRACT

The objective of the study was to establish the relationship between mass media and modern contraceptive use among women in Kenya. Data drawn from the 2008/09 KDHS was used and 5679 women of reproductive age provided the sample for the study.

The study used descriptive statistics, cross tabulations and logistic regression for data analysis. The results indicated that 31 percent of the women were using contraceptives. Sixty six percent of women, forty percent of women and thirty six percent of the women were exposed to family planning messages on the radio, television and newspapers respectively. Results of cross tabulations indicated that women who were exposed to family planning messages on the three mass media variables were more likely to use modern contraceptives. In addition more educated women as well as those belonging to households with higher wealth index were more likely to use modern contraceptives. The results showed that women in their thirties, married women and women with more living children were likely to use modern contraceptives.

The logistic regression analysis results show that hearing family planning messages on the radio had significant effect on modern contraceptive use. Women who heard family planning messages on the radio were 1.4 times more likely to use modern contraceptives. The study recommended that relaying of family planning information through radio be intensified in Kenya. The study also recommended that further studies be conducted to determine why the mass media variables of television and newspapers are not significant in determining modern contraceptive use in Kenya and yet very influential in family planning uptake in other countries.

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CHAPTER ONE

INTRODUCTION

1.1 Introduction

Governments facing the challenge of burgeoning population around the world have put in place various strategies and policies to increase the uptake of contraceptives and thereby increase contraceptive prevalence rate, reduce birth rates and reduce sexually transmitted diseases. Several studies provide evidence that the exposure of individuals to mass media messages, promoting family planning influences contraceptive behavior (Piotrow, Rimon, Winnard, Kincaid, Huntington and Convisser, 1990; Bankole, Rodriguez and Westoff, 1996 and Westoff and Bankole, 1997).

United Nations Educational, Scientific and Cultural Organization (1969), states that family planning education and motivation are largely matters of communication and because family planning is usually a national goal it is relevant to think in terms of nationwide mass communication in addition to individual personal communication. The use of contraception which is a part of the larger family planning project in a country can only be successful if the people are made aware of the need for family planning and given all the information about its principles and practice. The people should have the opportunity to evaluate the information and services offered and try out the methods suggested. It is after such trial that the adoption of family planning methods and their continuation becomes a habitual practice (UNESCO, 1969).

The mass media is useful and perhaps indispensable in creating and maintaining awareness and giving information. The experiences in countries such as Korea showed that mass media can be useful in correcting misconceptions that may arise and help in continually reassuring people of the safety and legitimacy of the family planning measures that they have adopted. Bankole et al (1996) established that in Nigeria the use of modern contraception, intent to use and desire for fewer children were found to be associated with exposure to media messages on family planning. Jato, Simbakalia and Tarasevich (1999) conducted a study in Tanzania and found that women exposed to a mix of media promoting family planning were more likely to use family planning and therefore contraception. According to Ryerson (1999), the reproductive health area has benefited immensely from mass media messaging and particularly in the developing world.

Family planning programs and contraceptive use are vital to national and world development and are not an isolated activity. They are bound up with the development of a country through health, education, industrial development, housing, the improvement of roads and services and a part of development in itself by affecting the standard of living, employment and the supply of food (UNESCO, 1973).

World Health Organization (2012) states the benefits of contraceptive use as being: prevention of health related risks such as high risk pregnancies and allows for spacing between births and hence improves the health and wellbeing of families. The use of contraceptives also reduces the need for unsafe abortion, it also helps avoid health related risks associated with early pregnancies and late pregnancies. Contraceptive use can also prevent deaths among infants which is sometimes caused by closely spaced and ill-timed pregnancies among women due to lack of proper family planning. Contraceptive use also enhances education and empowers women enabling them to make the right decisions about child bearing as well as increase their earning power through employment. Contraceptive use is also beneficial to a country by slowing its population growth rate. When the population growth rate of a country is reduced the economic development is spurred and the government is able to invest and grow the economy and subsequently reduce hunger, poverty and insecurity. Contraceptive use also helps prevent sexually transmitted diseases including HIV/AIDS.

The Kenya government adopted a population policy in 1967 and thereafter a national family planning programme was launched. The programme emphasized on the reduction of family size and spacing of children to lower the population growth rate. From that time the knowledge of family planning methods has increased steadily and fertility has declined drastically from a high of 8.1 in 1979 to 4.6 children per woman in 2008-2009 (Republic of Kenya, 2012). Analysis of Kenya Demographic and Health of 1989 established that contraceptive prevalence was high among women who recalled hearing or seeing family planning messages in three media (radio, print and television), compared to those who did not recall any family planning messages in the media (Jato et al, 1999).

As at 2008-09 the contraceptive prevalence in Kenya stood at 46 percent which is still low and the total fertility rate was 4.6 births per woman which is very high considering that the 1993 Kenya's demographic and Health Survey showed that Kenya had achieved a phenomenal decline in fertility which was lauded globally.

Westoff and Rodriguez (1995) acknowledge that the family planning programme in Kenya has for a long time used mass media to promote family planning in Kenya. Ryerson (2011) has stated that in the past television and radio programs on family planning in Kenya were very popular that they increased the use of contraceptives. Crichton (2008) also notes that the social norms in favour of small families through the media had increased the use of contraceptives in Kenya.

1.2 Problem Statement

The influence of mass media on contraceptive use is based on the idea that mass media can help initiate behavioral changes that can lead to widespread use of birth control and consequently a shift from families with many children to families with few children (Cleland and Wilson, 1987). It is hinged on the notion that ideational mechanisms play a major role in family changes and fertility transition.

Anderson (1986); Cleland and Wilson (1987); Montgomery and Casterline (1993), propose that the diffusion of new technology and new ideas affect a couple's child bearing behavior. The new technology that they alluded to was the mass media consisting mainly of the radio, television and newspapers. According to UNESCO (1969), the mass media is characterized by efficiency and superiority in creating awareness and conveying information and knowledge about contraceptive use to the public at large.

Since independence, the Kenyan government has recognized that population management is key in the realization of sustained socio economic development. The government has therefore put in place various strategies and policies to increase the contraceptive prevalence rate (Republic of Kenya, 2003; 2007; 2008). According to Republic of Kenya (2012) Kenya is characterized by a persistent relatively high fertility which is contrary to expectations after having experienced a rapid fertility decline between 1979 and 1998 when the TFR declined from 8.1 births per woman to 4.7 births per woman. From 1998 onwards the birth rate of Kenya has stagnated (Republic of Kenya 2012). The contraceptive prevalence rate has increased gradually over time but is still low

at 46 percent whereas the family planning knowledge is high at 95 percent. There exists therefore a very wide knowledge practice gap. There is need to increase contraceptive uptake campaigns in Kenya and more needs to be known on the influence of mass media channels on contraceptive use. An important policy question has remained that which better access to contraceptives can increase their uptake, thereby accelerating the process of fertility decline (Bongaarts et al., 1990; Bongaarts, 1994; Printchett, 1994). The research study explores the roles of mass media channels of radio, television and newspapers as diffusers of family planning messages that promotes contraceptive uptake.

Several studies provide evidence that the mass media is useful in influencing contraceptive behavior (Witwer, 1997; Bankole et al, 1996; Olaleye and Bankole, 1994; Gupta et al, 2003 Westoff and Rodriguez, 1995). Witwer (1997) conducted studies in Burkina Faso, Ghana, Kenya, Madagascar, Zambia and Namibia and found that women who are exposed to family planning messages on the media were more likely to use and intend to use a contraceptive method. Bankole et al (1996) conducted a study in Nigeria and found that contraceptive use and intention to use were positively associated with exposure to mass media messages. These studies have generally documented that exposure to family planning mass media messages are associated with the use and intention to use contraceptives.

Westoff and Rodriguez (1995) examine the effect of mass media on family planning in Kenya by analyzing the 1989 Kenya Demographic and Health Survey. They found a strong statistical association between women's reports of having heard or seen messages about family planning and their use of contraceptives. Siringi (2006) conducted a study on the effects of mass media on contraceptive use in Kenya and acknowledged that few studies had been conducted to understand the effect of mass media on contraceptive use. The study utilized data from the 2003 KDHS. The study by Siringi (2006) found that access to mass media influenced contraceptive use among women in Kenya.

This research endeavours to contribute to the area of promoting uptake of contraceptives by examining the roles that the individual mass media components of radio, television and newspapers play on contraceptive uptake in Kenya taking into account other socio economic and

demographic variables. It has utilized the KDHS 2008-09 data that was more detailed and interviewed a larger number of women compared to the previous surveys.

1.3 Research Questions

The research questions of the study are:

- 1) What is the association between mass media, socio economic and demographic factors and contraceptive use in Kenya?
- 2) What is the relative effect of mass media components of radio, television and newspapers on contraceptive use in Kenya?

1.4 Objectives of the Study

1.4.1 General Objective

The general objective of the research study is to examine the influence of mass media on contraceptive use in Kenya.

1.4.2 Specific Objectives

The specific objectives of the study are:

- 1) To establish the association between mass media, socio economic and demographic factors and contraceptive use in Kenya;
- 2) To determine the relative effect of mass media components of radio, television and newspapers on contraceptive use in Kenya.

1.5 Justification

The study of the influence of mass media on contraceptive use in Kenya endeavored to show how mass media influences the use of contraceptives in Kenya. The use of contraception falls within the family planning program of the government which is an integral part of the package of health, nutrition and health education.

The Kenya's long term development plan known as Vision 2030 recognized that rapid population growth could derail progress in reaching the goal of achieving a high quality of life for all Kenyans that is sustainable with available resources. The government consequently put in

place various strategies and policies to facilitate the use of family planning services as a step towards increasing contraceptive prevalence rate and slowing population growth.

The understanding of the influence of mass media on contraceptive use in developing countries like Kenya which are characterized by high fertility rates and low contraceptive prevalence rate cannot be underestimated. The understanding of the extent of influence of mass media on contraceptive use can help in lowering the high fertility rate which has been persistent in Kenya.

Family planning education and motivation are largely matters of communication that makes them a major beneficiary of mass media communication (UNESCO, 1969). Mass media helps in the provision of adequate and accurate information on contraceptive use. The idea of contraceptive use often encounters resistance which manifests itself in the form of active opposition. The resistant attitudes result from a number of causes including: the delicate and intimate nature of the subject that makes discussion difficult and unpopular; the traditional place of children and childbearing in many societies makes the idea of limiting the number of children difficult to accept; the fear of the effects of high rates of infant mortality in developing countries; opposition for religious reasons to either the use of certain contraceptive devices or to the idea of family planning; suspicion of the motives of the sponsors of family planning campaigns and the existence of inaccurate information and adverse rumours about the use and effects of contraceptives (UNESCO, 1969).

The mass media when used appropriately plays a vital role in promoting contraceptive use particularly in the developing countries where they are found appealing because of their wide coverage and their potential cost effectiveness. Mass media makes the people wary of the need for contraceptive use and provides them with an opportunity to evaluate the information and services offered and to try out the methods as suggested. This leads to the adoption of contraception. It is envisaged that the findings of the study on the influence of mass media on contraceptive use will offer solutions to the family planning uptake challenge that the country is facing presently. Through examination of the influence of mass media components on contraceptive use, the study provides an assessment of how the mass media variables of radio, television and newspapers fare in influencing the use of contraceptives among Kenyan women.

The findings of the study are envisaged to be a useful resource for policy makers in the health sector as they seek solutions to the challenge posed by a burgeoning population. The findings will be of assistance to the Ministry of Health in the choice of media to use in disseminating family planning messages. The findings are also a contribution to demographic research by providing guidance on the role of communication strategies on influencing contraceptive uptake.

1.6 Scope and Limitation of the Study

The research study utilized data from the 2008-09 Kenya Demographic and Health Survey which was a nationally representative sample. On the DHS questionnaire there was the question on exposure to family planning messages on the mass media as well as the use of modern contraceptives which provided the main independent variables and the dependent variable.

One major limitation of the study is that it was difficult to ascertain the content of the messages that the women heard from the media. This was due to the generalized form of the question which only asked if the respondent had heard of family planning messages in the recent past. Secondly, the information on the use of media for modern contraceptive use was limited to only radio, television and newspapers and did not consider other mass media variables like internet and mobile phones.

Additionally the absence of a longitudinal study to perceive the temporal ordering of the time of exposure to family planning messages on radio/television and newspapers and the time of use of modern contraception posed a limitation. It was difficult to determine whether women who reported that they were using modern contraceptives first used the methods after or before being exposed to information about family planning.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This section gives a review of empirical works done by scholars on the area of influence of mass media on contraceptive use. It consists of a theoretical background on the influence of mass media on contraceptive use. It provides an overview of research works done in several parts of the world pertaining to mass media and contraceptive use. The section also presents the conceptual framework; operational framework and the hypotheses of the study.

2.2 Theoretical Background

The theory of planned behavior asserts that attitudes lead to behavioral intentions but are mediated by perceived social norms and structural barriers (Ajzen, 1988; Ajzen and Fishbein, 1975). The mass media is taken in this theory as having the ability to influence attitude and consequently behavior. An extension to this framework predicts that attitudes toward contraceptive use are likely to influence fertility decisions as well.

The health belief model is a psychological model that attempts to explain and predict health behaviors (Becker, 1974). This, it does by focusing on the attitudes and beliefs of individuals. The model helps to explain the role of mass media in influencing contraceptive knowledge, attitudes and behavior. By applying the health belief model an individual would be motivated to use a contraceptive method if he or she perceives that he/she is susceptible to unplanned pregnancies or at risk of having a larger family size than desired, a high degree of negative consequences in terms of health risks or economic or social costs resulting from having a family size larger than desired or from an unplanned pregnancy.

The fertility supply demand framework can also be helpful in explaining the role of mass media in contraceptive use. This framework posits that a couple's supply of and demand for children jointly determine their motivation to stop child bearing (Easterlin and Crimmins, 1985). This motivation to regulate fertility that can be promoted by the mass media, combined with the

potential costs of regulating fertility and the monetary costs of the price of contraceptive method determines contraceptive use behavior.

The ideational change theory is also a relevant theory to the study. It is associated with Cleland and Wilson (1987) who worked on the European fertility transition data and the World Fertility Survey and theorized that the ideational change was the main explanation for the shift to smaller family sizes. They viewed that the diffusionist approach with its focus on media, communications and influential change agents were critical to the transmission of modern values from external sources which explain the process of ideational change in the field of contraceptive technology.

The mass media have certain attributes and advantages which give them a special ability to promote mass communication involving information and education. Mass media acts as a channel of diffusion contributing to the increased use of contraception. The mass media may feature explicit family planning messages that influence both knowledge of and preferences regarding contraception. Secondly, the mass media may operate by exposing viewers to different lifestyles that value small family sizes.

According to UNESCO (1973), the strategies for using mass media to influence contraceptive use should have the television, radio, press and print media and audio visual units. The television would have commercials; drama/documentaries; women's programs; magazine programs and features. The radio should have plays; serials; women's programs and magazine programs; songs and jingles. The press and print media should have advertisements, cartoon strips, features, leaflets, literature, pamphlets and posters. The film should have commercials, documentaries, feature films, cartoons and newsreels.

The mass media influence on contraceptive use refers to the ways in which mass media affects how audiences think and behave as regards the use of contraception. UNESCO (1969), points out that the mass media does not only incorporate radio, television, press and films but should also embrace the resources of local song and dance, puppet shows, story tellers and other means of communication at the local level.

2.3 Empirical Studies on Mass Media and Contraceptive Use

2.3.1 Influence of Mass Media on Contraceptive Use

The influence of mass media on behavior has been the subject of much research over the last seventy years. The initial studies were of the opinion that mass media had little effect since people were more influenced by personal contacts and selective perceptions (Lazarsfeld et al., 1948; Hyman and Sheatsley, 1974). Rogers and Storey (1987), state that research in subsequent years delved into more and more sophisticated campaigns that were better planned and executed and relied more on audience research and mobilized both personal and community interaction.

According to Udry and Clark (1972), a team of American researchers in the 1970's demonstrated that television could influence the public's use of contraceptives. They reported that contraceptive awareness was directly proportional to the level of investment done in advertisements. These findings led to widespread public health campaigns that were geared towards addressing contraception effectively.

Mass media when appropriately used can produce a change not only in attitudes but also in behavior and be a powerful force in acquainting people with new technology and in effect contraceptive use (Strasburger 1989; Parlato 1990; Piotrow et al. 1990). The information that is obtained can change individual attitudes and desires and may quicken the adaptation of technology leading to a change in behavior. Parlato (1990), states that a well-designed media campaign aimed specifically at influencing behavior can play a crucial role by creating a positive social environment conducive to behavioral change. The media campaigns can thus promote new ideas that in turn may influence or cause people to act in new ways, and adopt contraceptive use.

Ryerson (2011), states that during the decade 1977 to 1986, Mexico underwent a 34 percent decline in its population growth. Mexico was indeed given the United Nations Population prize as the foremost population success story in the world. The success was attributed to Miguel Sabido's use of telenovela to promote family planning as a solution to marital conflict. By use of a program on television called *acompaname* in 1976 contraceptive sales increased by 23 percent in one year compared to 7 percent in the previous year. The program was designed to create characters who would evolve over time to become positive role models for the audience on family planning and contraceptive use. More than 560,000 women enrolled in family planning

clinics which was an increase of 33 percent from the previous year. Ferrara et al (2008) have studied the telenovelas which are Brazil's soap operas and found that the soap operas have contributed to the rapid decline in the fertility rate in Brazil over the past four decades. They observe that the novellas have spread throughout Brazil the image of the ideal family as being small.

Ryerson (2011) reports that David Poindexter in 1983 began working with the Voice of Kenya in Kenya and helped in the development of two programs: a television series Tushauriane (Let's talk about it) and a radio series ushikwapo shikamana (when given advice take it). The programs went on air in 1987 with the aim of changing the mind of men to allow their wives to seek family planning. He states that both programs were the most popular programs in their respective media ever produced by the Voice of Kenya. He states that by the time the two series ended, contraceptive use in Kenya had increased. Westoff and Rodriguez (1995) state that the Family Planning Association of Kenya has played an important role in using the media to promote family planning. The role has included producing booklets, posters, films and videos as well as radio programs about family planning.

Valente and Saba (2001) conducted a study in Bolivia to examine campaign exposure and interpersonal communication as factors in contraceptive use. They reported that campaign exposure that sought to raise awareness on family planning and contraceptive use and interpersonal communication with spouse, friends and others were associated with contraceptive knowledge and use. Cheng (2011) carried out a study in Taiwan to examine the effect of contraceptive knowledge on fertility with focus on the roles of mass media and social networks. The study focused on the period when Taiwan's family planning programs were in effect and the results indicated that mass media and social networks play important roles in disseminating contraceptive knowledge which is turned into contraceptive use.

Goni and Rahman (2012) used multivariate analysis to study the impact of education and media on contraceptive use in Bangladesh. The study's results showed that contraceptive use was higher among educated women and those women who watched TV at least once a week as compared with their respective counterparts. Islam and Hassan (2000) while studying mass

media exposure and its effect on family planning in Bangladesh found that radio and television are two important mass media for disseminating family planning information in Bangladesh. More than 40 percent of the women reported hearing family planning messages via radio, 17.2 percent said television, 8.4 percent said poster while 5.4 percent said bill board. Multivariate analysis showed that both radio and TV exposure to family planning messages and ownership of a radio and TV have a significant effect on current use of contraceptives.

Kincaid (2006) on a study conducted in the Philippines examining multivariate causal attribution and cost effectiveness of a national mass media campaign reported that the observed 6.4 percentage point increase in modern contraceptive use could be attributed to the national mass media campaign and to its indirect effects on attitudes toward contraceptives. Westoff and Koffman (2011) examined the association of television and radio with reproductive behavior and reported that television viewing is strongly associated with reproductive behavior. They stated that the more television that women watch, the more likely they were to use modern contraceptives. They added that the findings persisted in the presence of controls for education, wealth, urban residence, age and other covariates.

A number of empirical studies on the influence of mass media on contraceptive use have been conducted in Africa. One such study conducted by Witwer (1997) was based on studies conducted in Burkina Faso, Ghana, Kenya, Madagascar, Namibia and Zambia between 1992 and 1995. He states that in most of the countries, married women regularly exposed to the media especially family planning messages on the radio and multiple sources of media were significantly more likely than their unexposed counterparts to know of a modern contraceptive method and to use or intend to use a method, even after demographic and socio economic variables were controlled for. He reports that the odds ratios were significant for relationships between exposure to various media and current contraceptive use.

Bankole et al., (1996) conducted a study on mass media messages and reproductive behavior in Nigeria. They examined the effects of exposure to mass media messages promoting family planning in the reproductive behavior of married women in Nigeria using cross sectional data. The analysis showed that contraceptive use and intention are positively associated with exposure

to mass media messages. Data from a longitudinal study used to ensure that the exposure to media messages predates the indicators of reproductive behavior also showed that exposure to mass media messages is a significant predictor of contraceptive use.

Olaleye and Bankole (1994) studied the impact of mass media family planning promotion on contraceptive behavior of women in Ghana and reported that exposure to media messages on contraception exerts strong impact on current practice of, and intention to use, contraception. The women who had heard or seen advert on contraceptive brands and women who favor broadcast of family planning messages in the media are significantly more likely to adopt birth control behavior than women who had not heard or seen, and women who do not favour broadcast of such messages.

Gupta et al (2003) conducted a study in Uganda examining the link between mass media exposure and contraceptive use. The study found a statistically significant relationship between exposure to behavior change communication messages and increased use of contraception as well as with intention to use contraception in the near future. Jato et al., (1999) study in Tanzania examining the impact of multimedia family planning promotion on the contraceptive behavior of women in Tanzania reported that the more types of media that women are exposed to, the more likely they are to practice contraception. They found that women who recalled six media sources of family planning messages were 11 times as likely as women who recalled no media sources to be using modern contraceptives. They state that even women who recalled only one media source with a family planning message were twice as likely as women who recalled no media source to be using a modern method of contraception.

Westoff and Rodriguez (1995) analyzed data from the 1989 Kenya Demographic and Health Survey (DHS) and found a strong statistical association between women's reports of having heard or seen messages about family planning and contraceptive use through various mass media outlets and their use of contraceptives and their reproductive preferences. They noted that while 15 percent of women who say they have neither seen nor heard media messages on family planning are currently using a contraceptive method, this proportion rises to 25 percent among

those who have heard radio messages to 40 percent among those exposed to both radio and print messages and to 50 percent among those exposed to radio, print and television messages.

2.3.1.1 Mass Media Channels and Contraceptive Use

2.3.1.1.1. Radio

Witwer (1997) observes that when the radio carries family planning messages it appears to have more influence on knowledge and behavior than either television or print media such as newspapers and magazines. The study observes that the odds of knowing of a modern contraceptive method were significantly higher among women who had been regularly exposed to radio than among those who had not. The odds ratios were 1.5 to 2.4 when compared. Additionally, the odds ratios were lower but often significant for relationships between exposure to various mass media and current contraceptive use.

Kulkarni (2003) observes that the use of family planning was 12.7 percent more among women exposed to radio than those not exposed. Women who were exposed to radio broadcasting messages on family planning methods were 1.66 times more likely to use family planning methods than those not exposed to the medium.

Westoff and Rodriguez (1995) observed that the use of family planning methods among married women aged 15-49 years exposed to messages from the radio on family planning was 26 percent compared to 14.3 percent in women who were not exposed. Karungari (1996) reported that 44.5 percent of women who heard family planning messages on the radio used any of the family planning methods compared to the percentage of women who were not exposed.

Gupta et al (2003) observed that women and men who had heard behavior change messages on the media were more likely to practice family planning or intend to do so in the near future compared to those with little or no campaign recall. They state that contraceptive prevalence was much higher among women who had heard messages on the radio at 35 percent compared to 6 percent who had not heard any messages. They also note that the most rapid increase in women contraceptive use was between 1995 and 1999 when it rose from 19 percent to 35 percent among those who heard radio family planning messages.

2.3.1.1.2 Television

Westoff and Koffman (2011) noted that for all the countries that they studied, women who watched TV only sometimes were 1.6 times more likely to use modern contraception than were women who watched no television. The ratio increased to 2.4 for women who reported daily exposure to television. They stated that overall; the odds of using modern contraception are roughly 2 to 1 for women who watch television.

Gupta et al (2003) observed that contraceptive prevalence was much higher among women who had viewed messages on television which was at 37 percent compared to those that heard the messages in the radio. Kulkarni (2003) also stated that the use of family planning method was 54.4 percent among the women exposed to television programs on family planning methods. The study acknowledges that the practice of family planning was significantly higher among the women who were exposed to family planning messages on the television. The odds ratio indicated that the married women exposed to family planning messages in the television were 2.4 times more likely to use the family planning methods compared to women who were not exposed to these programmes.

2.3.1.1.3 Newspapers

Kulkarni (2003) reported that the use of family planning methods was 1.96 times more among women reading newspapers carrying family planning messages than those who were not exposed. Karungari (1996) also reported that the use of family planning method by women was significantly higher in those who were exposed to newspapers carrying information on family planning. 48.6 percent of women exposed to information on family planning in newspapers used any of the family planning methods compared to 38.4 percent of women who were not exposed.

2.3.2 Socio Economic Characteristics and Contraceptive use

2.3.2.1 Education

Palamuleni (2014) states that there is a positive correlation, between contraceptive use and level of education. He adds that other things being equal, the higher the level of education, the higher the contraceptive use is expected to be. Asiimwe et al (2013) state that the likelihood of using contraception is associated with women's educational attainment. The more schooling a woman has, the more likely she is to report use of a modern contraceptive method. In their study in Uganda, they found that in each age group, over one third of women with secondary or higher education, but far fewer women with no education reported modern contraceptive use. Okezie et al (2010) state that female education appears to be an important determinant of current contraceptive use, perhaps because more educated women are more likely to appreciate the advantages of having fewer, better educated children.

2.3.2.2 Region of Residence

Palamuleni (2014) in the study of Malawi also found that the use of contraceptives was higher in urban than in rural areas. The study points out that the urban rural difference in the adoption of contraception is highest in sub Saharan Africa where the rate is more than twice as high among urban than among rural in all the surveyed countries. Asiimwe et al (2013) also found that there exists regional variation in contraceptive use. They observe that women in urban areas are more likely to use contraception than women in rural areas. They also found that urban-rural differentials are relatively larger among younger women compared with older women. This study also pointed out that modern contraceptive use is positively associated with level of household wealth and state that the use of modern methods is highest among women from rich households.

Religious affiliation is the other variable that also affects contraceptive use (Ullah and Chakraborty, 1996). The explanation given on the effect of religion on contraceptive use is that religions differ in their stand on fertility regulation and among the major world religions. In their ideology, Catholicism and Islam are widely regarded as pro natalist (Palamuleni, 2014).

2.3.3 Demographic Characteristics and Contraceptive Use

A number of studies have identified demographic factors such as age of women, number of living children, desired family size as being major factors influencing contraceptive use (Robey et al.1992).

2.3.3.1 Age

Palamuleni (2014) states that contraceptive use is lowest among young women, reaches a peak among women in their thirties and declines among older women. This, the study states is indicative of a high desire for child bearing among young women and a high growing interest of spacing births among women in their thirties.

2.3.3.2 Number of Living Children

Parity of a woman has also been indicated as being important in explaining the use of contraceptives (Dang, 1995; Shah et al.1998). These studies have pointed out that the use of contraception increases with parity of a woman up to the third or fourth child and then decline thereafter. The survival status of children is also likely to affect the practice of contraception where parents who have experienced a death of a child may be less likely to use contraceptives than others of the same parity (Shah et al., 1998). This, it is stated may arise from the desire to replace a dead child.

2.3.3.3 Marital Status

Okech et al., (2011) report that the use of contraceptives was found to vary across marital status with married women using the services most as compared to single women. The study also states that married women were found to be using contraceptives the most due to the high incidences of sexual activities compared to single women.

2.4 Summary of Literature Review

In the literature it emerged that socio economic factors such as education, wealth status, region of residence and place of residence had an effect on modern contraceptive use. The literature established that demographic factors also had an effect on the use of contraceptives. The demographic factors included: age, marital status, parity, number of surviving children among others. The studies from the literature also established that the mass media was an important component in influencing modern contraceptive use. Most of the studies showed that the mass media in the form of radio and television as well as newspapers provided family planning

messages that helped initiate behavior change in the audiences and listeners. The television came out as the most important in influencing contraceptive use in comparison to the radio especially in the developed countries.

2.5 Conceptual Model

As shown in the figure 1 the study used a conceptual model used by (Olaleye and Bankole, 1994). The model presents a relationship of socio- economic and demographic characteristics; media exposure and current use of contraceptives. The model states that exposure to mass media messages as well as current contraceptive use are endogenously determined by the socio economic and demographic variables. The model assumes that the number of living children does not directly influence exposure to media messages. The model was identified using the instrumental variable approach due to the problem of reverse causality brought about by the uncertainty posed by cause and effect between media exposure and contraceptive use.

The model shows that socio economic and demographic characteristics influences exposure to mass media family planning messages which consequently influences the contraceptive status of the women. The model is of the view that the socioeconomic and demographic characteristics can also influence contraceptive status directly. In the absence of a longitudinal study to ascertain the causality of mass media messages to contraceptive use it shows that the respondents may listen to the family planning messages on mass media after initiating contraceptive use.

Conceptual Model

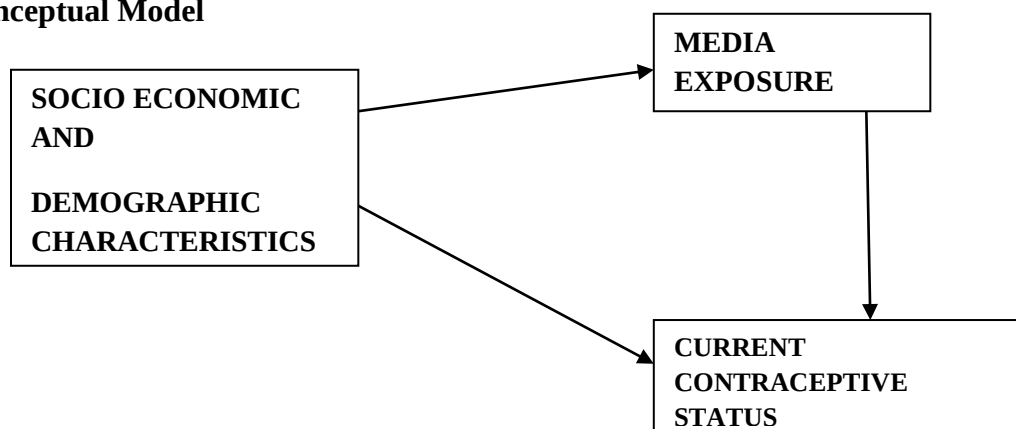


Figure 1: Conceptual Framework

Source: Olaleye and Bankole (1994)

2.6 Operational Model

The study used an operational framework based on Olaleye and Bankole (1994). As indicated in figure 2 the framework shows that exposure to mass media messages on radio, television and newspapers directly influences modern contraceptive use. It also demonstrates that the socio economic variables of education, region, religion and wealth status as well as the demographic variables of age and marital status directly influence the current use of modern contraceptives. The demographic variable of surviving children is also shown to have a direct effect on current use of modern contraceptives.

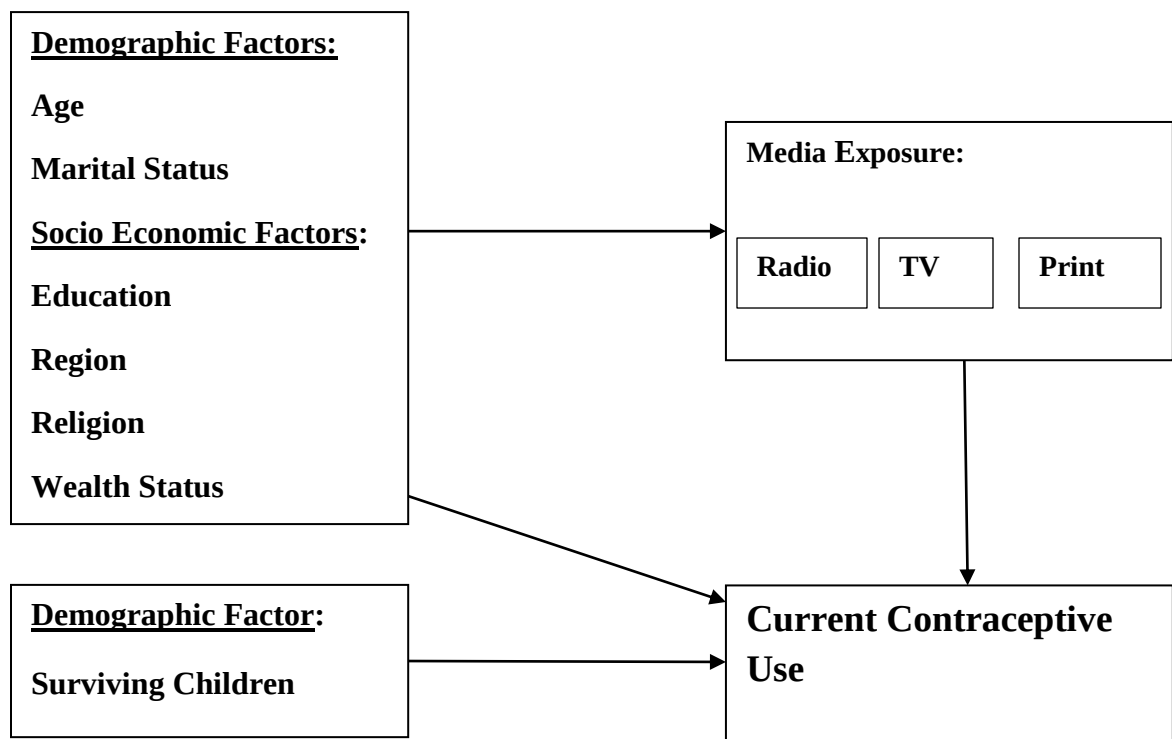


Figure 2: Operational Framework based on Olaleye and Bankole (1994)

The surviving children variable however, does not influence the exposure to mass media as indicated in the other demographic variables. The reverse causality that prompted the use of the instrumental variable approach has not been considered in the present study. The view is that generally the mass media exposure influences contraceptive use (Bakht et al.,2013; Bankole et al.,1996).

2.6.1 Operational Hypotheses

1. Women who are exposed to radio FP messages are more likely to use modern contraceptives than women who are not exposed.
2. Women who are exposed to TV FP messages are more likely to use modern contraceptives than women who are not exposed to the messages.
3. Women who are exposed to newspaper FP messages are more likely to use modern contraceptives than women who are not exposed to the messages.
4. Age, number of living children and marital status strongly influence the use of modern contraceptives.
5. Household wealth index, education, region of residence and religion influences use of modern contraceptives.
6. Age, number of living children and marital status account for the influence of mass media on modern contraceptive use.
7. Household wealth index, education, region of residence and religion account for the influence of mass media on modern contraceptive use.

CHAPTER THREE

METHODOLOGY

3.1 Introduction

This chapter presents the source of data used in this study. It presents the analytical methods employed in the study such as frequency distributions, cross tabulations, chi square and multiple logistic regression models. It also presents the operationalization of the variables.

3.2 Sources of Data

The study utilized data from the 2008-09 Kenya Demographic and Health Survey(KDHS) which was carried out over a three month period , from 13 November 2008 to late February 2009. The survey was implemented by the Kenya National Bureau of Statistics(KNBS) in collaboration with the Ministry of Public Health and Sanitation, the Ministry of Medical Services, the Ministry of Gender, the Kenya Medical Research Institute(KEMRI), the National Coordinating Agency for Population and Development(NCAPD) and the National AIDS Control Council(NACC). Technical assistance was provided through the international MEASURE DHS Programme at ICF Macro and NCAPD. The financial support for the survey was provided by the Government of Kenya and the US Agency for International Development (USAID), the United Nations Population Fund (UNFPA) and the United Nation's Children's Fund (UNICEF).

The survey consisted of a nationally representative sample survey of 8444 women age 15 to 49 and 3465 men age 15 to 54 selected from 400 sample points (Clusters) throughout Kenya. The survey utilized a two stage sample based on the 1999 Population and Housing Census. The first stage involved selecting data collection points (clusters) from the national master sample frame a total of 400 clusters-133 urban and 267 rural were selected from the master frame. The KDHS data set contained detailed information on respondents reproductive histories and on knowledge and use of modern contraceptives. Information on use of modern contraceptives and family planning messages on the mass media were thus collected as part of the survey.

The sample size for the study comprised of 5679 women who reported not currently being pregnant or breastfeeding or amenorrhoeic. The main independent variable was the exposure to the mass media messages and was based on the question in the KDHS questionnaire which asked whether the respondent had heard, seen or read any family planning messages in the radio, television or newspapers in the last month. The control variables were the demographic variables that are often associated with contraceptive behavior which were the respondent's place of residence (urban or rural), educational attainment, age, marital status, number of surviving children and radio and television ownership.

Exposure to mass media messages was derived from the question asked of women in the KDHS on hearing a message about family planning in the past few months on radio, TV and newspaper/magazine. The response to each question was used to create a dichotomous variable. For exposure to family planning mass media messages, the variable was coded 1 if a woman had heard or seen a message about contraception and 0, otherwise.

The outcome variable which was the current use of contraceptives was derived from the question asked of women in the KDHS. For current use of modern contraceptive the variable was coded 1 for non use the variable was coded 0. The explanatory variables employed as controls included: respondent's age and parity measured as interval variables; education as a categorical variable with a reference category. Household wealth index, Residence, marital status and radio and television ownership were also entered as categorical variables.

3.3. Definition of Variables

As shown in table 3.1 the dependent variable in the study was contraceptive use defined as the current use of a modern method or device by a woman in the study to prevent pregnancy. The main independent variable in the study was exposure to mass media messages on the radio, television and newspapers. Mass media in the study referred to the tools that are used to transmit public messages that are directed at large, heterogeneous and scattered audiences. The family planning messages are transmitted through television, newspapers and radio. Mass media exposure refers to getting family planning information from the mass media tools.

Table 3.1: Measurement and Coding of Study Variables

Variable Type	Variable Name	Measurement
Dependent Variable	Current Use of Modern Contraceptives	0.No(RC) 1.Yes
Main Independent Variable	Heard Family Planning on Radio Last Months	0.No(RC) 1.Yes
	Heard Family Planning on Television Last Months	0.No(RC) 1.Yes
	Heard Family Planning on Newspaper Last Months	0.No(RC) 1.Yes
Control Variables	Education	1.No Education(RC) 2.Primary Education 3.Secondary Education 4.Higher
	Religion	1.Roman Catholic(RC) 2.Protestant/Other Christian 3.Muslim 4.No Religion/Other
	Type of Place of Residence	1.Urban 2.Rural(RC)
	Wealth Status	1.Poor(RC) 2.Middle 3.Rich
	Marital Status	1.Never Married(RC) 2.Married 3.Formerly Married
	Age	1.<20(RC) 2.20-34 3.35+
	Surviving Children	0.No Surviving Children(RC) 1.At least One Surviving Child
	Region	1.Nairobi 2.Central 3.Coast 4.Eastern 5.Nyanza 6.Rift Valley 7. Western 8. North Eastern(RC)

RC: Reference Category

Radio refers to a mass media communication tool that broadcasts sound programmes to the public. Television refers to mass media communication medium used for broadcasting sound with moving images to the public whereas newspaper is a printed publication issued daily or weekly containing news, articles, advertisements and correspondence.

Socio economic variables are the factors to do with the social and economic environment that a woman lives in. In the study these factors were given by education, wealth status, ownership of Television and radio and the region where the woman lived in. Demographic variables on the other hand are the factors that appertain to the woman's demographic attributes such as age, marital status and number of living children.

3.4 Methods of Data Analysis

3.4.1 Descriptive Statistics

Descriptive statistics analysis was used in the study to describe, show and summarize the data. This was done so as to allow interpretation of the data before proceeding to cross tabulation and logistic regression analysis. Frequency distributions were used to indicate the distribution of background factors.

3.4.2 Cross tabulations

The study used cross tabulations which is a joint frequency distribution of cases according to two or more variables in the form of a contingency table. The cross tabulation tables come with the chi square test statistic which is used to test whether the association between the nominal and ordinal variables is statistically significant. The test helps to determine whether a systematic relationship exists between two variables.

This is done by computing the cell frequencies which would be expected if no relationship is present between the variables given the existing row and column totals. The greater the discrepancies between the expected and the actual frequencies, the larger the chi square becomes. If no relationship exists between the two variables in the sample under the study, then any deviations from the expected values which occur in a table based on the randomly selected

sample data are due to chance. The value of the chi square depends on the number of cells in a contingency table (Michael, 2013).

Chi square tests were used to compute p values for the association between exposure to mass media messages on radio, television and newspapers and use of modern contraceptives by women. It was also used to compute p values for the association of the other independent variables and contraceptive use.

3.4.3 Logistic Regression

The study used multivariate logistic regression which is a statistical technique through which one can analyse the relationship between a dependent variable and a set of independent or predictor variables simultaneously.

The multiple regression is the appropriate technique when a researcher wants to investigate the effect on Y of several X variables simultaneously. This technique is essential in observational studies in eliminating the bias of confounding variables by including them in the regressors.

The general purpose of the multivariate regression is to predict the outcome (dependent) variable using independent variables. The condition is that the dependent variable must be dichotomous (Hyeoun, 2013).

The estimating model for logistic regression is as follows:

$$P_x = \frac{\text{EXP} (B_0 + B_1 X_1 + \dots + B_p X_p)}{1 + \text{EXP} (B_0 + B_1 X_1 + \dots + B_p X_p)}$$

The probability P_x of the occurrence of the dependent variable depends on the independent variables $X_1, X_2, \dots, X_p$. For this study it gave the probability of a woman with characteristics $X_1, X_2, \dots, X_p$ representing demographic and socio economic variables using modern contraceptives.

The study interpreted the regression parameter using odds ratios. The odds ratios are the odds of an event occurring and defined as the ratio of the probability that the event occurs to the probability that it will not occur.

Due to multicollinearity some variables not included in the final models of analysis. The ownership of radio and television was not included due to its correlation with the wealth status variable. The residence variable was not included due to its high correlation with region. Ethnicity was excluded due to its relationship to the variable of region which was included in the final models.

To provide an understanding on the relative importance of the media variables regarding their influence on women's current modern contraceptive behavior in a multivariate context, the study estimated sequential sets of models. The relative influence of the 3 media variables on contraceptive use was first examined on the first model. Next, the socio economic variables and demographic variables were introduced into the model to observe changes in the coefficients of the media variables. The use of the models was to test whether the relative impacts of the media variables on women contraceptive behavior are partly or wholly diminished when the socio economic and demographic variables are controlled.

CHAPTER FOUR

FINDINGS OF THE STUDY

4.1 Introduction

This chapter provides the results of analysis of data pertaining to the study. It first presents the summary of the data through descriptive statistics and frequency distributions. Then it presents the results and discussion of the cross tabulation analysis and the chi square tests. Logistic regression analysis results are also presented. Three models' results are provided, discussed and interpreted.

4.2 Basic Characteristics of the Population

Table 4.1 presents the basic characteristics of the study population. Most of the respondents had been exposed to family planning messages on the radio. Over fifty percent of the women in the sample were not using modern contraceptives. The results showed that of the 5679 women 69 percent of them were not using modern contraceptives and only 31 percent were using modern contraceptives. Of these women, 67 percent heard family planning messages on the radio in the last months. 40 percent of the women viewed family planning messages on the television in the last month whereas only 36 percent read family planning messages on the newspapers in the last month.

The results showed that most of the women in the study had education. Eleven percent of the women had no education; 50 percent had primary education whereas 29 percent had secondary education. Slightly over 10 percent had higher education. Of all the women, 21 percent were Roman Catholic whereas 63 percent were protestant faithfuls. Fourteen percent were of Muslim faith. Most of the women in the study were rural residents. Sixty six percent of them were rural residents and about 34 percent were urban residents. Majority of women in the study belonged to households categorized as rich in the wealth index. The results show that 29 percent of the women were categorized as belonging to poor households. Eighteen percent were in the middle status whereas 53 percent of the women were categorized as belonging to rich households. As regards marital status, the never married and the married were in almost equal proportion. Forty one percent of the women were in the category of never married. 44 percent were classified as married while 3 percent were living together.

Table 4.1: Percentage Distribution of the Study Population according to Study Variables

CHARACTERISTIC(N=5679)	PERCENTAGE	COUNT
Current Use of Contraceptives		
Not Using	68.8	3907
Using	31.2	1772
Heard FP on Radio last Months		
No	33.4	1899
Yes	66.5	3779
Viewed FP on TV last Months		
No	60.2	3417
Yes	39.8	2261
Read FP on Newspapers last Months		
No	64.5	3664
Yes	35.5	2014
Highest Level of Education		
No Education	11.4	650
Primary	50.0	2839
Secondary	28.4	1614
Higher	10.1	576
Religion		
Roman Catholic	20.8	1179
Protestant	62.9	3571
Muslim	14.2	807
No Religion/Other	2	118
Wealth Status		
Poor	29.3	1665
Middle	18.1	1029
Rich	52.6	2985
Marital Status		
Never Married	40.9	2320
Married	46.9	2665
Formerly Married	12.2	694
Age		
<20	25.7	1462
20-34	40.9	2322
35+	33.4	1895
Living Children		
No Living Children	39.8	2260
At least one living Child	60.2	3419
Region		
Nairobi	13.7	780
Central	13.4	763
Coast	13.0	740
Eastern	13.1	742
Nyanza	14.5	825
Rift Valley	13.9	792
Western	12.2	693
North Eastern	6.1	344

The radio was the mass media component that was mostly owned by the women in the study. Seventy five percent of the women had radio; 36 percent had television. The results of the descriptive statistics revealed that majority of women in the study had at least one surviving child. Forty percent of the women did not have any living children. Sixty percent of the women in the sample had one or more surviving children.

The results of the descriptive statistics analysis show that a significant proportion of the women forming the sample fell into the age group of less than twenty years. 26 percent of the women in the sample studied fell in the age group 15-19. 16 percent were in the age group 20-24. 13 percent were in the age group 25-29. 12 percent fell in the age group 30-34. 11 percent were in the age group 35-39. 11 percent were in the age group 40-44 while 11 percent were in the age group 45-49.

The women studied were evenly distributed throughout Kenya's regions. The percentage distributions as regards region were as follows: 14 percent of the women in the sample were from Nairobi region; 13.4 percent from Central; 13.0 percent from Coast; 13.1 percent from Eastern; 14.5 percent from Nyanza; 13.9 percent from Rift Valley; 12.2 percent from Western and 6.1 percent from North Eastern.

4.3 Bivariate Analysis Results

Table 4.2 summarized the results of bivariate analysis of the study variables and current use of modern contraceptives. The results showed that women who heard family planning messages on the radio were more likely to be using modern contraceptives. The results also showed that women who viewed family planning messages on the television were more likely to be using modern contraceptives. Furthermore, the results also showed that women who read family planning messages on the newspapers were more likely to be using modern contraceptives. As indicated in table 4.2 all the relationships in the cross tabulations analyses were statistically significant.

Women who had living children were more likely to be using modern contraceptives. As regards age, women more likely to be using modern contraceptives were in the age groups: 30-34 and 35-39. The results also showed that women who were living together with a spouse were more likely to be using modern contraceptives followed by women who reported being married who were also more likely to be using modern contraceptives.

The results showed that women belonging in households classified as rich in the wealth index were more likely to use modern contraceptives. As pertains level of education, a majority of those using modern contraceptives were the women with higher education. The results also showed that women who were more likely to be using modern contraceptives were those in Central region followed by Nairobi.

The results revealed that hearing family planning on radio, viewing family planning messages on television and reading family planning messages on the newspapers were significantly associated with current use of modern contraceptive. Kulkarni (2003) and Karungari (1996) also found that the mass media variables of radio, television and newspapers were all statistically significant when they performed bivariate analysis with the use of modern contraceptives. The comparison of the three mass media variables in this study showed that women who listened to mass media messages on the radio were more likely to use modern contraceptives followed by the radio and lastly newspapers. The study by Kulkarni (2003) however showed that the married women who viewed family planning messages on the television were the most likely to use contraceptives followed by newspaper readers on family planning and finally radio listeners.

Education has a positive association with contraceptive use. The more educated a woman is the more likely she is to report use of modern contraceptives. This is consistent with (Asiimwe et al., 2013). The results also showed that current use of modern contraceptives was positively associated with the household wealth index. The use of modern contraceptives was highest among women from the richest households.

Table 4.2: Differentials in Modern Contraceptive Use according to Study Variables

Characteristics N=5679	Not Using (Percent)	Using (Percent)	Chi Square Test
Heard FP on Radio No Yes	1575(83) 2331(62)	324(17) 1448(38)	X ² =265.975**** P=.000 df=1
Viewed FP on TV No Yes	2556(75) 1350(60)	861(25) 911(40)	X ² =144.402**** P=.000 df=1
Read FP on Newspaper No Yes	2668(73) 1238(61)	996(27) 776(39)	X ² =77.941 ***P=.000 df=1
Household Wealth Index Poor Middle Rich	1350(81) 670(65) 1887(63)	315(19) 359(35) 1098(37)	X ² =126.193**** P=.000 df=2
Education No Education Primary Secondary Higher	424(92) 1534(77) 937(75) 275(63)	35(8) 467(23) 318(25) 165(37)	X ² =166.861*** P=.000 df=3
Religion Roman Catholic Protestant Muslim No Religion Other	784(66) 2325(65) 714(88) 64(84) 16(38)	395(34) 1246(35) 93(12) 12(16) 26(62)	X ² =197.904**** P=.000 df=4
Region Nairobi Central Coast Eastern Nyanza Rift Valley Western North Eastern	484(62) 428(56) 559(76) 490(66) 558(68) 562(71) 491(71) 335(97)	296(38) 335(44) 181(24) 252(34) 267(32) 230(29) 202(29) 9(3)	X ² =226.756**** P=.000 df=7
Marital Status Never Married Married Formerly Married	2097(90) 1292(48) 518(75)	223(10) 1373(52) 176(25)	X ² =1027.284**** P=.000 df=2
Surviving Children No Living Children At Least one living child	2071(92) 1836(54)	189(8) 1583(46)	X ² =912.229**** P=.000 df=1
Age <20 20-34 35+	1395(95) 1388(60) 1123(59)	66(5) 934(40) 772(41)	X ² =653.401**** P=.000 df=2

***p≤0.001 **p≤0.01 *p≤0.05

Women in the urban areas were more likely to use modern contraceptives as compared to women in the rural areas. This is consistent with the findings of (Palamuleni, 2014). The regional variation in modern contraceptive use was also observed in the findings of the study where 44 percent of women in the Central region were using modern contraceptives as compared to only 3 percent in the North Eastern region.

A high percentage of women with more than one living children were using modern contraceptives as compared to women with no living children. This is a finding that was similar to (Palamuleni, 2014). The results also indicated that high percentages of women in the older age groups of 30-34 and 35-39 were using modern contraceptives. This supported the findings that modern contraceptive use was highest among women in their thirties and declines among older women (Robey et al., 1992). The explanation may be that there is a greater desire by women in their thirties to space births. Married women and women living together with spouses were more likely to be using modern contraceptives. This result corroborates findings that modern contraceptive use was higher among married women (Okech et al., 2011).

4.4 Logistic Regression Analysis results

Table 4.3 presented the results. The first model presented the odds of the main independent variables of mass media on the use of modern contraceptives. In the second model the socio economic variables were introduced to see how the odds of the mass media variables on contraceptive use responded. In model III, the demographic variables were added to the model to further determine their effects on the use of modern contraceptives upon mass media variables. The only mass media variable that was statistically significant was hearing family planning messages on the radio. The results showed that women who belonged in households classified as rich were more likely to use modern contraceptives than women in the poor category. The study also found that educated women were more likely to use modern contraceptives than the women who were not educated.

Table 4.3: The Effects of the Study Variables on Modern Contraceptive Use

Study Variables	Model I	Model II	Model III
Radio Not Heard FP on Radio(Ref) Heard FP on Radio	2.661***	2.089***	1.386***
Television Not Viewed FP on TV(Ref) Viewed FP on TV	1.439***	1.229**	1.219
Newspapers Not Read FP on Newspapers(Ref) Read FP on Newspapers	0.874	0.801***	0.946
Household Wealth Index Poor(Ref) Middle Rich		1.544*** 1.681***	1.506*** 1.507***
Education No Education(Ref) Primary Secondary Higher		1.686*** 1.426* 2.250***	2.616*** 3.130*** 4.553***
Religion Catholic(Ref) Protestant Muslim No Religion Other		1.055 0.628*** 0.642 3.216***	0.967 0.523*** 0.460* 1.493
Region North Eastern(Ref) Nairobi Central Coast Eastern Nyanza Rift Valley Western		4.748*** 6.866*** 4.367*** 6.718*** 5.027*** 4.874*** 4.794***	5.207*** 6.552*** 4.072*** 6.001*** 4.480*** 4.443*** 4.436***
Marital Status Never Married(Ref) Married Formerly Married			4.272*** 1.255
Surviving Children No Living Children(Ref) At least One Living Child			4.034***
Age <20(Ref) 20-34 35+			2.415*** 1.569**

R² = 0.412 ***p≤0.001 **p≤0.01 *p≤0.05 Ref: Reference category

The study found that region was a significant determinant of modern contraceptive use. Women in Nairobi were more likely to use modern contraceptives than the reference category. Women in Central were also found to be more likely to use modern contraceptives than women in North Eastern.

The study showed that women with at least one living child had more likelihood of using modern contraceptives currently than women with no living children. Women in the age groups 20-34 were more likely to use contraceptives than the women under age 20. The study also showed that married women and those living together with spouses were more likely to be using modern contraceptives than the never married women.

4.4.1 Influence of mass media on contraceptive use

Model I brought out the gross effect of mass media on the likelihood of using contraceptives. The model indicated that the odds of women who heard family planning messages on the radio was 2.661 times higher than that of women who did not hear messages on radio. The model also indicated that the odds of women who viewed family planning messages on the television was 1.439 times higher than that of the women who did not view messages on television. The reading of family planning messages in the newspaper variable was not statistically significant. The model showed that the effect of the radio exposure variable on modern contraceptive use was higher in magnitude than television.

As indicated in Model II, the addition of the socio-economic variables education, wealth status and region shifted the odds of using contraceptives for all the mass media variables downwards. The odds of women who heard family planning messages on the radio using modern contraceptives was 2.089 times higher than that of women who did not hear the messages. Women who viewed family planning messages on the television were 1.229 times more likely to use contraceptives in comparison to the women who were not exposed to the messages. The reading of family planning messages on newspapers became statistically significant with the introduction of socio economic variables.

When the socio economic variable of education was introduced in the model, the effect of the newspaper variable on the variation of the dependent variable of modern contraceptive use increased and consequently it became significant. This was as a result of the high interaction between the education variable and the newspaper variable in the model, brought about by education and literacy where education influences literacy which further influences the reading of newspapers. Region came out as a significant determinant of modern contraceptive use with odds ratios greater than four for all the categories of the variable. The changes observed in Model II implied that the socio economic variables accounted for the effects of mass media on the use of modern contraceptives.

As shown in Model III, the inclusion of demographic variables of age, marital status, surviving children and the geographic factors further diminished the risk of using modern contraceptives for the mass media variables. The Model III indicated that the odds of women who heard family planning messages on the radio was 1.386 times higher than that of women who did not hear the messages. The viewing of family planning messages on the television was not statistically significant. The reading of family planning messages on the newspapers was also not statistically significant. Married women had a high likelihood of using contraceptives and so were women with surviving children. The odds ratios for both were over four times that of never married women and women with no surviving children respectively. The implication may be that the demographic variables such as surviving children erode some of the linkage of the risk of using contraceptives to mass media. In the model region as well as education came out as strongly predicting the use of contraceptives. Having been attenuated in the second model the education categories' magnitudes and significance were further increased.

4.5 Discussion and interpretation

The study found that the socio economic characteristics were significant determinants of contraceptive use and shifted the odds of all the mass media variables downwards. The study showed that women who belonged in households classified as rich were more likely to be using modern contraceptives than poor women. The finding that wealthier women had higher odds of using modern contraceptives than the poor women is consistent with the report that greater use of contraceptives is associated with high socio economic status and particularly wealth (Westoff

and Koffman, 2011). This may be explained by the ability of the wealthy to access information and also clinics to get contraceptives.

The results of the study indicating that women who were more educated had higher odds of currently using modern contraceptives conforms to a study that reported that modern contraceptive use is positively associated with education (Olaleye and Bankole, 1994). Parr (2001) also found that women who had secondary education level or higher education were much more likely to use modern contraception than less educated women. The explanation for this may be that sexually active women who were still students used contraception to prevent their education from being disrupted by pregnancy or child birth.

The study also found that region was a significant determinant of modern contraceptive use, a finding that is similar to the finding that living in urban areas raises the probability of use of modern contraception significantly (Parr, 2001). This may be explained by the easier access to hospitals, clinics and pharmacies where contraceptives are sold when in urban areas.

The result that women with more surviving children had greater odds of using modern contraceptives had also been reported previously (Parr, 2001). This greater use of modern contraception currently among women with more surviving children may be explained by the use of contraceptives for birth spacing as well as possible use for stopping altogether. The results showing the relationship of age and modern contraceptive use may indicate that women at the peak of their child bearing ages have the highest values of odds of using modern contraceptives than the reference category.

The results of the study indicating that married women and women living with spouses have higher odds of using modern contraceptives currently is consistent with the observation that married women were more likely to use or intend to use contraceptives (Witwer, 1997). This may be explained by the spousal influence on the need to use modern contraceptives as well as the high risk of engaging in sexual activities among married couples.

The study found that the radio is the most effective media than the other media in influencing modern contraceptive use. This finding is consistent with the observation that the radio is an important mass media for disseminating family planning information (Islam and Hassan, 2000

and Witwer 1997). The exposure to family planning messages on television and newspapers was not statistically significant as had been the case in studies done in parts of Asia and the more developed countries. This can be attributed to the lack of services and infrastructure that impeded the establishment of these other forms of mass media like education and electricity (Witwer, 1997). The study also found that the control variables comprising of marital status, education level, region, surviving children, and age were significant in predicting contraceptive use. This is a finding that conformed to the findings of (Rahmand and Goni, 2012; Westoff and Rodriguez 1995; Islam and Hassan, 2000 and Witwer, 1997).

The study did not find that the use of television has higher odds ratio than the radio in predicting contraceptive use. This is contrary to findings that have been reported in Asian countries like Bangladesh (Kulkarni, 2003 and Westoff and Koffman, 2011). This may stem from the fact that the most established media for information in developing countries especially the ones found in Africa like Kenya is the radio.

CHAPTER FIVE

CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This chapter summarized the findings of the research study in relation to the stated objectives and hypothesis. It presented the conclusions of the study and gave recommendations emanating from the results of the study.

5.2 Summary of findings

The study found that about thirty percent of the women were using modern contraceptives. The radio as a form of mass media came out as the more established source of family planning messages influencing the use of modern contraceptives. The bivariate analysis showed that the higher the schooling, the more likely the use of modern contraceptives. It also showed that the higher the wealth index, the more the likelihood of using modern contraceptives. The study also found that the demographic variables influenced the use of contraceptives where women in their thirties were more likely to be using modern contraceptives. Women with more children living were also more likely to be using modern contraceptives. Nearly all hypotheses stated in Chapter two were confirmed except for the hypothesis that women who were exposed to family planning messages on television and newspapers were more likely to use modern contraceptives.

5.3 Conclusion

The contraceptive behavior of 5679 women in Kenya was analysed in terms of either using the modern contraceptives or not using them. Descriptive statistics analysis was used to describe, show and summarize the data. Cross tabulations were then used to generate p values and determine the association that existed between the mass media, socio economic and demographic variables and modern contraceptive use. The associations between the variables were found to be statistically significant.

Three statistical models were generated using the data collected in the 2008/09 Kenya Demographic and Health Survey. One model aimed at understanding how the mass media variables explained modern contraceptive behavior without incorporating the control variables

represented by the demographic and socio economic variables. The other two models endeavored to understand the factors which explain the modern contraceptive use and non-use among the interviewed women by introducing control variables. The models were constructed using the entry wise regression models. Altogether 10 mass media, demographic and socio economic variables were used in the regression model.

Among the three mass media variables comprising of hearing family planning messages on the radio, television and newspaper, only one i.e. the radio proved to be significant. Exposure to family planning messages on television and newspapers was not found to be significant. The reason for this may be that the radio is the most common source of information for family planning and placing information and family planning adverts through the radio is cheaper as compared to the other mass media components.

Socio economic variables which were wealth status, education, region, and religion were all found to be significant. The odds ratios of socio economic variables were strong and greater than unity in explaining contraceptive use. Most of the demographic variables found significant in the present research are similar to findings in existing literature. For example, Westoff and Rodriguez (1995) and Witwer (1997) which have pointed out the association of mass media and modern contraceptive use.

The most significant difference between the findings of this research and the existing literature was the comparably lower odds observed in the viewing of family planning messages on television as a component of mass media in predicting contraceptive use as compared to radio. Studies conducted by Goni and Rahman (2012); Bakht et al., (2013); Kulkarni (2003) found that viewing family planning messages on television had a positive influence on modern contraceptive use than the radio, the present research however found no such result. This may be explained by the challenge in access of television to most of the women who were in rural areas and the coverage of the television and newspaper media which are not as established as the radio. Apart from the socio economic and demographic variables, the findings of the present research confirmed the importance of mass media variables and more precisely the radio which had been seen to have influence on contraceptive use.

5.4 Recommendations

This study found that radio as a form of mass media played a vital role in influencing contraceptive use among Kenyan women. It is strongly recommended that relaying family planning information through radio be promoted and strengthened. Episodes and Programmes on family planning's advantages should be encouraged especially on the radio so as to remind audiences on the advantages of contraceptive use. Innovative ways such as the enlightening of audiences on the locations of family planning clinics in their localities should be promoted. Policy measures should aim at intensifying the use of established mass media such as radio on family planning campaigns.

Further research is needed to determine why the mass media variables of television and newspapers were not statistically significant in explaining the use of modern contraceptives in Kenya. As shown in studies done in parts of Asia the television has been an important mass media influencing the use of modern contraceptives. The newspapers have also been important in influencing modern contraceptive use. It would thus be important to conduct studies to determine why these other important mass media are not influential in determining the use of modern contraceptives.

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Appendix I: Model I Mass media Variables

	B	S.E.	Sig.	Exp (B)
Not Heard FP on Radio(Ref)				
Heard FP on Radio	.979	.079	.000	2.661
Not Viewed FP on TV(Ref)				
Heard FP on TV	.364	.083	.000	1.439
Not Read FP on print(Ref)				
Read FP on Newspapers	-.134	.082	.103	.874
Constant	-1.597	.061	.000	.203

APPENDIX II: MODEL II MASS MEDIA AND SOCIO ECONOMIC VARIABLES

	B	S.E.	Sig.	Exp (B)
Not Heard FP on Radio(Ref)				
Heard FP on Radio	.737	.083	.000	2.089
Not Viewed FP on TV(Ref)				
Viewed FP on TV	.206	.087	.018	1.229
Not Read FP on Print(Ref)				
Read FP on Print	-.222	.086	.010	.801
HH Wealth Index			.000	
Poor(Ref)				
Middle	.434	.096	.000	1.544
Rich	.519	.088	.000	1.681
Education			.000	
No Education(Ref)				
Primary	.523	.154	.001	1.686
Secondary	.355	.163	.030	1.426
Higher	.811	.183	.000	2.250
Religion			.000	
Catholic(Ref)				
Protestant	.054	.074	.467	1.055
Muslim	-.465	.152	.002	.628
No Religion	-.444	.341	.193	.642
Other	1.168	.340	.001	3.216
Region			.000	
North Eastern(Ref)				
Nairobi	1.558	.374	.000	4.748
Central	1.927	.375	.000	6.866
Coast	1.474	.364	.000	4.367
Eastern	1.905	.372	.000	6.718
Nyanza	1.615	.374	.000	5.027
Rift Valley	1.584	.374	.000	4.874
Western	1.567	.374	.000	4.794
Constant	-3.778	.383	.000	.023

**APPENDIX III: MODEL III MASS MEDIA; SOCIO ECONOMIC AND
DEMOGRAPHIC VARIABLES**

	B	S.E.	Sig.	Exp(B)
Not Heard FP on Radio(Ref)				
Heard FP on Radio	.327	.096	.001	1.386
Not Viewed FP on TV(Ref)				
Viewed FP on TV	.198	.102	.052	1.219
Not Read FP (Ref)				
Read FP on Newspaper(Ref)	-.056	.101	.582	.946
HH Wealth Index			.000	
Poor(Ref)				
Middle	.410	.110	.000	1.506
Rich	.410	.101	.000	1.507
Education			.000	
No Education(Ref)				
Primary	.962	.163	.000	2.616
Secondary	1.141	.177	.000	3.130
Higher	1.516	.202	.000	4.553
Religion			.000	
Catholic(Ref)				
Protestant	-.034	.086	.696	.967
Muslim	-.648	.171	.000	.523
No Religion	-.777	.363	.032	.460
Other	.401	.378	.288	1.493
Region of Residence			.000	
North Eastern(Ref)				
Nairobi	1.650	.394	.000	5.207
Central	1.880	.396	.000	6.552
Coast	1.404	.382	.000	4.072
Eastern	1.792	.392	.000	6.001
Nyanza	1.500	.395	.000	4.480
Rift Valley	1.491	.394	.000	4.443
Western	1.490	.395	.000	4.436
Marital Status			.000	
Never Married(Ref)				
Married	1.452	.115	.000	4.272
Formerly Married	.227	.144	.114	1.255
No living Children(Ref)				
At least one living Child	1.395	.127	.000	4.034
Age			.000	
<20(Ref)				
20-34	.882	.163	.000	2.415
35+	.451	.178	.011	1.569
Constant	-6.302	.419	.000	.002