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Religious affiliation and contraceptive use in Kenya.

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UNIVERSITY OF THE WITWATERSRAND, JOHANNESBURG
FACULTY OF HUMANITIES
SCHOOL OF SOCIAL SCIENCES
DEMOGRAPHY AND POPULATION STUDIES

Religious Affiliation and Contraceptive use in Kenya

A RESEARCH REPORT SUBMITTED IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE DEGREE OF MASTER OF ARTS IN THE FIELD OF DEMOGRAPHY AND POPULATION STUDIES FOR THE YEAR 2014.

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26/05/2014

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Declaration

I, Saira Abdulla hereby declare that this research report is my own original work. It is being submitted to the Faculty of Humanities and Social Sciences, University of the Witwatersrand, Johannesburg. It is submitted in partial fulfilment of the requirement for the degree of Master of Arts in the field of Demography and Population Studies. I declare that to the best of my knowledge it has not been submitted before in part or in full for any degree or examination at this or any other university.

Candidate: Saira Abdulla

…….
Date: 31 July 2014

Abstract

Background

Religion is widely known to affect the acceptance of modern contraception among people, thus affecting their reproductive behavioural outcomes in sub-Saharan Africa. The significance of religion on the use of contraceptives has been currently neglected in SSA. Fertility transitions have been widely attributed to the increased use of contraceptives among women worldwide. Given that religion plays an important role in post-colonial Kenya, this study examined the differentials in contraceptive use by religious affiliation as well as the demographic and socio-economic factors that affect the use of contraceptives in Kenya.

Methodology

The study obtained data from the Kenyan Demographic and Health Survey (KDHS, 2008-2009) that uses a national cross sectional study design. The study population was women of reproductive ages (15-49 years) who were sexually active and the sample size was 4, 207. This study made use of descriptive statistics, chi-square tests and logistic regression.

Results

Religious affiliation is a significant predictor of contraceptive use in Kenya. Muslims were 51% less likely to use modern methods of contraceptives compared to Christians. There was no significant difference in the use of contraceptives among Roman Catholics and Protestants. Demographic and socio-economic factors - specifically age, education, number of living children, fertility intention, wealth and marital status - were significantly associated with the use of modern methods of contraceptives.

Conclusion

Religious affiliation affects the use of contraceptives and plays a vital role in the reproductive behaviours of women in Kenya. The low levels of contraceptive use among Muslims are accounted for by their low socio-economic characteristics in addition to Islam's pro-natal doctrine. The lack of contraceptive use differentials among Roman Catholics and Protestants is as a result of their similar socio-economic characteristics, regardless of Roman Catholics pro-natal doctrine. Thus, a frontier for further study is to examine how religious involvement affects contraceptive use in addition to religious affiliation**.**

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Chapter 1: Introduction

1.1. Background

Fertility transitions have been widely attributed to the increased use of contraceptives among women worldwide (Yeatman & Trinitapoli, 2008). The use of birth controls by fecund women has allowed couples the opportunity to control childbearing during the female reproductive span (Magadi & Curtis, 2003). In addition, the various methods of modern contraceptives allow women the opportunity to decide the timing (when) and quantity (how many) of children they desire (ICPD, 1994). The use of condoms, a modern type of contraceptive, further allows for the protection against STIs and HIV, in addition to acting as a barrier towards conception (Magadi & Curtis, 2003).

The Kenyan government introduced modern methods of contraceptives as early as 1957 (Luoma et al., 2010; Magadi & Curtis, 2003). Contraceptives were made accessible to the Kenyan population as a result of the contributions made by the Ministry of Health and Non-Governmental Organisations in Kenya (Luoma et al., 2010; Magadi & Curtis, 2003). The Kenyan government has been advancing family planning services in the form of strategic policy making and interventions (Blacker et al, 2005). The national family planning strategy of Kenya aims to "make available quality and sustainable family planning services to all who need them, in order to reduce the unmet needs for family planning" (MOH, 1996:25).

The contributions made by the Ministry of Health and Non-Governmental Organisations led to a plummet in fertility levels in Kenya, from 8.1 to 4.7 births per woman (1977-1998) (Blacker et al, 2005; Okech et al,. 2011; Magadi & Curtis, 2003). This is of significance given that in a period of 21 years, Kenya has seen a transformation in the face of its fertility patterns from high fertility rates (one of the highest in world at the time), to the fastest fertility decline recorded (Blacker et al, 2005; Okech et al,. 2011). Research suggests that

increased contraceptive use among married women of reproductive ages has been recognised as the main reason for this significant decline of almost 40% (Blacker et al, 2005; Okech et al,. 2011).

The prevalence of contraceptive use in sub-Saharan African countries ranges from 1% in Somalia to 60% in South Africa (Population Reference Bureau, 2011). The contraceptive options available in Kenya include the pill, injectables, IUD (intrauterine device), hormonal implants, condoms, sterilization and natural family planning (Magadi & Curtis, 2003).

Much research has focused on the acceptance and use of contraceptives among religious denominations in various settings in the past (Caldwell & Caldwell, 1987; Coal, 1986; Lesthaeghe, 1980, Addai, 1999). This has remained important given the connection between religion and fertility due to sub-Saharan Africa's elevated fertility in a setting influenced by religious theology and practices (Yeatman & Trinitapoli, 2008). Despite the levelling of the effect of contraceptives on religion in developed countries, religion has been shown to affect the use of contraceptives in developing countries (Agadjanian. 2011; Yeatman & Trinitapoli, 2008; Waitherero, 2009). Thus, there is a need to explore this affect in developing countries, in particular SSA (Agadjanian, 2011).

Post-colonial Kenya is characteristic of both traditional practices indigenous to the country, in addition to modern practices as a result of advancements in the country (Kamaara, 2010). Low contraceptive use is generally associated with traditional indigenous religions with an association to heritage and ancestry (Caldwell & Caldwell, 1987). Reproduction remains the most important outcome and purpose of life as it is believed to appease ancestors whose spirits are satisfied through the childbearing of descendants in the traditional African religion (Caldwell & Caldwell, 1987; Tayki et al., 2006). Therefore, fertility is seen as a godsend and results in high status among people who have many children, whereas childlessness is

perceived as a punishment for sin and evil (Tayki et al., 2006). Hence, the use of modern contraceptives is stigmatised, thus posing as a barrier towards accessing family planning services (Caldwell & Caldwell, 1987; Yeatman & Trinitapoli, 2008).

Religion in Kenya has evolved over the years with African indigenous religions integrating with mainstream religions such as Christianity and Islam (Kamaara, 2010). This has been called the 'triple heritage' by Mazrui (1986), in which African heritage is seen as the background against mainstream religions (Tayki et al., 2006). This consequently leads to an integration of African indigenous religions and mainstream religions whose practices become intertwined, thus leading to shared aspects of certain beliefs and practices unique to these groups of people (Kamaara, 2010).

Most adaptations of faith lead to a duality of Christianity and African traditional beliefs, for example African Indigenous churches (Kamaara, 2010). Therefore, it is imperative to note that in Kenya most mainstream religions co-exist alongside African traditional practices (Kamaara, 2010). This gradual modification of religious adoption and adaptation of practices could influence the decision to either use modern methods of contraceptives on the one hand, or to oppose the use of modern methods of contraceptives on the other hand, given the affect of religion on the reproductive behaviour of people (Tayki et al., 2006; Yeatman & Trinitapoli, 2008).

1.2. Problem statement

An estimated 32% of women of childbearing ages use contraceptives in Kenya (UNPF & PRB, 2010). Despite the efforts made to increase contraceptive use in Kenya through organizations such as the Ministry of Health and Non-Governmental Organisations, the level

of unmet need for contraceptives remains high at 25.6% in 2009 (Magadi & Curtis, 2003; Population Reference Bureau, 2011). Furthermore, abortions, unwanted and unplanned births are high as a result of unintended pregnancies in Kenya (Hussain, 2012). Women in Kenya find it difficult to meet their fertility desires and on average give birth to one unwanted child (KNBS & ICF Macro, 2010). Approximately 1.8 million married women aged 15-49 have unintended pregnancies annually in Kenya (NCAPD, 2011). This consequently leads to women seeking abortion services; an estimated 300,000 abortions occur annually in Kenya, that is, 46 per 1,000 women of reproductive ages abort their foetuses (Hussain, 2012; Ipas, 2004). However, this estimate does not separate abortions from miscarriages, nor does it take into account the underreporting of unsafe abortions that contribute to maternal outcomes of ill health and/or death (Ipas, 2004; Hussain, 2012).

Regardless of the fertility decline in Kenya during the 1970s to the late 1990s, the fertility levels have remained stagnant hereafter, that is, no significant decline in fertility rates has been reported in the Kenyan demographic and health surveys (Shapiro, 2008; Bongaarts, 2008; Blacker et al., 2005). Kenya's large population size (an estimated 40 million people) in addition to its lack of resources, infrastructure and employment make it difficult to see positive changes in terms of the economy as well as further fertility decline (UNPF & PRB, 2010; Shapiro, 2008).

According to the International Conference of Population Development Program of Action (ICPD, 1994), reproductive health is about allowing people the opportunity to decide, and the ability to reproduce when and how often while being responsible by leading safer and fulfilling sex lives. Furthermore, according to the ICPD, men and women should both be knowledgeable of, and have access to approved methods of birth control while exercising their agency in choosing their methods of contraception (1994). However, religion has been

an important factor that influences whether or not individuals choose to use contraceptives as evidenced in the developed world (Agadjanian, 2011). For example, religious affiliation played an integral part in the inception of the European transition from high fertility rates to low fertility rates (Agadjanian, 2011). However, the effect of religion has yet to be deciphered in the African context. This remains problematic as sub-Saharan Africa is characterised by high fertility in addition to the mixture of religion, tradition and culture that are intertwined, and to a large extent affect the decisions that people make in these societies (Yeatman & Trinitapoli, 2008; Kamaara, 2010). It also remains of interest to determine the dynamics of increased modernisation and development in this region that have led to increased family planning services, in addition to the evolving nature of religion with Christianity and Islam layered over the foundation of African traditional religious practices (Yeatman & Trinitapoli, 2008, Agadjanian, 2011; Kamaara, 2010).

The use of contraceptives remains controversial especially among pro-natal religious groups who see it as a practice that goes against their religious beliefs (Caldwell & Caldwell, 1987). Childbearing remains an important component of most religions and is seen as a gift bestowed upon by God. This would therefore influence the acceptability of contraceptives in settings of high levels of religiosity (Agadjanian, 2011). Fertility is not just important in African traditional religions, but also mainstream religions such as Islam and Christianity: "To be Fruitful and multiply" (Hecht, 1999).

It is important to note that religious denominations vary in their leniency and acceptability of modern contraceptive practices (Agadjanian, 2011). For example, in the very first stages of the fertility transition in Europe, research shows that Protestant Christians were more accepting of, and had significantly higher levels of contraceptive use as opposed to Catholic Christians who were against the practice of interfering with the natural course of childbearing

(Freedman et al. 1959; Agadjanian, 2011). This leniency also depends on settings, with some areas more acceptable to contraceptive use than others, despite following the same religion. Against this backdrop, it remains to be examined whether there are contraceptive differentials between religious denominations in Kenya, and how this may affect the dynamics of fertility in Kenya.

1.3. Research question

What is the association between religious affiliation and contraceptive use in Kenya?

1.4. Research objectives

General objective

To examine the association between religious affiliation and contraceptive use in Kenya.

Specific objectives

To examine the differentials in contraceptive use by religious affiliation in Kenya.

To examine the demographic and socio-economic factors that affects the use of contraceptives in Kenya.

1.5. Justification

Historically, fertility in sub-Saharan Africa was high and religion was a very important factor that contributed to this phenomenon (Caldwell & Caldwell, 1987). Over the years, fertility in

sub-Saharan Africa and in Kenya has significantly decreased (Machiyama, 2010). In addition, religion remains important in the lives of the Kenyan people, according to the millennium survey conducted in 2009 (Gallup Global Reports, 2009). This study shows that Kenya is a religious country where 94% of the respondents indicated that religion is important in their lives (Gallup Global Reports, 2009). This indicates that despite religion playing an important part of people's lives in Kenya, the prevalence of contraceptive use remains relatively high.

The effect of religion on contraceptive use has been well documented in developed countries and we are beginning to see this trend emerge in developing countries as the fertility transition in sub-Saharan Africa is underway (Agadjanian, 2011). The factors that affect contraceptive use are of relevance as this affects the levels of fertility. Much research focuses on the correlates of contraceptive use such as the socio-economic and demographic factors, however relatively few studies focus on the key relationship between religious affiliation and contraceptive use in sub-Saharan African countries. Furthermore, research on this phenomenon is fairly outdated which is of concern given the influence of religion in Kenya and in sub-Saharan Africa currently. Therefore, against this backdrop, this research will contribute to existing literature by providing information regarding the influence of religion on contraceptive use among women of reproductive ages in Kenya.

In addition, this research will provide information regarding the socio-economic and demographic factors that influence the use of contraceptives. This will also be looked at in terms of religious affiliation in which these factors will be controlled for in order to examine the actual effect of religion on contraceptive use. It is important to understand whether religious affiliation is associated with contraceptive use in the context of Kenya, which could further affect the levels of fertility. Therefore, with contraceptives being necessary in order

for fertility to decline, it is essential to look simultaneously at religious affiliation as well as the socio-economic and demographic factors that affect the use of contraceptives.

Chapter 2: Literature Review

2.1. Introduction

In Kenya, the use of family planning services is of significance due to the advantages obtained in terms of development through the decline in fertility levels (World Bank, 2003). Furthermore, birth control measures are used to achieve the Millennium development goals of reducing child and maternal mortality by reducing high risk pregnancies among others (Health Policy Initiative, 2007; Okech, Wawire & Mburu, 2011; David et al, 2002). The use of contraceptives by women could further contribute to the decrease in population growth and decrease the expenditure towards universal primary schooling which is directly affected by the child population in need of education (Moreland and Talbird, 2006).

2.2. Determinants of contraceptive use

According to literature, demographic and socio-economic determinants of contraceptive use include age, education, marital status, residence, household wealth, age at first marriage, number of living children and fertility intention among others (Adebowale et al., 2013; Akoth, 2012; Ettarh , 2011; Kimani, 2006; Rahayu et al., 2009; Waitherero, 2009).

Marital status is an important factor when looking at the use of contraceptives among women especially in sub-Saharan Africa (Adetunji, 2012). According to the literature, this is because marriage allows for the onset of the risk of conception. Therefore, most research focuses on married women when looking at age at first marriage and birth, contraceptive use, and levels of fertility (Adetunji, 2012). However, we are now beginning to see a rise in age at first marriage as well as childbearing before marriage (Adetunji, 2012). All these factors therefore make it important to look at the contraceptive differentials among married, never married and

formerly married women. Approximately 56% of married women use modern methods of contraceptives globally (Margolis et al, 2013). However, in sub-Saharan Africa, only 19% of married women use modern methods of contraceptives (Margolis et al, 2013). Furthermore, in sub-Saharan Africa, in almost every country, modern contraceptive use is higher among single women compared to currently married women (Adetunji, 2012). For example, in Namibia according to the most recent survey, the prevalence of contraceptive use among single sexually active women was relatively high at 78% and the lowest at 22% in Mali (Adetunji, 2012). Marriage remains an integral part of African society in which early marriage and child birth is favoured (Akoth, 2012). It is once women marry that they become exposed to the risk of childbearing especially in sub-Saharan Africa where marriage is widespread (Adetunji, 2012). In addition, there exists a preference for marrying younger females (Akoth, 2012). Therefore, age at marriage is of importance as delaying age at marriage delays exposure to the possibility of conception.

Furthermore, religion affects age at first marriage and age at first birth in Tanzania (Ngalinda, 1998). Islam puts emphasis on early marriage while Catholicism has negative attitudes towards the use of modern contraceptives, and Protestants are deemed to be more liberal in their acceptance of contraceptive use (Ngalinda, 1998). In traditional settings in parts of Tanzania, youngsters are married of early which affects the use of contraceptives. The study suggests that an increase in age at first marriage will allow for fertility declines given that the onset of conception is delayed (Ngalinda, 1998).

The fertility intention of women is associated with contraceptive use in Kenya (Ibisomi & Fotso, 2010). The use of family planning allows women to meet their fertility intentions in terms of the number of births and timing of births (Moerland & Talbird, 2006). Furthermore, Ettarh's (2011) study shows that contraceptive use is low among women who desire to have

children within two years and the use of contraceptives increases as the numbers of children women have increases. Women who do not want to continue childbearing are more likely to use contraceptives compared to women who wish to have more children (Rahayu et al., 2009). Furthermore, women with 3 or 4 children were more likely to use contraceptives given that they have reached their desired numbers of children compared to those with 1-2 children (Rahayu et al., 2009). However, in Uganda, the number of non-contraceptive users increases as the number of children increases (Ojakaa, 2008).

The use of modern contraceptives differs across regions in Kenya (Ettarh, 2011). The northern and eastern regions had lower levels of contraceptive use as opposed to the central parts with the highest levels of contraceptive use. In addition, women living in slums have high parity and low contraceptive use (Ettarh, 2011). Research shows that there exist rural-urban differentials in contraceptive use despite knowledge of contraceptive methods in Nigeria, Zambia and Indonesia (Olalekan & Olufunmilayo, 2012; White & Speizer, 2007; Rahayu et al., 2009). These studies found that rural areas have lower levels of contraceptive use as opposed to urban areas in which women are more likely to be using contraceptives (Olalekan & Olufunmilayo, 2012; White & Speizer, 2007; Rahayu et al., 2009). The reason for this is that they desire fewer children and have more and better access to family planning and social amenities (Ayoub, 2005). However, a growing poor urban population in Kenya redirects the need to look at basic services (Irani et al., 2012). Studies show that there is a higher need for family planning services in cities even though services are available (Irani et al., 2012). In addition, Bogale (et al., 2011) found that married women in urban areas are more likely to use contraceptives compared to their married rural counterparts.

Education remains the most important factor that affects contraceptive use (Rahayu et al., 2009). According to findings in Uganda, contraceptive use was higher among women with

primary education than women with no education (Ojakaa, 2008). In Nigeria, it was found that higher educated women were more likely to use contraceptives thereby decreasing their fertility (Olalekan & Olufunmilayo, 2012). In addition, women are more likely to use contraceptives when they have any level of education compared to no education (Rahayu et al., 2009). Furthermore, educated women situated in urban areas usually marry at older ages and are more likely to use contraceptives (Adetunji, 2012). In Kenya, women with higher levels of education belonging to urban areas with higher wealth quintiles were found to have a higher prevalence of modern contraceptive use compared to their counterparts (Ettarh, 2011). In another study in Malawi, women who are poor do not have high levels of education compared to the wealthy and are less likely to use contraceptives (Adebowale et al., 2013). This further adds to the importance of education.

According to a study that looks at wealth differentials in terms of contraceptive use in 13 sub-Saharan African countries, findings show that wealthy women are more likely to use contraceptives and meet their fertility intentions as opposed to their poorer counterparts (Creanga et al., 2009). However, this study remains optimistic in its findings that family planning programs have been implemented in most countries thus allowing poorer women to also meet their contraceptive needs hence reducing the wealth differentials among women in terms of their access to family planning methods. According to studies, it is well documented that poorer women do not make use of family planning compared to their wealthy counterparts (Creanga et al., 2009; Rahayu et al., 2009).

In a study conducted by Waitherero (2009), which looked at contraceptive use among young female youth (15-24 years old) in Kenya, it was surprisingly found that female youth with primary education were more likely to use contraceptives than those with secondary education and above. The study also found that levels of contraceptive use were low despite

high sexual activity. Only 26% of sexually active females aged 15-19 used contraceptives while only 25% of females aged 20-24 used contraceptives (Waitherero, 2009). Bearing in mind the Kenyan government's effort to increase contraceptive prevalence since before Kenya's independence, contraceptive prevalence should be higher than it is given that contraceptive knowledge is relatively high (Akoth, 2012).

2.3. Religion and contraceptive use

Religion is widely known to affect people's views and acceptance of modern contraception, thus affecting the outcome of their reproductive behaviour (McQuillan, 2004). However, the extent of how much of an affect religion has in influencing the reproductive outcomes of people in developing countries remains obscure given the relatively low number of recent studies that look into these phenomenon's. Furthermore, of the studies that look at the level of influence that religion has on contraceptive use, the results vary in different sub-Saharan African countries as shown by Yeatman and Trinitapoli (2008).

For example, a study found that religion affects the use of contraceptives in Mozambique (Agadjanian, 2011). Women who followed any religion, regardless of which religion they followed were surprisingly more likely to use contraceptives as opposed to women who did not believe in religion; that is, not affiliated to any religion (Agadjanian, 2011). In addition, both Catholic and Protestant Christians were found to be using more contraceptives compared to other religious groups (Agadjanian, 2011). According to Agadjanian (2003; 2011), this finding is not surprising; religious congregations are used to spread knowledge regarding contraceptives with religious leaders neither opposing nor consenting to the use of contraceptives, leaving it on neutral ground in Mozambique (Agadjanian, 2011). Roman

Catholics are also at the forefront of contraceptive usage in comparison to other religious groups in Mozambique (Agadjanian, 2003).

However, according to a study that looked at contraceptive use among young female youth (15-24 years old) in Kenya, it was found that Muslims were more likely to use contraceptives as opposed to Catholics (Waitherero, 2009). In addition, research in West Africa found that the fertility of Muslims vary according to their numbers, that is, areas with high numbers of Muslims have lower fertility compared to areas where Muslims are outnumbered (Johnson-Hanks, 2006). Further, their low socio-economic status is in large responsible for their increased fertility (Johnson-Hanks, 2006). This is of relevance as it indicates that both religion and socio-economic factors account for the differentials seen in the use of contraceptives. Furthermore, Johnson-Hanks (2006) found that the differences in contraceptive use between Muslims and Christians remain inconclusive in the region. In another study in Nigeria, it was found that contraceptive use is higher among Christians than Muslims (Adebowale et al., 2013).

Among currently married women in Ghana, it was found that religion does not affect the use of contraceptives, however, socio-economic characteristics, especially education, act as a driving force behind the use of contraceptives (Addai, 1999). This study also found that any contraceptive use differentials seen among religious groups are short term, and these differences will eventually fade over time as the reproductive patterns of people of similar socioeconomic statuses become parallel to each other. Hence, it is expected that, statistically, religious affiliation will become insignificant when adjusted for by demographic and socioeconomic characteristics in terms of contraceptive use (Addai, 1999).

Early studies show that the European transition began as a result of religious acceptability of modern contraception; the acceptance of contraceptives by the Church led a widespread

decline in fertility among married women in Europe (Coale, 1986; Lesthaeghe, 1980 as cited in Addai, 1999). Lesthaeghe (1989) further argued that the use of contraceptives largely depends on the Churches stance on contraception. If contraception is positively viewed by the Church, contraceptive use increases as opposed to when it is portrayed in a negative light (Coale, 1986; Lesthaeghe, 1989; Addai, 1999).

Furthermore, the stance of Churches varied in Europe, most notably among Roman Catholic Christians and Protestant Christians during the 19th Century (Agadjanian, 2011). Roman Catholics had higher fertility levels compared to Protestants as they were against the use of modern contraceptives as it went against the natural order of God. Whereas Protestants were more liberal in their use of contraceptives, thus the low levels of fertility (Freedman et al. 1959; Agadjanian, 2011). This further fuelled the rapid fertility decline in Europe (Freedman et al. 1959; Agadjanian, 2011). Simply put, highly religious people have more children due to their opposition to contraceptives according to Zhang (2008). Eventually, during the late 1960s, variations in contraceptive use among different religious denominations began to decrease if not disappear altogether (Westoff & Jones, 1979). However, given that the fertility transition is in its early stages in sub-Saharan Africa, religious differentials have been brought to the fore given its potential influence in terms of contraceptive use (Agadjanian, 2001).

Yeatman and colleague (2008) found that in rural Malawi, most religious leaders approved the use of modern contraceptives, thus a strong relationship was seen between the two factors. However, the level of approval differed between religious leaders. For instance, Muslims and Pentecostal religious leaders approved contraceptive use more than Catholic Religious leaders. However, it was surprising to find that while Catholic religious leaders were the least likely to approve the use of contraceptives, Catholic women used more

contraceptives as opposed to Muslim and Pentecostal women, thus suggesting an inverse relationship (Yeatman and Trinitapoli, 2008). A qualitative study of participant observation of religious services in Malawi indicate that religious leaders are neutral in that they do not encourage fertility nor promote contraceptive use (Trinitapoli, 2006). In the United States, religious engagement (attending places of worship) was found to be a good predictor of fertility behaviour (Hayford & Morgan 2008). The more religious were found to have higher fertility and lower contraceptive use (Hayford & Morgan 2008). However, in rural Malawi, attending religious services is positively associated with the use of modern contraceptives (Yeatman & Trinitapoli, 2008).

Literature suggests that the effect of religion on contraceptive use has in the past played an important role on the levels of fertility, in which religious affiliation tends to either enable or disable the use of contraceptives (Caldwell & Caldwell, 1987). It has been argued that religion will hinder the use of family planning in this region (Caldwell & Caldwell, 1987). However, we are now beginning to see evidence in which religion may play an enabling role to the use of contraceptives. Contraceptive use differentials by religious affiliation are not the same across sub-Saharan Africa let alone worldwide as shown in literature. The effect of religious affiliation on contraceptive use has not been fully understood in sub-Saharan Africa, and in specific Kenya. Furthermore, the demographic and socio-economic factors play an important role in determining the use of contraceptives (Waitherero, 2009; Akoth, 2012; Ettarh , 2011; Rahayu et al., 2009).

2.4. Theoretical and conceptual frameworks

Given the different accounts for the increase in contraceptive use as shown in the literature, the particularised theology hypothesis and characteristics hypothesis are discussed below in which two different accounts of contraception are explained in terms of religious affiliation.

2.4.1 Particularized theology hypothesis

Goldcheider's (1971) theory on the Particularized Theology Hypothesis delves into the reasoning behind whether or not contraceptives are used from a religious point of view (Addai, 1999). This theory hypothesises that contraceptive use is determined by differences in religious theology and depends on how liberal the religious doctrines are; for example, pro-natalist religious doctrines encourage childbearing, thus the low levels of contraceptive use as seen among the Roman Catholics during the European fertility transition, as opposed to Protestants who were not radically pro-natal (Addai, 1999). Hence, pro-natal religious groups are expected to have large families and oppose the use of contraceptives and abortions (Addai, 1999). Religious groups such as the Roman Catholics, fundamentalist Protestants and Muslims fall under pro-natal doctrines. Mainstream Protestants are not extremely pro-natal, thus the increased use of contraceptives among these religious groups (Addai, 1999).

2.4.2 Characteristics Hypothesis

The Characteristics Hypothesis by Goldscheider (1971) takes the stance that contraceptive differentials are due to the socio-economic characteristics of groups of people, and not religious affiliation (Addai, 1999). Socio-economic and demographic characteristics affect contraceptive use uptake. The theory hypothesizes that, groups of people who have high socio-economic backgrounds, have higher contraceptive usage compared to people with lower socio-economic characteristics. Thus, their levels of contraceptive use mirror each other leading to similar reproductive desires and outcomes. The reasoning behind this is that

people of the similar characteristics tend to converge in terms of their reproductive patterns of fertility and contraceptive use, thus differentials between varying socio-economic backgrounds arise when it comes to using contraceptives (Addai, 1999). This theory perceives any contraceptive use differentials by religious groups as temporary, and these differences are expected to eventually fade (Addai, 1999).

It is hypothesized that in theory, by statistically adjusting the demographic and socio-economic characteristics of religious groups, the differences seen in contraceptive usage among religious groups should become insignificant (Goldscheider, 1971; Petersen, 1969). The influence that religion has may be due to other extraneous variables, for example, place of residence where clusters of a certain religious group may live in rural areas, thus limiting their access to family planning services as opposed to their urban counterparts (Addai, 1999).

2.4.3 Conceptual framework

This conceptual framework has been adapted from Bongaarts (1978) proximate determinants of fertility framework. According to Bongaarts (1978), the indirect determinants that affect fertility are the socio-economic, cultural and environmental factors, whereas the intermediate variables directly affect fertility. Bongaarts (1982) framework identifies contraceptive use, abortion, postpartum insusceptibility, sexual exposure, fecundability and sterility as the main determinants of fertility. This framework has been adapted by focusing on contraceptive use as the key determinant or immediate variable of fertility. Therefore, the direct effect between Bongaarts (1978) indirect determinants and intermediate variable of contraceptive use will be examined.

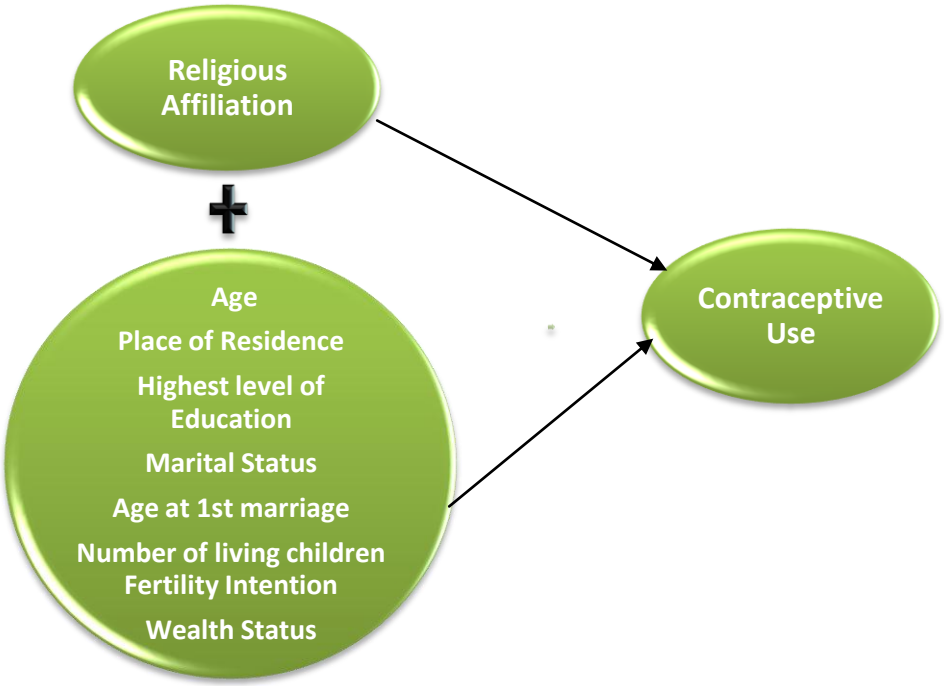


Figure 1: Adapted from Bongaarts Proximate Determinants of Fertility Framework, 1978.

Given that the influence of religion on contraceptive use is not fully understood (Yeatman & Trinitapoli, 2008) the key predictor variable is religious affiliation in which its influence on contraceptive use will be examined. Both religious affiliation and the demographic and socioeconomic factors are assumed to affect contraception in Kenya.

The two hypotheses have been included in order to understand the link between religious affiliation and contraceptive use in Kenya. The particularized theology hypothesis argues that contraceptive use differentials depend on the flexibility of religious natal doctrines, whereas the characteristics hypothesis argues that the differences in contraceptive use are due to different socio-economic backgrounds (Addai, 1999). The characteristics hypothesis is of relevance when used in conjunction with the particularized hypothesis in which the demographic and socio-economic variables (age of the respondent, residence, level of education, marital status, age at first marriage, number of living children, fertility intention and wealth status) are controlled for so as to isolate the net effect of religious affiliation on

contraceptive use. This will ascertain the actual effect of religious affiliation on contraceptive use and will determine whether differentials in contraceptive use in Kenya are due to religious affiliation or socioeconomic factors as proposed by the two hypotheses.

Chapter 3: Methodology

3.1. Introduction

The study made use of the Kenyan Demographic and Health Survey (KDHS) of 2008-2009. The KDHS is a nationally representative sample survey of 8 444 women of reproductive ages (15-49) (KNBS & ICF Macro, 2010). The individual recode which is based on the women's questionnaire provided the necessary information regarding the demographic and socio-economic variables necessary to examine the use of modern methods of contraceptives in Kenya.

3.2. Sample design

The sample for the KDHS was drawn from the target population of those residing in households in Kenya (KNBS & ICF Macro, 2010). A representative sample of the target population of 10 000 households was drawn for the 2008-2009 KDHS. Fewer households were surveyed in North Eastern province due to its sparse population and urban areas were oversampled deliberately to attain enough cases for analysis. Due to different sample proportions, the KDHS sample is not self-weighted at the national level and as a result all tables except those concerning the response rates are based on weighted data (KNBS & ICF Macro, 2010).

3.3. Survey questionnaires

There were 3 questionnaires used to collect the survey data namely the Household, Women's Questionnaire and Men's Questionnaire, with the contents of these questionnaires based on model questionnaires of the MEASURE DHS programme with slight modifications in order

to reflect the key issues in Kenya. This study focuses on the Women's questionnaires (KNBS & ICF Macro, 2010). The Women's Questionnaire captured information for women of reproductive ages that was useful to this study such as background characteristics, reproductive history, family planning knowledge and use, and fertility preferences among others.

3.4. Sample size and study population

From the 8 767 women eligible to be interviewed from the households, 8 444 women were interviewed thereby giving a response rate of 96% (KNBS & ICF Macro, 2010). Out of these 8 444 observations, only 3930 observations have been used for the purposes of this study as women who are menopausal, infecund, pregnant, amenorrheic and never had sex have been dropped in order to obtain more accurate results pertaining to the outcome variable of contraceptive use. The unit of analysis was women of reproductive ages 15-49 who were sexually active.

3.5. Data methods

3.5.1 Main variables used in the study and definitions

Outcome/response Variable	Operational definition
Current Contraceptive use (The use of methods to stop conception purposefully) Different methods/techniques of contraceptives being currently used by respondents: Not using, Pill, In-uterine Device, Injections, Condom, Female Sterilization, Male Sterilization, Periodic Abstinence, Withdrawal, Other, Norplant, Lactational	*recoded ➢ Not using contraceptives (**0**) ➢ Using modern contraceptive methods (**1**) (pill, IUD, injections, condom, male and female sterilization, Norplant, lactational amenorrhea) ***traditional methods of contraceptives have been dropped as it is an ineffective method of contraception, consists of a small percentage in the dataset (6%), and the focus of this study is "modern" methods of

Amenorrhea, Female Condom	contraceptives.
Predictor Variables	***Operation definition***
Religious Affiliation Roman Catholic Protestant/other Christian Muslim No religion Other	*recoded ➢ Roman Catholic (**1**) ➢ Protestant/Other Christian (**2**) ➢ Muslim (**3**) ➢ No Religion & other (**4**)
Age Age of respondents in single ages 15-49	*recoded ➢ 15-24 (**1**) ➢ 25-34 (**2**) ➢ 35+(**3**)
Place of Residence Urban/rural	➢ Urban (**1**) ➢ Rural (**2**)
Highest Education level Level of education completed	➢ No education (**1**) ➢ Primary (**2**) ➢ Secondary (**3**) ➢ Tertiary (**4**)
Marital Status Current marital status	➢ Never married (**1**) ➢ Currently married (**2**) ➢ Formerly married (**3**) ***never married has been included due to the increase in childbearing before marriage (Adetunji, 2012).
Age at first marriage Age at first marriage in single ages 9-48	*recoded ➢ <20 years (**1**) ➢ 20+ years (**2**) ***Age at first marriage is increasing in Kenya and categorization is based on mean age at first marriage.
Number of living children sum of all children alive, either living at home or away from home in single numbers 0-15	*recoded ➢ 0 (**1**) ➢ 1-2 (**2**) ➢ 3+ (**3**)
Fertility Intention Measured by **DFC** (Desired for children) Women's fertility intention to stop/continue childbearing Respondents asked: 1) wants within 2 years 2) wants after 2 years 3)wants, unsure timing 4) undecided 5) wants no more	*recoded ➢ Respondents who desire to have more children (**1**) (wants within and after 2 years combined) ➢ Undecided/unsure (**2**) ➢ Respondents who desire to stop childbearing (**3**)
Wealth Status Respondents classified into five wealth indexes: 1)Poorest 2)Poorer 3)Middle	*recoded ➢ Poor (**1**) (Poorest and Poorer) ➢ Middle (**2**) ➢ Rich (**3**) (Richer and Richest)

4)Richer 5)Richest	

The demographic and socio-economic variables shown in the above table have been chosen for this study as these factors have been reported to affect contraceptive use in Africa in a variety of studies. Furthermore, the choice of independent variables that were included in the regression models as control factors was based on the theoretical relevance of predictors in sub-Saharan Africa. Based on the conceptual framework of the determinants of contraceptive use, these factors were chosen to examine if they affect contraceptive use in Kenya.

3.6. Data analysis

The data has been analysed in three levels, namely univariate, bivariate and multivariate analysis. Univariate analysis of descriptive statistics was conducted in order to describe the background characteristics of respondents using percentage distribution. Bivariate analysis has been used to obtain objective one whereas multivariate analysis was conducted in order to achieve objective two. The statistical tests were all conducted at the 5% level of significance and 95% confidence interval and the data was weighted in order to obtain results representative of the population in Kenya. The data was analysed using STATA version 12.

Objective one: to examine the differentials in contraceptive use by religious affiliation in Kenya

Bivariate analysis of the chi-square of association test has been used to examine if there is an association between religious affiliation and contraceptive use with the two-way contingency table being used to describe the percentage differences in contraceptive use by religious affiliation and background characteristics. To shed more light on the differences in socio-economic and demographic factors of respondents among religious denominations, chi-

square cross-tabulation was used. A three-way contingency table was also used to examine the differences in contraceptive use by religious affiliation and selected characteristics. The Chi square test of independence is an appropriate bivariate test given that the variables are categorical. This test is used to determine whether the first variable is related or independent of the second variable (Steinberg, 2011). The assumption of the test includes a large sample size, does not require random sampling, is distribution free and the observations are assumed to be independent of each other (Michael, 2002).

The formula used for this test is:

$$x^2 = \sum \frac{(o - e)2}{e}$$

Where

x^2 = Chi square

O = Observed frequency in each category

E = Expected frequency in the corresponding category

Df =Degree of freedom (n-1)

Objective two: To examine demographic and socio-economic factors that affect the use of contraceptives in Kenya

In order to achieve objective two, logistic regression has been employed in order to assess the affect of religious affiliation on contraceptive use both with and without controls. The logistic regression producing odds ratios (OR) was used to examine the factors that affect contraceptive use in Kenya. Logistic regression is used to analyse the relationship between a

binary outcome variable with a set of predictor variables (Healy, 2006) . This analysis tests the probability of all independent variables being statistically significant in a specific category, compared to the selected baseline outcome category of the outcome variable (Hilbe, 2009). Furthermore, in testing all independent variables the regression omitted the first factor by using it as a reference group. This model has also been used because it does not assume normality, linearity or homoscadascity (Healy, 2006). This model can also be used to test interactions between independent variables which may further affect the outcome variable (Mitchell & Chen, 2005).

The formular for this test is:

$$\text{Ln}(pi / 1\text{-}pi) = \beta 0 + \beta 1xi1 + \beta 2xi2 + \beta 3xi3 + \beta 4xi4 + \beta 5xi5 + \beta 6xi6 + \beta 7xi7 + \square i$$

Where

$L_n (p_i / 1\text{-}p_i)$ = log-odds ratio

β = parameters

β0 = beta for intercept

β xi = beta for predictor variables

$_i$ = variation in the model

3.7. Research hypothesis

H_0: There is no association between religious affiliation and contraceptive use in Kenya.

H_1: There is an association between religious affiliation and contraceptive use in Kenya.

3.8. Ethical considerations

This study made use of secondary data analysis from the KDHS 2008-2009. Therefore, there were no ethical issues pertaining to interviewee confidentiality as well as methods and procedures used in order to obtain the data from Kenya that was used for this study. The KDHS 2008-2009 was approved by the Scientific and Ethical Review Committee of KEMRI.

3.9. Limitations

Religious affiliation itself is not enough to examine the full effect that religion may have on the use of contraceptives. The level of religiosity that is how involved and committed individuals are in their religious practices plays an important role in examining whether contraceptives are used. Studies in developed countries have begun to look at this, however only a limited number of studies in developing countries look beyond religious affiliation. A limitation of this study is that the data used (KDHS) does not have a religiosity variable (that is how often people attend religious places of worship) and does not specify the percentage of churches and religious places of worship that exist in the different regions and residence of Kenya which may all influence contraceptive use. Furthermore, it is important to note that Kenya has been in the midst of political instability and ethnic violence since the year 2007 to mid-2008 thereby hindering health and other services (Muhula, 2009). This may possibly affect the demographic processes of the country as well as the use of contraceptives given the impediment in the access to resources and services.

Chapter 4: Results

Univariate analysis of the KDHS 2008-2009 data for women of reproductive ages has been conducted in order to examine the background characteristics of the respondents. Percentage distributions of demographic and socio-economic factors have been produced as illustrated in table 1 below. This is used to develop a description of the characteristics of the respondents.

Table 1: Percentage Distribution of Respondents by Background Characteristics, Kenya 2008-2009	
Outcome Variable	**Percentage (%)**
Contraceptive Use	
0) Not Using contraceptives	58.45
1) Using Modern methods of contraceptives	41.55
Predictor Variables	**Percentage (%)**
Religious Affiliation	
1) Roman Catholic	22.05
2) Protestant	69.98
3) Muslim	5.71
4) Other	2.26
Age	**Mean age: 29.57**
1) 15-24	33.09
2) 25-34	38.60
3) 35+	28.31
Place of Residence	
1) Urban	30.53
2) Rural	69.47
Highest Level of Education	
0) No education	6.69
1) Primary	54.43
2) Secondary	29.70
3) Tertiary	9.18
Marital Status	
1) Not Married	31.48
2) Married	62.46
3) Formerly Married	6.05
Age at first Marriage	**Mean: 19.34**
1) Under 20 years old	67.87
2) Over 20 years old	32.13
Number of living children	**Mean: 2.51**
1) 0 children	18.43
2) 1-2 children	40.34
3) 3+	41.23
Fertility Intention (desire for children)	

1) yes (wants more children)	43.96
2) undecided	10.83
3) no (does not want more children)	45.22
Wealth Status	
Poor	28.87
Middle	17.92
Rich	53.21

The percentage distribution of contraceptive use as shown in table 1 indicates that more than half of the respondents are currently not using any forms of contraceptives (58%), while 42% of the respondents are currently making use of modern methods of contraceptives. Approximately 70% of the respondents are Protestant, followed by 22% of respondents religiously affiliated as Roman Catholic. Muslims and other religious groups comprise of a smaller percentage (6% and 2% respectively). This indicates that majority of the respondents are Protestants.

Over a third of the respondents are of the ages 25-34 year olds. In addition, the average (mean) age of respondents in the sample population is 29 years old. Respondents of the ages 25-34 make up approximately 38% of all age groups followed by respondents of the ages 15-24 and respondents over the age of 35 and above and that make up 33% and 28% of the sample population respectively. This suggests that the population in Kenya is relatively young. Furthermore, the data shows that majority of the respondents live in rural areas (70%) compared to urban areas (30%).

The percentage distribution of highest level of education shows that majority of the respondents have primary education (54%), followed by secondary education (30%). Approximately 7% of the respondents have no education and only 9% have attained tertiary education. Data shows that the majority of the respondents are married (62%), approximately 31% have never been married, and approximately 6% of respondents have been previously married (divorced/widowed).

The percentage distribution of age at first marriage shows that an astonishing 68% of respondents have married under the age of 20 whereas only 32% of respondents age at first marriage is over the age of 20. Furthermore, the average age at first marriage among respondents is 19 years old. Approximately 18% of respondents have no living children, 40% of respondents have between 1-2 living children and approximately 41% of respondents have 3 and above children. The average number of living children women have is 2, 5 (approximately 2-3 living children).

It is interesting to note that the fertility intention to have more children and not to have more children is almost equal among respondents of reproductive ages (44% and 45% respectively). The remaining 11% are unsure about their desire for childbearing. The percentage distribution of wealth status indicates that slightly more than half of the respondents are rich at 53%. Approximately 29% of respondents have been classified as poor and 18% of respondents as middle class as shown in table 1.

Table 2 presents the chi square association test of contraceptive use by demographic and socio-economic characteristics in Kenya, 2008-2009. The cross-tabulation is used to describe the demographic and socio-economic characteristics of contraceptive use. The results indicate that religion, age, place of residence, highest level of education, marital status, age at first marriage, number of living children, fertility intention and wealth status are all significant predictors of contraceptive use at the 5% level of significance.

Table 2: Percentage Distribution of Contraceptive Use by Background Characteristics among Respondents, Kenya 2008-2009

Current contraceptive use	**Not using contraceptives**	**Using Modern contraceptives**	**Total**
Religious Affiliation			
Roman Catholic	460	337	797

	57.72	42.28	100.00
Protestant	1,438 55.98	1,131 44.02	2,569 100.00
Muslim	374 78.74	101 21.26	475 100.00
Other	61 68.54	28 31.46	89 100.00
Total	2,333 59.36	1,597 40.64	3,930 100.00
			Pearson chi2(3)=90.1337 p-value 0.000
Age			
15-24	904 68.75	411 31.25	1,315 100.00
25-34	742 50.61	724 49.39	1,466 100.00
35+	687 59.79	462 40.21	1,149 100.00
Total	2,333 59.36	1,597 40.64	3,930 100.00
Pearson chi2(3)=124.9526 p-value 0.000			
Place of Residence			
Urban	806 55.78	639 44.22	1,445 100.00
Rural	1,527 61.45	958 38.55	2,485 100.00
Total	2,333 59.36	1,597 40.64	3,930 100.00
Pearson chi2(1)=12.1774 p-value 0.000			
Highest Level of Education			
No education	380 89.20	46 10.80	426 100.00
Primary	1,186 58.65	8.36 41.35	2,022 100.00
Secondary	559 53.24	491 46.76	1,050 100.00
Tertiary	208 48.15	224 51.85	432 100.00
Total	2,333 59.36	1,597 40.64	3,930 100.00
Pearson chi2(3)=196.5044 p-value 0.000			
Marital Status			
Never married	905 76.69	275 23.31	1,180 100.00
Currently married	1,238 49.32	1,272 50.68	2,510 100.00
Previously married	190 79.17	50 20.83	240 100.00
Total	2,333 59.36	1,597 40.64	3,930 100.00

Pearson chi2(2) = 290.8479 p-value 0.000			
Age at first Marriage			
<20 years old	1,139 55.94	897 44.06	2,036 100.00
>20 years old	4.62 47.93	502 52.07	964 100.00
Total	1,601 53.37	1,399 46.63	3,000 100.00
Pearson chi2(1) =16.8993 p-value 0.000			
Number of living children			
0 children	604 80.32	148 19.68	752 100.00
1-2 children	854 54.81	704 45.19	1,558 100.00
3+children	875 54.01	745 45.99	1,620 100.00
Total	2,333 59.36	1,597 40.64	3,930 100.00
Pearson chi2(2) = 169.4928 p-value 0.000			
Fertility Intention (Desire For Children)			
Yes (wants more children)	1,173 64.59	643 35.41	1,816 100.00
Undecided	352 75.05	117 24.95	449 100.00
No (does not want more children)	808 49.12	837 50.88	1,645 100.00
Total	2,333 59.36	1,597 40.64	3,930 100.00
Pearson chi2(2) = 140.0171 p-value 0.000			
Wealth Status			
Poor	814 72.55	308 27.45	1,927 100.00
Middle	352 53.99	300 46.01	702 100.00
Rich	1,167 54.13	989 45.87	2308 100.00
Total	2,333 59.36	1,597 40.64	3,930 100.00
Pearson chi2(2) = 113.1722 p-value 0.000			

Table 2 shows that slightly over half of Roman Catholics and Protestants do not use contraceptives (58% and 56%), while less than half use contraceptives (42% and 44%). However, a higher percentage of Muslims respondents do not use contraceptives (79%) with only 21% currently using contraceptives.

Results show that majority of respondents between the ages 15-24 do not use contraceptives at 69%. Only 31% of youth (15-24 year olds) currently use contraceptives. There exists only a slight percentage difference between the use and non-use of contraceptives among the age group 25-34 with 49% of respondents currently using contraceptives and 51% not using any methods of contraceptives. For the age group 35+, 60% of respondents do not use contraceptives while only 40% use contraceptives.

Surprisingly, more than half of respondents who live in urban areas do not use contraceptives (56%) as opposed to 44% who do use modern methods of contraceptives. The majority of the respondents that live in rural areas do not use any methods of contraceptives (61%).

Data analysis shows that almost 90% of respondents with no education do not use contraceptives. Approximately 59% of respondents with primary education do not use contraceptives. For respondents with secondary and tertiary education, results suggest that a small difference exists among respondents currently using or not using any methods of contraceptives. This indicates that respondents with low levels of education do not use contraceptives, while respondents with high levels of education use contraceptives.

The percentage difference is similar for respondents who have never been married and respondents that have been formerly married (widowed/divorced). More than 3 quarters of respondents who have never been married and formerly married do not use contraceptives (77% and 79%). However, contraceptive use among respondents who are currently married is half compared to respondents not using any methods of contraceptives (51% and 49%).

Of those respondents who married for the first time before the age of 20, 56% do not use contraceptives, while the remaining 44% are currently using contraceptives. Similar results

are shown for respondents who married after the age of 20 for the first time in which 52% use contraceptives and 48% do not use contraceptives.

Of respondents who have no living children, 80% do not use contraceptives and only 20% are currently using modern methods of contraceptives. Respondents with 1-2 living children and those with 3 and/or more children have similar results in which slightly less than half use contraceptives (45% and 46%) and the remaining half are not currently using any forms of contraceptives (55% and 54%).

Results indicate that the majority of the respondents with the fertility intention of having more children do not use contraceptives (65%). Approximately 75% of respondents do not use contraceptives as they remain unsure whether they desire to continue or stop childbearing and 51% of respondents with the fertility intention of having no more children use contraceptives.

Data analysis for wealth status shows that 73% of respondents classified as poor do not use contraceptives with only 28% using contraceptives. Results are the same for those classified as middle class and rich in which approximately 54% do not use contraceptives and 46% use contraceptives.

Table 2 shows that in total, only 41% of respondents are currently using contraceptives while 59% of respondents do not use contraceptives. This is true for all variables accept for age at first marriage where 53% do not use modern methods of contraceptives.

Table 3: Percentage Distribution of Respondents Selected Characteristics among Religious groups, Kenya 2008-2009

Religious Affiliation	Roman Catholics	Protestants	Muslims	Other	Total
Highest Level of Education					
No Education	53	95	246	32	426
	6.65	3.7	51.79	35.96	10.84

Primary	420	1,393	178	31	2,022
	52.7	54.22	37.47	34.83	51.45
Secondary	224	781	38	7	1,050
	28.11	30.4	8	7.87	26.72
Tertiary	100	300	13	19	432
	12.55	11.68	2.74	21.35	10.99
Total	797	2,569	475	89	3,930
	100	100	100	100	100
				Pearson chi2(9) = 1.1e+03	Pr = 0.000
Wealth Status					
Poor	190	662	231	39	1,122
	23.84	25.77	48.63	43.82	28.55
Middle	144	445	58	5	652
	18.07	17.32	12.21	5.62	16.59
Rich	463	1,462	186	45	2,156
	58.09	56.91	39.16	50.56	54.86
Total	797	2,569	475	89	3,930
	100	100	100	100	100
				Pearson chi2(6) = 126.4795	Pr=0.000
Place of Residence					
Urban	279	953	180	33	1,445
	35.01	37.1	37.89	37.08	36.77
Rural	518	1,616	295	56	2,485
	64.99	62.9	62.11	62.92	63.23
Total	797	2,569	475	89	3,930
	100	100	100	100	100
				Pearson chi(3)=1.4460	Pr=0.695
Marital Status					
Never Married	276	822	63	19	1,180
	34.63	32	13.26	21.35	30.03
Married	463	1,598	383	66	2,510
	58.09	62.2	80.63	74.16	63.87
Formerly Married	58	149	29	4	240
	7.28	5.8	6.11	4.49	6.11
Total	797	2,569	475	89	3,930
	100	100	100	100	100
				Pearson chi2(6) = 85.8498	Pr = 0.000
Number of Living Children					
0 children	165	507	73	7	752
	20.7	19.74	15.37	7.87	19.13
1-2 Children	327	1,038	150	43	1,558
	41.03	40.4	31.58	48.31	39.64
3+ children	305	1,024	252	39	1,620
	38.27	39.86	53.05	43.82	41.22
Total	797	2,569	475	89	3,930

	100	100	100	100	100
			Pearson chi2(6) = 40.2955		Pr = 0.000
Fertility Intention (DFC)					
Yes	344	1,131	299	42	1,816
	43.16	44.02	62.95	47.19	46.21
Undecided	96	285	82	6	469
	12.05	11.09	17.26	6.74	11.93
No	357	1,153	94	41	1,645
	44.79	44.88	19.79	46.07	41.86
Total	797	2,569	475	89	3,930
	100	100	100	100	100
			Pearson chi2(6) = 110.8088		Pr = 0.000

Table 3 reports the percentage distribution of the characteristics of respondents of reproductive ages based on their religious affiliation. This allows for the comparison of demographic and socio-economic characteristics of respondents among the various religious groups.

Results show that Muslims are the least educated, while Roman Catholics and Protestants are the most educated. For example, half of Muslims have no education, followed by 36% of 'other' religion, while less than 10% of Roman Catholics and Protestants have no education. Data shows that approximately half of Roman Catholics and Protestants have primary education (53% and 54%), compared to a third of Muslims and respondents of 'other' religions. Approximately 20% more of Roman Catholics and Protestants have secondary education compared to Muslims. Respondents of 'other' religious affiliations have the highest percentage of tertiary education (21%), followed by Roman Catholics (13%) and Protestants (12%), while Muslims have the lowest percentage of respondents with tertiary education (3%).

Approximately half of the respondents are rich in all religious groups except for Muslims in which 40% of the respondents are rich. Furthermore, approximately 49% of Muslims and

44% of ‘other’ religion respondents are poor while one fourth of Roman Catholics and Protestants are poor.

Though not statistically significant, place of residence is fairly uniform among religious groups. Results indicate that from all religious groups, a large percentage of Muslim respondents are married at 81% compared to other religious groups while a higher percentage of Roman Catholics (38%) and Protestants (32%) have never been married compared to Muslims. Furthermore, in all religious groups, more or less 5-7% of respondents have been formerly married.

Notably, both Roman Catholics and Protestants have similar numbers of living children. Results show that one fifth of Roman Catholics and Protestants currently have no living children. Approximately 15% of Muslim respondents have no children while a small percentage of ‘other’ religion have no children (8%). Almost half of ‘other’ religion has between 1-2 living children, while approximately 40% of Protestants and 41% of Roman Catholics have 1-2 living children. Only 32% of Muslims have 1-2 children, however, 53% of respondents affiliated as Muslim have 3 or more living children. Approximately 40% of other religion, Protestants and Roman Catholics have 3 and/or more children.

Results indicate that nearly half of the respondents (Roman Catholics, Protestants, and “Other”), while only 12% remain uncertain as to whether or not they desire to procreate. However, among Muslim respondents, majority desire to continue childbearing (63%) while only 20% do not want to have more children.

Results from the chi-square cross-tabulation surprisingly show similar results between Roman Catholics and Protestants in terms of their demographic and socio-economic

characteristics thereby indicating that Roman Catholics and Protestants have similar background characteristics.

Table 4: Percentage Distribution of Respondents Religious Affiliation controlled for Contraceptive Use and Selected Characteristics, Kenya 2008-2009

Religious Affiliation	Highest Level of Education				Wealth Status			Residence	
	No Education	Primary	Secondary	Tertiary	Poor	Middle	Rich	Urban	Rural
Roman Catholics	8	178	104	47	48	68	221	128	209
	2.37	52.82	30.86	13.95	14.24	20.18	65.58	37.98	62.02
Protestants	16	591	370	154	229	218	684	432	699
	1.41	52.25	32.71	13.62	20.25	19.27	60.48	38.2	61.8
Muslims	18	60	15	8	26	13	62	58	43
	17.82	59.41	14.85	7.92	25.74	12.87	61.39	57.43	42.57
Other	4	7	2	15	5	1	22	21	7
	14.29	25	7.14	53.57	17.86	3.57	78.57	75	25

In order to examine the characteristics of contraceptive use by religious affiliation, a three way cross tabulation has been conducted. Table 4 demonstrates the percentage distribution of respondents that are currently using contraceptives by their religious affiliation and selected characteristics such as highest level of education, wealth status and residence.

Results indicate that less than 2% of Roman Catholics with no education use contraceptives. Furthermore, more than half of Roman Catholics and Protestants using contraceptives have primary education and the remaining who use contraceptives have secondary and tertiary education (31-33% and 14% respectively). Approximately 60% of Muslims who use contraceptives have primary education while among other religion respondents, 54% have tertiary education.

Among all religious groups, data shows that more than 60% of respondents who use contraceptives are wealthy, with 79% of other religion respondents using contraceptives part

of the wealthy strata. Furthermore, among Protestants and Roman Catholics, 20% of respondents who use contraceptives are of middle class and the remaining are of poor wealth status. Similar results are seen among middle class Muslims (26%).

Of those Roman Catholics who use contraceptives, 38% reside in urban areas and the remaining 62% reside in rural areas - results show the same thing for Protestants as well. Furthermore, among Muslims who use contraceptives, 57% reside in urban areas and 43% in rural areas. Approximately 75% of other religion respondents who use contraceptives reside in urban areas with only 1 quarter located in rural areas.

This suggests that the characteristics of respondents who use contraceptives are mainly those who are educated and wealthy among all religious groups, while living in urban areas seems characteristic only to Muslim and other religious groups in terms of contraceptive use.

Table 5: Logistic Regression and Odds Ratio of Current Contraceptive Use among Religious Groups Controlling for Demographic and Socio-economic Characteristics, Kenya 2008-2009

Religious affiliation and characteristics	**model 1**	**model 2**	**model 3**
Religion			
Roman Catholics (RC)			
Protestants	0.975		0.919
Muslims	0.456*		0.498*
Other	0.245*		0.314*
Controls:			
Age			
15-24(RC)			
25-34		2.339*	1.157
35+		1.584*	0.577*
Place of residence			
Rural (RC)			
Urban		1.249*	0.958
Education			
No Education (RC)			
Primary education		3.382*	2.298*
secondary education		4.419*	3.521*
Tertiary education		5.043*	5.155*

Marital Status			
Never Married (RC)			
Married		4.203*	3.073*
Formerly Married		0.942	0.686
Age at first marriage			
<20 (RC)			
20+		1.177	0.970
Number of living children			
0 children(RC)			
1-2 children		3.749*	4.235*
3+ children		4.317*	5.397*
Fertility Intention (desire for children)			
Yes (RC)			
Unsure		0.491*	0.723
No		1.620*	1.530*
Wealth			
Poor (RC)			
Middle		2.162*	2.098*
Rich		2.011*	2.308*
Prob>F	0.0000	0.0000	0.0000

*p<0.05

Table 5 gives the odds ratio for the logistic regression models. Three models have been used in order to examine the affect of religious affiliation and the control variables independently on contraceptive use, as well as the adjusted affect of these variables on contraceptive use. Model 1 and model 2 have been conducted at the bivariate level and model three at the multivariate level of analysis. All the regression models fit the data given that the prob>F is 0.0000 and has been analysed at the 5% level of significance.

Model 1 looks at the differentials among religious groups that use modern methods of contraceptives compared to not using any forms of contraceptives. Results indicate that there is no significant difference in the use of contraceptives among Protestants and Roman Catholics. However, the odds of using contraceptives for Muslim respondents are 54% lower and 75% lower for other religion respondents than Roman Catholics.

To examine the demographic and socio-economic differentials among religious groups, model 2 looks at the odds of using contraceptives for each control variable independently. Results show that age is a significant predictor of contraceptive use at the bivariate level. Age groups 25-34 and 35+ are significant at the 5% level of significance. The analysis indicates that those of the ages 25-34 are 2 times more likely to be using modern methods of contraceptives compared to those of the ages of 15-24. Respondents over the ages 35 and above are 1.5 times more likely to be using modern methods of contraceptives compared to those of the ages 15-24.

Place of residence is significant at the 5% level of significance. Results indicate that respondents living in urban areas are more likely to be using contraceptives than those living in rural areas. Education is a significant predictor of contraceptive use at the 5% level of significance. As expected, results demonstrate that as the level of education increases, the likelihood of using contraceptives increases. For example, respondents with primary education are 3 times more likely to be using contraceptives compared to those with no education as shown in table 5. Respondents with secondary education are 4 times more likely to be using contraceptives compared to those with no education and those with tertiary education are 5 times more likely to be using contraceptives compared to those with no education.

Marital status is a significant predictor of contraceptive use at 5% level of significance. Results indicate that respondents that are married are 4 times more likely to be using contraceptives compared to those who have never been married. In addition, there is no significant difference in the use of contraceptives for those who have been formerly married and those who have never been married. Furthermore, age at first marriage is insignificant as analysis shows that there is no significant difference in the use of contraceptives between

respondents that married under the age of 20 and those married for the first time over the age of 20.

Number of living children is a significant predictor of contraceptive use at the 5% level of significance. Results indicate that as the number of children increases, the use of contraceptives increases. Those with 1-2 children are 3.7 times more likely to be using contraceptives compared to those with no living children. Furthermore, respondents with 3 and/or more children are 4 times more likely to be using contraceptives than those with no children.

As expected, fertility intention is a significant predictor of contraceptive use. Results indicate that those who are unsure about whether or not they should have more children are less likely to be using contraceptives compared to those who want to have children. Furthermore, respondents who do not desire to have more children are 1.6 times more likely to be using contraceptives compared to those who desire more children.

Wealth is a significant predictor of contraceptive use at the 5% level of significance. Results indicate that middle class and rich people are both 2 times more likely to be using contraceptives compared to the poor.

Controls are used in order to examine the relative effect of religious affiliation on contraceptive use as shown in model 3. Control variables have been added in conjunction with the main predictor variable - religious affiliation - in order to investigate whether the reported significance of two of the categories of religious affiliation remains for the current use and non-use of contraceptives. Holding all the other variables constant, the reported effect of religious affiliation on contraceptive use remains apparent as shown in model 3 with

the exception of Protestants and Roman Catholics. Results indicate that there is no significant difference in the use of contraceptives for Roman Catholics and Protestants in both models.

Results further indicate that religious affiliation remains a significant predictor of contraceptive use among Muslims and other religion. A slight decrease is seen in the likelihood of using contraceptives from Muslim respondents being 54% less likely to use contraceptives compared to the reference category in model 1, to 51% in model 3. The same is shown for other religion in which a 6% decline is seen from 75% to 69% of respondents less likely to use contraceptives.

Results demonstrate that at the 5% level of significance, the odds of using contraceptives for respondents over the ages of 35 are 50% less likely to use contraceptives compared to those of the ages 15-24. In addition, there is no significant difference in the use of contraceptives among respondents of the ages 15-24 and 25-34. Furthermore, results indicate that there is no significant difference in the use of contraceptives for place of residence in the multivariate analysis compared to the bivariate analysis where those in urban areas were more likely to be using contraceptives.

Education is a significant predictor of contraceptive use. As the level of education increases, the likelihood of using contraceptives increases in both models 2 and 3. Results show that respondents with primary education are 2 times more likely to be using contraceptives compared to respondents with no education. Those with secondary education are 3.5 times more likely to be using contraceptives compared to those with no education and those with tertiary education are 5 times more likely to be using contraceptives compared to those with no education. This suggests that the education of women creates awareness and encourages women to use contraceptives to regulate their fertility.

Marital status is a significant predictor of contraceptive use at the 5% level of significance. Results indicate that those respondents that are married are 3 times more likely to be using contraceptives compared to those who have never been married. This suggests that being married continues to play a role in the use of contraceptives. Furthermore, there is no significant difference in the use of contraceptives between those married under the age of 20 and those married for the first time over the age of 20.

The number of living children is a significant predictor of contraceptive use at the 5% level of significance. Results indicate that as the number of children increases, the use of contraceptives increases. Those with 1-2 children are 4 times more likely to be using contraceptives compared to those with no children, and those with 3 and/or more children are 5 times more likely to be using contraceptives than those with no children.

Fertility intention is a significant predictor of contraceptive use. Results indicate that those who do not want children are 1.5 times more likely to be using contraceptives compared to those who want children suggesting that respondents may be having their desired number of children.

Wealth is a significant predictor of contraceptive use at the 5% level of significance. As expected, results indicate that middle class and rich people are both 2 times more likely to be using contraceptives compared to the poor given the better access to family planning.

Chapter 5: Discussion

The purpose of this study was to examine whether the use of modern methods of contraceptives differs among religious groups and whether the selected demographic and socio-economic factors affect the use of modern methods of contraceptives in Kenya. Results suggest that there are variances in the use of modern methods of contraceptives among various religious denominations, in particular between Christians and Muslims. Furthermore, the results indicate that age, highest level of education, marital status, number of living children, fertility intention and wealth status are significant predictors of contraceptive use in Kenya.

According to a study conducted by Addai (1999), the analysis demonstrates that the odds of using contraceptives are higher among Protestants and lower among Roman Catholics and Muslims. Addai's (1999) findings are consistent with most studies that have found that there exist huge differentials among Protestants and Roman Catholics. However, according to the results found in this study, the analysis shows that there is no difference in the use of contraceptives among Roman Catholics and Protestants. This result remains unchanged regardless of whether the variable religious affiliation has been controlled for or not by socio-economic and demographic factors. Furthermore, this result is similar to a study in Mozambique by Agadjanian (2011) who found that Roman Catholics are more likely to use contraceptives and their contraceptive use is similar to Protestants if not higher.

The high levels of contraceptive use among Roman Catholics and Protestants and the lack of differences among them in terms of contraceptive use and socio-economic and demographic factors are of particular interest. Firstly, it has been shown that, historically, differentials in the use of contraceptives have been found among various religious denominations (Agadjanian, 2011). Roman Catholics have historically lagged behind in terms of using

contraceptives while Protestants have been more liberal and accepting in the use of contraceptives (Freedman et al. 1959). Therefore, as shown in most studies, contraceptive use differentials exist, with Protestants leading the way with higher levels of contraceptives compared to Roman Catholics. However, in Kenya, we are now beginning to see that Roman Catholics have been more lax in following their doctrines which encourages large family sizes and rejects modern methods of contraceptive use. This is not to say that religion does not play an important role in the lives of people given that research suggests that 94% of Kenyans feel that religion plays an important role in their lives (Gallup Global Reports, 2009). This just means that the use of contraceptives has become more acceptable among Roman Catholics. This has enabled the use of contraceptives to be the same among Roman Catholics and Protestants, thereby ceasing contraceptive use differentials among these religious denominations in Kenya.

However, the analysis further illustrates that Muslims are less likely to be using contraceptives compared to Roman Catholics, and contraceptive use is higher among Christians compared to Muslims. Literature shows different levels of contraceptive use among Muslims. For example, In Cameroon and Senegal, Muslims were more likely than non-Muslims to use modern methods of contraceptives, while in Chad, they were less likely to use contraceptives compared to other religions (Bertand & Farrell-Ross, 2013). Furthermore, low levels of contraceptive use remains characteristic of Muslims in West Africa (Bertand & Farrell-Ross, 2013).

On the contrary, in Indonesia and Morocco, two predominantly Muslim countries, findings show high contraceptive prevalence rates of 57% and 52% respectively (Bertand & Farrell-Ross, 2013). This indicates that Islamic religion in this setting plays an enabling role in the use of contraceptives. Furthermore, Islamic law does not oppose the use of contraceptives,

though high emphasis is placed on reproduction in which childbearing is seen as blessings bestowed by God (Bertand & Farrell-Ross, 2013).

This raises the question as to what could be the reasons regarding why Roman Catholics and Protestants have the same levels of contraceptive use while Muslims have low level of contraceptive use and are less likely to be using modern methods of contraceptives. The low odds of using contraceptives among Muslims compared to Roman Catholics have three possible explanations. Firstly, even though Islam permits the use of contraceptives, childbearing is of utmost importance (Avong, 2012). Secondly, low levels of contraceptive use can be explained by the low socio-economic status among Muslims. According to results from the KDHS 2008-2009, majority of the respondents are Protestants (70%) while only 6% of the respondents are Muslims. Results show that Roman Catholics and Protestants have similar demographic and socio-economic characteristics with minute differences. However, the socio-economic characteristics differ among Christians and Muslims. For example, Muslims are the least educated while Roman Catholics and Protestants are the most educated. In addition, a larger percentage of Christians fall under the rich quintile compared to Muslims, and a higher percentage of Muslims are married compared to Christians. Notably, among all religious groups, the number of living children is similar and more Muslims desired to have children with the fertility intention of having more children as opposed to Christians. This therefore explains why almost 80% of Muslims do not use contraceptives as opposed to more or less 55% of Christians. Thus, the observed significant differences in contraceptive use by religious affiliation among the respondents are explainable by variations in socioeconomic and demographic attributes that characterize the religious groups of Roman Catholics, Protestants and Muslims. The higher fertility levels among Muslims are somewhat accounted for by their lower socioeconomic status which decreases their likelihood of using contraceptives.

Thirdly, Muslims are a minority in Kenya. According to a study in West Africa, though debatable, suggests that Muslims have lower fertility in areas where they are the majority group, and higher fertility when they are the minority group (Johnson-Hanks, 2006). This is of relevance as it indicates that both religion and socio-economic factors account for the differentials seen in the use of contraceptives.

The demographic and socio-economic factors also play a significant role in the use of contraceptives. Factors such as age, place of residence, highest level of education, fertility intention, wealth status, number of living children and marital status affect the use of contraceptives.

The age of women is an important indicator of contraceptive use (Ayoub, 2005). According to the percentage distribution of age, majority of women under the age of 18 do not use contraceptives (83%), while over half of 19-24 year olds, 25-34 year olds and 35+ year olds do not use contraceptives. Surprisingly, results demonstrate that women over the ages of 35 and above are 50% less likely to use contraceptives compared to those under the age of 18. However, according to a study by Ettarh (2011), in Kenya, contraceptives are mostly used by women over the ages of 30. In another study, results show that women of the ages 30-39 and 40-49 years were less likely to use contraceptives compared to those of the ages 15-29 (Rahayu et al., 2009). This can be explained by the assumption that women of these ages hold, in which women assume that they are infecund, less fertile or entering menopause and therefore assume that they do not need to use contraceptives (Rahayu et al., 2009). This therefore sheds light on the rationale for a decreasing need in using contraceptives, though incorrect, among older women. The implication of this is that women do not use contraceptives and become susceptible to unplanned pregnancies.

The percentage distribution of age at first marriage shows that majority of the women in Kenya marry before the age of 20. There is not much difference in the percentage distribution of women using contraceptives for those who married for the first time under or over the age of 20. In addition, multivariate analysis shows that there is no significant difference in the use of contraceptives between women who married under and over the age of 20. This finding is in contrast to a study by Adetunji (2012) who found that the age at first marriage affects the use of contraceptives and delays childbearing among women who marry at older ages.

Majority of the women in Kenya are married and the bivariate cross tabulations show that a higher percentage of married women use contraceptives compared to women who have never been married before and formerly married. Furthermore, women who are married are 3 times more likely to be using contraceptives compared to those who have never been married. The results are consistent with a study conducted by Ettarh (2011) in Kenya who found that married women represent the largest proportion of modern contraceptive users. Women who were never or formerly married were less likely to be using modern contraception than currently married women (Ettarh, 2011).

Results show that there is an association between the number of living children respondents have and the use of contraceptives. Results indicate that the likelihood of using contraceptives increases as the number of living children increases. These results are in consensus with findings in a study that looked at the socio-economic factors of contraceptive use. A study by Kimani (2006) demonstrated that women are more likely to use contraceptives as the number of living children increases and that there is a positive association between the two. This means that the more children women have, the more likely contraceptives are used and vice versa. Furthermore, women who have at least 3 living children have increased odds of using contraceptives (Addai, 1999).

Results show that of women with no living children, 80% do not use contraceptives. This therefore suggests that women with no living children want to have children therefore they do not use contraceptives while those with children want to space or limit the number of children they have. Results suggest that most respondents who do not want children use contraceptives in order to meet their fertility intention which is a significant predictor of contraceptive use. Results indicate that those who do not want children are more likely to be using contraceptives compared to those who want children. Furthermore, among women who do not want children, only half are using contraceptives and this may therefore lead to unwanted pregnancies with women having more children than desired. However, among women who are unsure as to whether or not they wish to continue childbearing, approximately 75% are not using contraceptives. This therefore suggests that they do not use contraceptives because they are unsure thus leading to the possibility of conception.

In the unadjusted regression model, women located in urban areas are more likely to be using modern methods of contraceptives compared to women situated in rural areas. Similar findings are shown in a study by Kimani (2006) where women living in urban areas are almost two times more likely to be using contraceptives as opposed to their rural counterparts. This can be explained given the context of urban settings. Urban areas are more exposed to better living conditions, influenced by mass media, better education and have access to a wide variety of reproductive and health services and family planning as opposed to rural areas that lack convenient services thereby inhibiting the use of contraceptives (Addai, 1999). Women living in urban areas would therefore have different reproductive behaviours given that their circumstances are different to those in rural areas.

Wealth is a significant predictor of contraceptive use and half of respondents are wealthy, with the rest making up the poor and middle quintiles. Results indicate that middle class and

wealthy women are both two times more likely to be using contraceptives compared to the poor. This indicates that women who fall under the middle and rich quintiles have more access to resources and services that provide family planning. This finding is in consensus with studies conducted by Irani (et al., 2012), Creanga (et al., 2009) and Adebowale (et al., 2013) who found that the poor do not use contraceptives as much as the wealthy and are therefore less likely to use contraceptives and meet their fertility intentions.

Education plays a vital role in determining whether contraceptives are used. Results show that as the level of education increases, the likelihood of using modern methods of contraceptives increases. This remains true irrespective of whether or not education is controlled for in order to obtain the factors that affect contraception. These findings are consistent with a study in Nigeria which found that as the level of education increases, the use of contraceptives increases, thus a direct relationship between the two is seen (Adebowale et al., 2013). The reason for this is that education allows for the empowerment of women and provides them with information on the usage and utilization of family planning methods and its benefits (Adebowale et al., 2013). Results from this study show that socio-economic factors, in particular education is important in determining reproductive behaviour (Ayoub, 2005). This is because education improves the economic situations of women and delays their age at child bearing (Ayoub, 2005).

Chapter 6: Conclusion and Recommendations

6.1. Conclusion

Results from the KDHS 2008-2009 suggest that religion is a significant predictor of contraceptive use even when demographic and socio-economic factors are controlled. This suggests that religion affects the use of contraceptives and plays an important role in the reproductive behaviours among women. As research has previously shown, some religions play an enabling force that contributes to the use of contraceptives while other religious denominations hinder the use of contraceptives (Avong, 2012).

This research study has found that Roman Catholics in Kenya are more lenient towards the use of contraceptives. It was expected that Protestants would have the highest use of contraceptives compared to Roman Catholics. Surprisingly, this study found that there is no difference in their current use of contraceptive levels. Among Muslims, however, low levels of contraceptives were seen which is explained because of Islamic theology in which having children plays an important part of religious beliefs. Another reason is their low socio-economic characteristics that further affect the low levels of contraceptive use among Muslims as well as Muslims currently being the minority population in Kenya.

There are two hypotheses this study refers to, namely the particularized theology hypothesis and the characteristics hypothesis. Religion is a complex matter and neither theory fully explains religion in the context of Kenya. For example, the particularized hypothesis explains the low levels of contraceptive use among Muslims while the characteristics hypothesis best explains the reason as to why contraceptive use differentials have disappeared between Protestants and Roman Catholics.

According to the particularized theology hypothesis, contraceptive use differentials are due to the differences in religious norms such as family size and proximate determinants of fertility (Bongaart et al., 1984). Religions with pro-natalist doctrines are more likely to have lower contraceptive use and therefore higher fertility. This theory could be used to explain why contraceptive use is low among Muslims even when socio-economic characteristics are controlled. However, among Roman Catholics, despite being a pro-natalist doctrine, contraceptives are being used and at the same level as Protestants. This may be due to the abandonment of the theology of faith for secularism (Avong, 2012)

According to the Characteristics hypothesis, the socioeconomic and demographic factors influence reproductive regulation practices among religious denominations. However, among Roman Catholics and Protestants, there is no significant difference in contraceptive use whether or not the demographic and socioeconomic factors are controlled. This hypothesis groups religious denominations in terms of their demographic and socioeconomic attributes and expects them to have similar fertility intentions and outcomes. Religious groups that display different levels of contraceptive use are seen as temporary and are expected to disappear or become insignificant in due time (Addai, 1999). This is seen among Roman Catholics and Protestants where they have no differences in their use of contraceptives when compared to each other. The different levels of contraceptive use among these two religious groups, historically, have now disappeared in this context. Thus, the use of contraceptive follows their socio-economic status rather than religion per se.

The objectives of this study have been obtained in which the differentials in the use of contraceptives among religious denominations have been examined and the socio-economic and demographic factors that affect the use of contraceptives have been identified. The demographic and socio-economic characteristics that affect the use of contraceptives are

place of residence, wealth status, number of living children, fertility intention, level of education and marital status. These characteristics are vital in the use of contraceptives. By improving the socio-economic characteristics among the Kenyan population, increases in the use of contraceptives will allow for a further decline in the fertility levels.

6.2. Recommendations

"Religion is the 'alpha and omega' of African social institutions" (Gyimah et al., 2011:2). Religion continues to play a vital role in sub-Saharan Africa and its dynamics are constantly evolving from religion playing a disabling force to an enabling force in the use of contraceptives among various religious denominations (Avong, 2012). It would be interesting to see what happens in future regarding the evolving dynamics of religion and the use of contraceptives in Kenya. Furthermore, it would be of merit to examine the use of contraceptives among Muslims should their socio-economic characteristics improve given that they are less likely to use contraceptives. If so, will this allow Muslims to reach a stage where socio-economic characteristics take precedence over religion in terms of contraceptive use as it has been shown among Roman Catholics whose differences in contraceptive use due to religion has now disappeared? The evolving nature of people and their circumstances are likely to affect the use of contraceptives and their perceptions of religious practices.

In light of these possibilities, it is recommended to track the changes in the socio-economic statuses of various religious groups and examine whether religion remains a significant factor in the use of modern methods of contraceptives and its influence on reproductive behaviour among the population at large.

A further recommendation is to disentangle religion from culture and tradition. Many religious groups continue to mix religion and tradition together making it difficult to examine whether it is religion or tradition that can be used to explain the variances in the use of contraceptives. In Kenya, the integration of traditional religions with mainstream religions as shown by Kamaara (2010) suggests that these differences in contraceptive use among religious groups differ in different settings due to traditional and cultural aspects of reproductive behaviour. This may mean different things among the same religious groups in different settings thus leading to differentials in the use of contraceptives among the same religion in different countries.

Though research suggests that 94% of Kenyans believe that religion plays a vital role in their lives, the question arises as to what extent religion affects their behaviours (Gallup Global Reports, 2009). This study examined religious affiliation; however, a frontier for further research is that religious involvement is given consideration in future research studies. It is one thing to be affiliated to a religious doctrine, however another to practice its teachings. The inclusion of this will allow for a better understanding in the use of contraceptives among various religious denominations given that participating in religious activities shapes the behaviours of its members through socialisation (Avong, 2012). Furthermore, intra-religious studies on family planning will aid in advocating strategies to further increase modern methods of contraceptives not just in Kenya but in sub-Saharan Africa.

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