DETERMINANTS OF TEENAGE PREGNANCIES IN NAROK COUNTY

BY

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DECLARATION

I declare that this research project is my original work and has not been presented to this or any other University or Institution for the award of a masters degree, degree or diploma.

Signature …………………………..   Date ………………………...

Moturi M. Franklin

X53/73193/2014.

This research project has been presented for examination with my approval as the University supervisor.

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DEDICATION

To my family: my father James Moturi my mother Florence Moige my sisters Jillian, Moureen, Faith and Vanilla

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LIST OF ABBREVIATIONS

ASRH	Adolescent Sexual and Reproductive Health
CDC	Centers for Disease Control and Prevention
KDHS	Kenya Demographic and Health Survey
KNBS	Kenya National Bureau of Statistics
KNHCR	Kenya National Commission On Human Rights
KHRC	Kenya Human Rights Commission
MDGs	Millennium Development Goals
NGOS	Non-Governmental Organizations
NCPD	National Council for Population and Development
SDGs	Sustainable Development Goals
STIs	Sexually Transmitted Infections
UK	United Kingdom
UNDP	United Nations Development Programme
UNFPA	United Nations Fund for Population Activities
UNICEF	United Nations Children's Emergency Fund
UNDP	United Nations Development Programme
US	United States
WHO	World Health Organization

ABSTRACT

Teenagers are very important to any society's future. Teenagers are the future of a community, country, continent and the world at large. How we handle the issues of teenagers now determines the future of the generation. Teenage pregnancy worldwide represents a challenge that has far reaching negative economic, social, cultural and health outcomes. It is therefore worth noting the importance placed on teenage pregnancy. This study intends to contribute on knowledge about determinants of teenage pregnancy in Narok County using the 2014 Kenya Demographic Health Survey data. The focus of the study is Narok County in which highest numbers of teenage pregnancy and childbearing in Kenya are currently reported. Logit regression analysis will be conducted to investigate the determinants of teenage pregnancy in Narok County.

CHAPTER ONE

INTRODUCTION

1.1   Background

Pregnancy among teenage girls represents a major distress in developing and developed countries. Yearly 16 million girls of the age 15-19 plus 1 million girls aged 14 years and below give birth (WHO, 2014). Approximately 95% of these births happen in countries categorized as low and middle-income. WHO terms adolescents as individuals within the age group of 10-19 years. Teenagers on the other hand are persons between the age of 13 and 19 years (their age no. ends with ''teen''). The term Teenage pregnancy is used when a girl aged 13-19 years is pregnant. Pregnancy among teenagers is a key contributor to the cycle for poverty and ill health, and child and maternal mortality (WHO, 2014, Akella & Jordan, 2015).

Teenage pregnancy has negative consequences on the mother, child and society at large. Economically, teenage pregnancy leads to lost potential of completing school. Leading to low education levels. Consequently significantly reducing the probability of getting employed leading to or worsening poverty index in communities and countries at large (WHO, 2014, Akella & Jordan, 2015). Early motherhood leads to socioeconomic disadvantage, welfare dependence and psychological distress. In addition, teenage mothers are likely to have shortened education cycle hence increased financial instability. According to Barmao-Kiptanui, Kindiki, & Lelan, (2015) children born to teenagers are likely to have poorer health, behavioral and educational outcomes all through their lives, paralleled to children born to older parents. Arguably, teenage pregnancy is predictor of educational attainment and a future of low socioeconomic status.

By 2030 the adolescents' population is projected to be 1.3 billion despite the expected declines in fertility. Approximately 500 million of this population will be girls between 10 to 17 years. The total population of the adolescents in Asia and the pacific is projected to decline to 48 per cent of the total adolescent population, while the one in sub-Saharan Africa is expected rise to 23 from 16 percent presently (Loaiza & Liang, 2013).

While teenagers account for approximately a tenth of total births globally, they endure almost a quarter of all incidence of poor health outcomes related with childbearing and pregnancy (WHO, 2014). About 11% of all births worldwide which is 49 per 1000 girls are to girls 15 to 19 years old (WHO, 2014). There is a significant difference among countries where this rates range from as low as 1 per 1000 girls to highest at 299 births per 1000 girls(World Bank, 2016).

In England, data from the Office for National Statistics indicates that England and Wales had an estimated 871,038 conceptions of teenagers aged 18 and below in 2014. The conception to girls aged below 16 was 4,160 and there were 4.4 births per 1000 girls aged 13 to 15. For a girl who normally stays in England the conception rate was 22.8 per 1000 girls while those who usually resided in Wales the conception rate was 25.4.The UK's birth rates was 6.8 per 1,000 for 15-17 old teens, compared to 1.1 in Denmark and 1.3 in the Netherlands (Mclaren,2016).

The United States has the highest births among teenagers of all developed countries (CDC, 2016). In 2014 approximately 250,000 kids were born to US teens aged between 15 to 19 years with the birth rate being 24.2 per 1,000. The rates differ along ethnic/racial, geographic and education characteristics (CDC, 2016).

The percentage of births during adolescence is more than 50% in sub-Saharan Africa, 18% in Caribbean and Latin America, and lowest in china at 2%. By 2015 adolescent birth rate globally was 44.1, regionally Africa was leading with 100.3, Americas came second with 51.7, South-east Asia third with 33.9, fourth was Europe with 17.6, Eastern Mediterranean with 46.1 was fifty and lastly western pacific sixth with 15.3 (UNFPA, 2016). The Sub-Saharan Africa region has an adolescent fertility rate of 103 per 1000 girls of aged between 15 to 19 years. Among African countries Niger is leading with adolescent fertility rate of 204 followed by Mali with 175, Angola comes third with 167 while Burundi is the lowest at 29 (World Bank, 2016).

31% of Niger's population is aged between 10-24 years. The country has the highest adolescent fertility in Africa at 204 per 1000 teenagers aged between 15 and 19.Themortality rate of the country currently stand at 553. Moreover Niger has one of the lowest contraceptive prevalence rates of 10,latest secondary school enrollment stands at just a mere 10% for girls and 15% for the (UNFPA, 2015). Niger was ranked 186th and last in the 2013 human Development Index of the United Nations Development Programme, 76% of its population where found to be living on less than US$2 a day and lastly medical facilities are limited in Niger even in capital city Niamey. State owned Hospital and clinics lack equipment and essential drugs and they also face severe trained medical professional's shortage.   (UNDP, 2015).

In East Africa in 2014 Uganda had the highest adolescent fertility rate of 115 while Burundi had the lowest at 29 and Kenya had 92(World Bank, 2016). In Kenya, approximately 18 percent of girls aged 15-19 are mothers. Teenage childbearing rates are higher among those

who have attained lower education levels ; a third of teenagers aged 15-19 without any education have already started childbearing compared to only 12% among teenagers with secondary or higher education (KNBS & ICF,2014).

Pregnancy of teenage girls is caused by many factors. This factors include social, biological, cultural, inadequate reproductive health education and economic challenges (WHO, 2014; Akella & Jordan, 2015; Woog, et al., 2015; Atuyambe et al., 2015). In addition, exposure to mass media increases chances of early sex hence teenage pregnancy. This age of between 10-19 years represents a critical transition in which most adolescents start increased interest. This interest in sex increases the likelihood of early teenage pregnancies besides health risks such as abortion and getting sexually transmitted diseases (Oringanje et al., 2009). Teenagers are mostly less informed about pregnancy and outcomes ,may not access appropriate reproductive health (RH) services thus are at high risk to get pregnant (Tufail & Hashmi, 2008).

According to Sedgh et al., (2012) inadequate reproductive health information, either on educators or parents might increases likelihood of teenage pregnancy. Ngari (2014) recognized that teenagers who encounter home conflicts, family breakdown and peer influence have a higher chance of being pregnant.

Economic factor is a significant contributor to teenage pregnancy. Every teenager has right to basic needs, health care and education. The lack of or inadequacy of basic needs compels teenagers to pursue them from outside their family (Yasmin, Kumar, & Parihar, 2014). As a result they are exposed to exchanging economic benefits for sex. This is affirmed by Akella and Jordan, (2015) findings which indicate that more than 75% of teenagers who

have babies come from poor families. In addition, the lack of economic capability to finance education leads to dropping out of school. Consequently, teenage school dropouts are forced to get married at early ages.

Recognizing the negative effects of teenage pregnancy on realization of sustainable development, governments and non-governmental organizations have developed measures to combat early pregnancies (Mumah et al., 2014). One approach in the education systems is the introduction of adolescent sexual and reproductive health (ASRH). This is aimed at bridging the gap in inadequate reproductive health education (Atuyambe et al., 2015). The governments have initiatives that discourage early marriage and those that seek to keep girls in school. By identifying the role culture plays in supporting early marriage. The stakeholders have initiated measures that seek to change the cultures that uphold early marriage. In addition, the stakeholders have supported programs that seek to reduce early pregnancy among teenagers (Woog, et al., 2015). Governments have also provided free or subsided contraceptives and have encouraged their use.

Out of the seventeen Sustainable Development Goals (SDGs) that where launched in place of the Millennium Development Goals (MDGs) in late 2015, goal 1 aims to end poverty in all forms, goal 2 has the objectives of zero hunger, goal 3 intends to ensure healthy lives and uphold health for all at all ages, goal 4 targets to ensure inclusive and equitable quality education and support lifetime learning opportunities for all, goal 5 aims at achieve gender equality and empower all women and girls and goal 10 intends to reduce inequality within and among countries (UNDP, 2016) . For this six goals among others to be achieved by 2030 it largely and directly depend on how the issues of teenage pregnancy are handled worldwide.

The Kenya government in 2012 launched a policy on population and national development. The policy which is described in the session paper no.3 of 2012 targets to Reduce; crude death rates, the natural growth rate of the population , total fertility rate, the infant mortality rate, the under-5 mortality rate and the maternal mortality rate, and improving life expectancy at birth for both sexes. Implementation of the policy aims at a well-managed population that has highest quality of life thus facilitating attainment of Vision 2030 goals (NCPD, 2012).

1.2   Problem Statement

Teenage pregnancy is a health and socioeconomic challenge encountered by countries across the globe (WHO, 2014, Akella & Jordan, 2015). Teenagers have progressively increased commonly in the developing countries. This steady increase is credited to declines in mortality and relatively high fertility levels as well as increasing live births and improved chances of survival (Loaiza & Liang, 2013). By the 2016 world population day, people aged 10-24 were 1.8 billion of 7.3 billion people worldwide compared to 721 million of the world population of 2.5 billion in 1950. Currently developing countries accounts for 1.59 billion while developed countries just account for mere 212 million of this young people(UNFPA, 2016). As such challenges that affect teenagers have an impact of significant proportion of the population and more so in developing countries. Particularly By 2015 adolescent birth rate of girls aged 15 to 19 was 44.1 globally. Regionally Africa led at 100.3 (UNFPA, 2016).

Evidence shows that teenage pregnancy has wide ranging effects. Pregnancy during Pregnant teenagers are more likely to seek unsafe abortions and are at higher risk of infertility (Akella & Jordan, 2015). In addition, teenage mothers have a reduced chance of

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economic success. As such mother and child will likely reduced quality of life. Omoni (2005) noted that teenage pregnancy increases chances of contracting sexually transmitted diseases (STIs).

In developing countries a third of girls are married off while still very young wrecking the future of over 47,700 girls daily (UNFPA,2016). Teenagers who are pregnant or have started childbearing are likely to be poorer and lack access to sexual and reproductive health care and information so pregnancy multiply their vulnerability in terms of education, health (UNFPA,2016).

The KNBS & ICF, (2014) KDHS report indicate that at the County level early childbearing is highest(more than 25% each) in Samburu, Nyamira, Tana River, West Pokot, HomaBay and Narok. Narok was found to be leading in percentage of girls between 15 to 19 years who were pregnant or had started childbearing.

In spite of all initiatives to address teenage pregnancy, there has been minimal reduction particularly in developing countries. According to UNFPA (2016), there are 20,000 births to teenage mothers (below 20 years) daily in developing countries transforming to over 7.3 million births yearly. In Kenya, approximately 18 % of girls whose ages range from 15 to 19 are already mothers.2014 KDHS report also found out that the fraction of teen girls who had begun childbearing had not changed between 2008 and 2014. In this line Beguy, Mumah and Gottschalk (2014) noted that even though the Kenyan government has made advances in addressing teenage pregnancy, such as introduction of ASRH education and enacting the National School Health Policy, there is still significant numbers of teenage pregnancy. This study will seek to contribute to the measures of addressing teenage

pregnancy by establishing determinants of teenage pregnancies in NarokCounty. Consistence with the problem statement the study was guided by the following research questions.

1.3   Research Questions

The study was directed by this research questions:

i.   How do individual characteristics determine teenage pregnancy in Narok County?

ii.   To what extent do socioeconomic factors determine teenage pregnancy in Narok County?

iii.   How do cultural factors determine teenage pregnancy in Narok County?

1.4 Study Objectives

The broad objective of the study was to establish determinants of teenage pregnancies in Narok County. The following specific objectives shall inform the study:

i.   To determine the effect of individual characteristics on teenage pregnancy in Narok county.

ii.   To determine the effect of socioeconomic factors on teenage pregnancy in Narok county.

iii.   To evaluate the effect of cultural factors on teenage pregnancies in Narok County.

iv.   To draw policy options from the three objectives above.

1.5 Justification of the Study

The study aimed to benefit the health sector, the education sector , researchers and academicians in the health and economics fields. Identifying the determinants of teenage pregnancies would prepare teenagers, parents, health care providers, teachers and others to

deal with those determinants through health education and information at social gatherings, schools, health care institutions and media centers. Furthermore, recommendations were made to expand the reproductive health services, thereby enhancing their utilization by teenagers and assisting teenagers to make cognizant decisions concerning their own and their kid's futures. Strategies could be formulated and executed in partnership with the government, NGOs, the private sector, key players and other collaborating agencies and institutions supporting health and development work in Kenya, specifically Narok County.

1.6 Scope of the Study

The study focused on Narok County. Teenager's individual characteristics determines teenage pregnancy and childbearing, for this study these individual variables i.e. age, contraceptive use and sexual debut (age at first intercourse) were studied. Additionally the socioeconomic factors educational level, wealth index and place of residence of the teenagers. Lastly the Cultural factors which are established beliefs and values. Marital status and age of marriage together with religion were of interest to researcher.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

In this chapter theories relevant to the study were discussed. Literature related to the study was also reviewed to identifying literature gaps. The literature reviewed helped in guiding the significance of the study findings.

2.2 Theoretical Literature

This section focused on theories relevant to the study. The study was informed by the demand for children model, bronfenbrenner ecological theory and social learning theory.

2.2.1 The Demand for Children Model

This model was advanced by Becker (1991). Becker (1991) argues that the varying rates of fertility can be explained mainly by the relationship between the quantity and quality of children. To elucidate this, Becker (1991) affirms that the effective price of children increases with income.

Becker (1991) found out that in the US, farming families were bigger than urban families for children work in the household or farms reducing the net cost of children. He gave another example of rural Brazil and India where children as you as five or six had begun working. Additionally government policies that give aid to mothers were also found to determine the demand for children that is when mothers have more money to spend on their children, the number of children increases. Becker went on to assert that the decision on how many children a family wants is largely determined by the value of time of mothers.

According to Becker (1991) every household maximizes utility function (U) of the quantity of children (M), quality of children (N) and the quantity of other goods (W) subject to respective prices of M,N & W.

$$U=U(M,N,W)\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots(1)$$

Subject to: $M_P+N_P+W_P=I\dots\dots\dots\dots\dots\dots\dots\dots\dots (2)$

Solving equations (1) & (2) using Lagrange we have a reduced children demand equation given as:

$$D= (I, M_P,N_P,W_P)$$

Where:

U=parental utility, M=of the quantity of children, N=quality of children, W= the quantity of other goods, I=household income, M_P=price of quantity of children, N_P=price of quality of children, WP=price of other goods.

2.2.2 Bronfenbrenner Ecological Systems Theory

The Bronfenbrenner Ecological systems theory was developed by Urie Bronfenbrenner in 1979. The theory is also known as the human ecology theory. This theory explains that an individual development is shaped by his or her interaction with the environment/ surrounding such as parents, school, culture, work and friends. Bronfenbrenner identified the five environmental systems a person interact with as microsystem, mesosystem, exosystem, macrosystem and the chronosystem (Bronfenbrenner, 1979).

Microsystem this is the first level of Bronfenbrenner theory we have institutions and groups that are closest to an individual and have direct contact they include home, daycare, school, friends and church. The second level which is the mesosystem consists of bi-directional

interactions between the microsystems for example relationship between a teenager's friends and the family (Yamaguchi & Kandel, 1987). Education is considered at this level provides a setting in which persons interact. Abrahamse et al., (1988) found out that when relationship with the school setting and performance are poor, teenage pregnancy risk is high. Exosystem is the third level, involves links between social settings where an individual doesn't have direct contact but still affect them for instance the parent workplace. The macrosystem describes the culture (social economic status, poverty, ethnicity) in which an individual stay and all other systems that affect them. Social economic status and ethnicity have been found to be momentous factors contributing to premature pregnancy and childbearing (Barnett, Papini, & Gbur, 1991). Data from CDC in 2014 indicate that in the US racial/ethnic disparities in teen birth rates persist (CDC, 2016). The fifth level is the chronosystem it consists of all the experiences an individual has had in her or his lifetime. Research has found that divorce has negative effect on teenagers and this effects mostly are worst during the first years of divorce (Santrock, 2007).

2.2.3 Social Learning Theory

Albert Banduras (1977) developed the social learning theory. The theory advances that learning is a cognitive process taking place in a social setting. The theory categorizes the three key processes involved in learning as direct experience, modeling which is the indirect practice from observing others, storage and processing of intricate information through cognitive operations. The concept of reciprocal determinism is the most important factor in the social learning theory. That is as one's behavior is determined by their environment, their environment is also determined by one's behavior (Bandura, 1977). This theory is important in teenage pregnancy in that teenagers observe and imitate

behavior from others in the environment and the environment is determined by teenagers'

behavior. Teenagers from societies where early sexual activities are the norm and

punishment is relatively low tend to imitate that behavior and engage in sex relatively

earlier (Husley, 2011).

2.3   Empirical Literature

This section reviewed general literature and studies from previous researchers concerning

the determinants of teenage pregnancies.

2.3.1   Individual Characteristics

According to McCall et al., (2014) teenage pregnancy is a function of individual

characteristics such as personal academic achievements, maternal education, knowledge,

age, and family relations. Teenagers operate in a rational environment where they make

decisions on engaging in sex and use of contraceptive use (Willan, 2013). In case of

pregnancy one has to decide whether to keep the pregnancy or have an abortion. Therefore,

a teenager's ability to make the right choice significantly affects the chances of becoming

pregnant (Akella & Jordan, 2015).

Rutaremwa (2013) study in Uganda found out that the probability of a girl becoming

pregnant is amplified by age. The probability was 3.3 for 15 year old girls and increased to

3.7 for those aged 19 during the period of the survey. In Nepal the percentage of adolescent

who are pregnant or had started childbearing increases rapidly with the age from 1% in

15years to 39% for 19 years olds (NDHS, 2011).

Age at first intercourse is an important determinant of a girl becoming pregnant (Xie et al., 2001). This is because with age comes the ability to make decisions. Currently sexual maturity occurs considerably earlier, and sexual debut is occurring at relatively younger ages, causing number of sexually skilled teenagers to increase (Xie et al., 2001). Quick sexual debut most likely result to higher number of sexual partners this increasing exposure to pregnancy (Panday et al., 2009). Parental or guardian values are vital factors that determine when a girl makes her sexual debut. Miller et al., (2001) found that open, positive and frequent adolescent communication goes a long way to postponing sexual debut, in the process controlling chances of pregnancy.

Baumgartner et al. (2009) investigated the effect of age of first sexual intercourses and sexual violence on teenage pregnancy in Jamaica. The research established that sex in early age increases the chances of teenage pregnancies. As a result the authors recommended that inspiring teenagers to delay sexual debut will assistance in preventing unintended pregnancies. Similarly, in Latin America studies indicate that early sexual debut is positively connects with the probability of having a baby among teenage girls (Florez & Nunez, 2001). In the same vein, Azevedo et al., (2012) found that teenager with younger parents tend to begin sexual activity and form unions at a significantly earlier age. The 2010 KHRC/RHRA study also established that 51.9% of girls in Korogocho slum aged between 15-17 years where already sexually active.

Francoeur (2003) established that contraceptive use of sexually active teenagers determines pregnancy incidences. Additionally, a great number of teenagers know about condoms and how to access them. However, only two thirds were using condoms. Access to and use of

contraceptives study in South Africa by Willan (2013) proved that even though a big percentage of teenagers had elementary understanding of contraceptives and protection from unexpected pregnancies. Many reported insufficient and incorrect usage, and limited information on conception and fertility. A review of teenage pregnancy studies by Hoffman-Wanderer et al. (2013) in South Africa established that teenagers who were pregnant had low levels of awareness concerning modes of contraceptives. Additionally Pettifor et al. (2009) found that girls had their first sexual intercourse at early age, or those who were forced to have sex by their partners were less likely to use condoms during that first sexual intercourse.

2.3.2   Socioeconomic Factors

According to Uromi (2014) a girl's education is the most important factor for it empowers a girl to make important day to day decisions. In addition, education enables one to make decisions about family planning and postponement of marriage. Education leads to social and economic benefit for individuals. Studies have found that the higher the education the lesser the dependency on parents and family (Uromi, 2014; Nguyen, Shiu & Farber, 2016).Therefore, this postpones age of marriage and the age of socially certified sexual relationships.

Goesling, Oberlander and Trivits (2016) found   that educated teenagers will likely know about the existence and   how to use contraceptives this is partially because governments have introduced ASRH education in schools across the globe. As such their likelihood of using contraceptive was found to be higher than less educated teenagers. Additional Goesling, Oberlander and Trivits (2016) established that keeping girls in schools reduces

the chances of teenage pregnancy. Teenagers from low income areas may lack school fees leading to them dropping out of school earlier compared to their age mates from high income households. Dropping out of school in turn increases possibility of engaging in sexual activities that may lead to pregnancy and childbearing (Tamang, 2009).

According to Akella, and Jordan (2015) childbearing is more likely among teenagers with lower education attainment compared to their age mates who have attained higher education. A study by Magadi (2004) about pregnancy consequences of adolescents in south Nyanza, Kenya found that almost all the respondents who were interviewed had only attained primary education. Additionally, a study by Ogori, Ajeya and Yunusa (2013) to determine the reasons and outcomes of pregnancy among teenagers in Nigeria found out that 62.5% of the sampled respondents strongly agreed that lack of sex education increases probability of teenage pregnancy. These findings implied that good knowledge about sex education could help in minimizing teenage pregnancy.

Nkuba (2007) purposed to determine factors contributing to high adolescent pregnancy rate in Kinondoni Municipality, Tanzania. The study established that the educational status and knowledge of reproductive health of these adolescents was low 68% of the respondents only had primary education, some school dropouts. Low education completed made them incapable of doing anything due to their low education this intensified the risk of being involved in sexual activities at an early age, ending in pregnancies. Additionally their parents' education was also low.

Akella and Jordan (2015) noted that being economically disadvantaged increases inclinations for a teenage birth by narrowing the set of known economic and educational opportunities. In addition it makes early childbearing an attractive distraction from the repeated burdens of economic deficiency (Ogori, Ajeya &Yunusa, 2013). Financial capability influences the ability to afford basic needs. Recent Research in Vietnam by Nguyen, Shiu and Farber, (2016) shows that teenagers who cannot adequately afford basic needs are more likely to be involved in sexual activities in exchange for monetary and further benefit such as shelter. In addition, money meant to buy contraceptives will be used to acquire basic needs. After birth there is more responsibility to meet the needs of child (Bitter et al., 2013). This economic pressure might persuade the teenage mother to engage in sex occasionally or go into prostitution as to get money. Such engagements increase the possibility of a second pregnancy. Associated to poverty, low educational levels increases rates of aggression and early pregnancy (Dobrin et al, 2005).

A study by Mugisha et al. (2003) in slums in Kenya found that liquor (changaa) is readily and cheaply available to adolescents. This increase sexual intercourses, makes chances of contraceptives use low when drunk, and increases domestic violence and rape, consequently chances of teenage pregnancy. Similarly, Rutaremwa (2013) found that being from a richer family significantly reduce the probability of a girl aged 15-19 years being pregnant or starting childbearing. Additionally Income inequality across communities and cultures is also correlated with high levels of teenage pregnancies and violence; countries or communities with high income inequality exhibit higher levels of violence and teenage pregnancy (Wilkinson & Pickett, 2009).

According to Regmi et al. (2010) the place a teenager lives either urban or rural has role to play in teenage pregnancy. Urbanization may be responsible for distracting the social believes positively or negatively. Young teenagers are migrating to the urban areas for studies and employment. This new found independence can lead to girls participating in increased sexual activities therefore teenage pregnancy becoming more frequent (Regmi et al., 2010). On the other hand, girls in rural areas may lack access to information on contraception and fertility. Magadi (2004) found out that 74% of the respondents who were pregnant lived in rural areas.

A girl's education is the most important factor for it empowers a girl to make important day to day decisions; it enable her to make decisions about family planning and postponement of marriage. Education leads to social and economic benefit for individuals. Researchers from the Allan Guttmacher Institution (sing et el., 2001) to investigate childbearing among adolescents in the five developed countries (Canada, United States of America, United Kingdom, Sweden, France) found out that childbearing is more likely among teens with lower education attainment compared to their age mates who have attained higher education . The study concluded that comparative disadvantages in terms of education in the USA explains why the country has the highest teenage pregnancy and childbearing compared to other developed countries (Singh et al., 2001).

2.3.3 Cultural Factors

According to Goodman (2009) cultural factors are well-known values, beliefs, traditions, rules and dialects of a country or people. In addition, they comprise of marital customs and religious beliefs that are local to a specific area. This unique habit of people plays the

unifying and directive roles and that it involves the cultivation of a people towards a common end. Marriage and religion determines teenage pregnancy worldwide (Yasmin, Kumar & Parihar, 2014).

McCall et al. (2014) noted that some cultures tolerate or encourage young parenthood. In such cultures, a teenager who gives birth is never rebuked but seen to do what past generations have undergone. Teenagers with accommodating families, societies and friends who are in motherhood have a higher chance of being pregnant (Nguyen, Shiu & Farber, 2016). In tolerating societies young mothers are taken care of by parents. This does not discourage teenagers yet to be mothers. There are social norms that encourage early marriages. These norms hold that fathers who marry girls while young will receive more dowry than for older girls who might no longer be teenagers (McCall et al., 2014). In addition, there is stigma for teenagers who are yet to be married and can be seen as burden to the family.

Adolf (2014) found out that in some societies it is a taboo to discuss about sex. In such societies mentioning of 'sex' implies sexual experience which is linked to immorality and damages reputation. Research shows that sex education is essential in addressing teenage pregnancy. As a result societies that sex conversation is taboo oppose sex education. The ASRH programs have encountered resistance from such societies. This is further compounded by religion which does no encourage sex related discourse (Yasmin, Kumar & Parihar, 2014). As a result girls, in such societies lack knowledge on availability and use of contraceptives. This denies them the opportunity to make informed choices such as use of contraceptives to prevent pregnancy.

Sharma (2012) established that cultural beliefs determine the age of marriage which is linked to age at which first teenage pregnancy occurs. In many countries worldwide age at marriage is an important factor determining teenage pregnancy. Frequency of sexual activities is higher in adolescents who are married, living together as couples or in a stable union. Use of contraceptive among married couples is often low (Loaiza & Liang 2013). Poverty, economic and social status, lack of education and social barriers encourage early marriage. Studies in Asia (Sharma, 2012) have found out that early marriages are in practice as it a social norm that fathers pay higher dowry for older girls. Some parents also believe that if they marry their daughter earlier then they can reduce the resources spent on food and education (Sharma, 2012).

As per UNFPA (2016) findings marriage occurs earlier in developed regions as compared to developing regions. Global estimates indicate that more than 60 million mothers currently in the age group of 20-24 years where married before they reached 18 years. Extent of early marriage varies from region to region. Loaiza and Liang (2013) found out that girls most likely to be married are those from poor household, come from rural areas, and with no or little levels of education. Furthermore girls married at tender age are most likely to have greater age gap with their spouses as well as control and independence in the union thus elevated odds of pregnancy (Lee-Rife et al. 2012). Additionally a study by Tamang (2009) revealed that three in five women including teenagers becomes physically forced for having sex when they do not have desire but some do with the fear of husband

Tamang (2009) defined religion as a cultural system of behavior and practices. Teenagers who identify with a religious group tend to have strong prescription about sexuality including pornography, family planning and specific gender roles. This influences and

determines norms in regards to teenage pregnancy (Mosher & Hendershot, 1984). Many schools institutions of learning are run by religious groups although laws are formulated by different governments about their existence. To a big extent sponsoring religious groups control what is thought in this schools and institutions in regards to sexual education (Eisenman, 1994). Studies in Nepal have concluded that Hindu religion which has a following of over 81% does not allow having premarital sex and sexual behavior (Tamang, 2009).

2.4   Overview of the Literature

Literature on individual characteristics and teenage pregnancy reviewed has shown that age of teenager, sexual debut and contraception use influence teenage pregnancy. However Rutaremwa (2013) has not considered age of sexual debut which is an important determinant of teenage pregnancy as shown by Panday et al.(2009), Miller et.al. (2001), Baumgartner et al. (2009), Florez and Nunez (2001) and Azevedo et al. (2012). Additionally Francoeur (2003) and Pettifor et al., (2009) literature only covers condom use.

Studies by Sedgh et al. (2001), Nkuba (2007), Magadi (2004), Ogori, Ajeya and Yunusa (2013), Rutaremwa (2013), Mugisha et al.,(2003) and Regmi et al., (2010) have indicated that level of education, level of income and place of residence are key socioeconomic factors determining teenage pregnancy. However, Mugisha et al., (2003) only focused on drug and substance abuse and its effect on contraceptive use and forced sex. Loaiza and Wong 2012, Sharma, 2012, Lee-Rife et al., 2012, and Tamang, 2009 Found cultural factors are also necessary in understanding teenage pregnancy but gaps exist Rutaremwa, (2013) doesn't consider age at marriage in his study.

Literature reviewed has strongly signaled that teenage pregnancy is a global problem that needs urgent attention. In Kenya studies have been done about this topic some are only focused on consequences of teenage pregnancy Omino (2013), Barmao-Kiptanui et al., (2015), Magadi (2015) while only a few have focused only on determinants (Kiarie, 2015), and while a few of combined the determinants and consequences of teenage pregnancy (Mumah, et al., 2014) no study that I have reviewed has investigate determinants of teenage pregnancy any county in Kenya.

As shown from the literature reviewed determinants of teenage pregnancy differ from one region to another due to cultural believes, wealth index, and place of residence e.g slums, rural and urban (Beguy, D., Mumah, J. & Gottschalk, L. (2014), KHRC/RHRA. (2010),), religious believe of the communities in a region thus limiting applicability of this studies to the case of Narok County. For this reasons Kiarie (2015) further suggested this kind of a study.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapters covered the methodology of the study. It presented the conceptual framework, detailing the linkage between the dependent and independent variables. The section further presents the study model, how it was estimated and how it was used to project the determinants of teenage pregnancies.

3.2 Conceptual Framework

Kawakatou, (1998) defines conceptual framework as a research instrument aimed at assisting a researcher to develop an understanding as well as awareness of the variables under scrutiny. In this study the conceptual framework shows the linkage between the independent and dependent variables and the effect of the moderating factor.
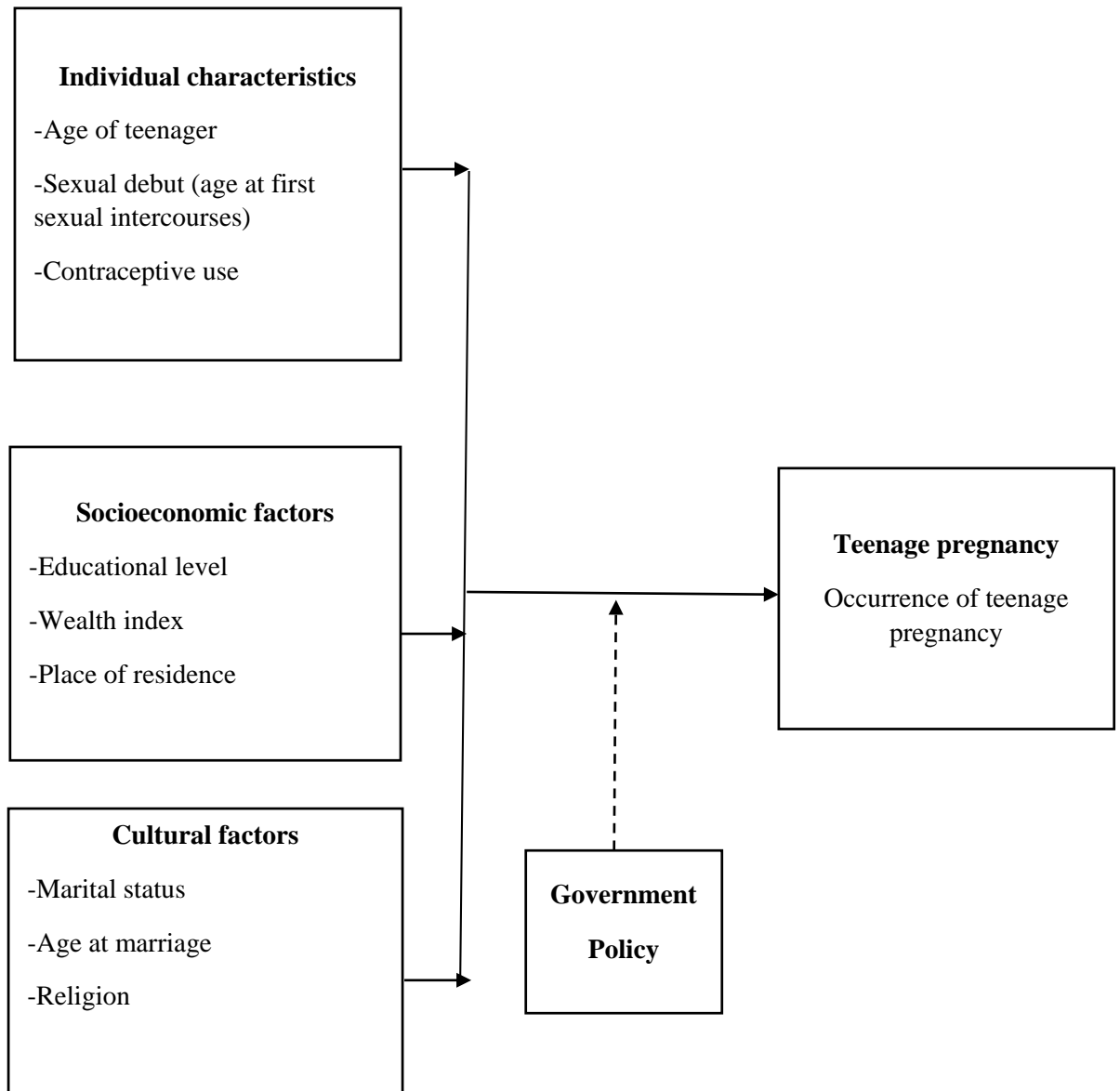
Figure 3.1 Conceptual Framework

(Source, Author's Conceptualization)

3.3 Empirical Model

Logit regression model was used because depend variable (teenage pregnancy) is categorical (Wooldridge, 2002). The Model measures the correlation between the dependent variable (teenage pregnancy) and one or more independent variables by estimating probabilities using a logistic function (Wooldridge, 2002).

For a categorical response such as teenage pregnancy y, the expected value of y, $E(y) = \pi$, where π denotes $P(y=1)$. The logit model is given as:

$$P_i = \frac{1}{(1 + e^{-y})}$$

Where

P_i is probability of teenage pregnancy

$y = \beta_0 + \beta_1 X_1 \ldots + \beta_k + \beta_k X_1 + \varepsilon$

In the study the general functional form logit model was given as:

$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 Z_1 + \beta_5 Z_2 + \beta_6 Z_3 + \beta_7 C_1 + \beta_8 C_2 + \beta_9 C_3 + \varepsilon$

Where Y= Occurrence of Teenage Pregnancy (No = 0, Yes= 1)

X_1 = age of teenager

X_2 = Age of sexual debut

X_3 = Contraceptive use

Z_1 = Educational level

Z_2 = Household income level

Z_3 = Place of residence

C_1 = Marital status

C_2 = Age at marriage

C_3 = Religion

ε = Error term

3.4 Variable Definition, Measurement and Sign

Table 3.1: Variable Definition, Measurement and Sign

Variable	Definition	Measurement	Expected Sign
Teenage pregnancy	Occurrence of teenage pregnancy	1 if teenager is pregnant or has started childbearing 0 otherwise	
Age of teenager	Completed years at the last birthday	Age in complete years	Positive (Rutaremwa, 2013)
Sexual debut (age at first sex)	Age the teenager was she had sex for the very first time	Age in complete years	Negative (Xie et al.,2001)
Contraceptive use	if a teenager is currently using any contraceptive method	1 if using any 0 otherwise	Negative (Francoeur,2003)
Level of education	Teenager's uppermost educational level attained.	1 if no education 0otherwise,1 if primary0 otherwise,1 if secondary 0 otherwise ,1 if higher 0 otherwise	Negative (Akella & Jordan,2015)
Household income level (household wealth.)	The wealth quintile of the teenager.	1 if poorest 0 otherwise, 1 if poorer 0 otherwise, 1 if middle 0 otherwise, 1 if richer 0 otherwise, 1 if richest 0 otherwise	Negative (Rutaremwa, 2013)
Place of residence	The place of residence of the teenager	Urban 1 or 0 rural	Positive(Regmi et al.,2010)
Marital status	Teenager Current marital status	1 if Never married 0 otherwise , 1 if married 0 otherwise,1 if widowed 0 otherwise , 1 if Living With Partner 0 otherwise 1 divorced 0 otherwise 1 if separated 0 otherwise	Positive (McCall et al,2014)
Age at marriage	Age when married	Age in complete years	Positive (Sharma,2012)
Religion	The religion of the teenager	1 if no religion 0 otherwise 1 if Catholic 0 otherwise 1 if Protestant 0 otherwise 1 if Muslim 0 otherwise	Positive(Mosher et al,1984)

3.5 Data Source

The study used data from KDHS 2014 which was the first national survey to provide county

level demographic and health indicators estimates. The survey was conducted by the Kenya

National Bureau of Statistics (May 2014 to October 2014). The 2014 KDHS sample was

drawn from the 5th National Sample Survey and Evaluation Programme (NASSEP V). The

study design had a representative sample of 40,300 households from 1,612 clusters across the country, 995 clusters in rural areas and 617 in urban areas. A two-stage sampling design was used. In the first stage, 1,612 clusters were selected randomly from NASSEP V frame and then 25 households were selected from each cluster .The interviewers visited only this preselected households and no replacement was allowed. 39,679 households were selected for the sample, of this 36,812 households were occupied at the time of the fieldwork. Of these 36,430 were interviewed. A total 32,172 12,157 urban residents while 20,015 rural residents) women aged 15-49 were eligible for the interview of this 31,079 (11,614 urban residents while 19,465 rural residents) were interviewed giving a response rate of 96.60 %.

Five questionnaires were used in the 2014 KDHS; a full Household Questionnaire, a full Woman's Questionnaire, a Man's Questionnaire, a short Household Questionnaire and a short Woman's Questionnaire. The sample was divided into two halves. The full Household Questionnaire, the Man's Questionnaire and a short Woman's Questionnaire were administered in on half of the sample while the short Household Questionnaire and the short Woman's Questionnaire was administered in the other half.

The DHS Program data was obtained from ICF International www.dhsprogram.com upon approval of request through email. The data made it possible the selection of individual had first birth while aged between 15 to 19 years. The survey collected data about housing, education, employment, marriage and sexual activity, fertility and gender-based violence. The KDHS 2014 data offers a chance to examine determinants of teenage pregnancy in Narok County. All the Data of females was used.

CHAPTER FOUR

DATA ANALYSIS, INTERPRETATION AND DISCUSSION

4.1 Introduction

This chapter presents findings of the study in line with the study objective. The chapter begins with descriptive statistics which include frequency and percentages. This is followed by inferential statistics. Particularly, these are logit model results, odds ratio and marginal effects. The results of dummy variables are also included. The chapter also includes a discussion of the findings.

4.2 Data Analysis and Interpretation

4.2.1 Descriptive Statistics

In Narok there were 2380 respondents who took part in the 2014 KDHS. A teenager defined as anybody who is aged between 13 and 19. However, most studies focus on those aged 15 to 19. In a similar vein the study will focused on teenagers aged between 15 and 19. This was aimed at making the findings of the study comparable to similar results such as those of Rutaremwa (2013) who used DHS data to analyze factors associated with teenage pregnancy in Uganda used DHS data to establish factors influencing adolescent fertility in urban Kenya. In addition, the official KDHS report by the Kenyan government used ages of 15 to 19 to report teenage pregnancy. The focus of this study was on those women who had given birth for the first time while aged between 15 to 19 years. All those who gave birth for the first time while aged between 15 to 19 years were coded 1 (yes). While those who gave birth for the first time while aged below 15 and at those who gave birth for the first time aged at least 20 were coded 0 (no).

Table 4.1: Descriptive Statistics of Respondents

		Frequency	Percentage
1st Birth aged 15-19	Yes	1369	57.52
	No	1011	42.48
Contraceptive Use	Not Using	1313	55.17
	Using	1067	44.83
Place of residence	Urban	342	14.37
	Rural	2038	85.63
Marital Status	Never Married	65	2.73
	Married	1999	83.99
	Living With Partner	5	0.21
	Divorced	80	3.36
	Separated	93	3.91
Wealth Index	Poorest	1215	51.05
	Poorer	442	8.57
	Middle	271	11.39
	Richer	298	12.52
	Richest	154	6.47

Narok County had 2380 female respondents aged between 15-49 years whose birth records were captured. As evident from the results 57.52% (1369) of the respondents had given birth for the first time while aged 15-19 compared to 42.48% (1011) who gave birth for the first time while aged less than 15 years or 20 years and above. Most respondents were not

using contraceptive as indicated by a frequency of 1313 accounting for 55.17%. A majority (85.63%) of those who took part in the survey resided in rural areas while urban with a frequency of 342 accounted for a mere 14.37% of the respondents. As shown by a frequency of 1999 representing 83.99% most respondents were married followed by those who were separated and divorced at 3.91% (93) and 3.36% (80) respectively. only 5 respondents were found Living With Partner representing 0.21% while those that were never married where 2.73% (65) .Slightly more than half of the respondents (51.05%) were in the poorest category, poorest category accounted for 8.57%, the middle category had 11.39%, the richer wealth category accounted for 12.52 % while the least were in the richest category as shown by 6.47%.

Table 4.2: Descriptive Statistics for Religion and Education Level

		Frequency	Percentage
Education Level	No education	614	25.8
	Primary	1379	57.94
	Secondary	310	13.03
	Higher	77	3.24
Religion	Catholic	290	12.18
	Protestant	1898	79.75
	Muslim	2	0.08
	No religion	190	7.98

A majority of those who took part in the survey had completed primary education as indicated by 57.94% followed by those with no education at 25.8%, those with secondary education where 13.03%, the least of the respondents (3.24%) had higher education. Most respondents were Protestants as shown by 79.75% followed by Catholics with 12.18%, respondents with no religion accounted for 7.98% while only 2 who Muslims were accounting for 0.08%.

Table 4. 3: Frequency for Age of Sex Debut

Age at First Sex	Frequency	Percentage
8	7	0.29
9	15	0.63
10	45	1.89
12	109	4.59
13	93	3.92
14	177	7.45
15	410	17.26
16	282	11.87
17	173	7.28
18	142	5.98
19	77	3.24
20	70	2.95
21	15	0.63
22	13	0.55
23	7	0.29
25	7	0.29
27	2	0.08
At First Union	731	30.78

Age at First Sex
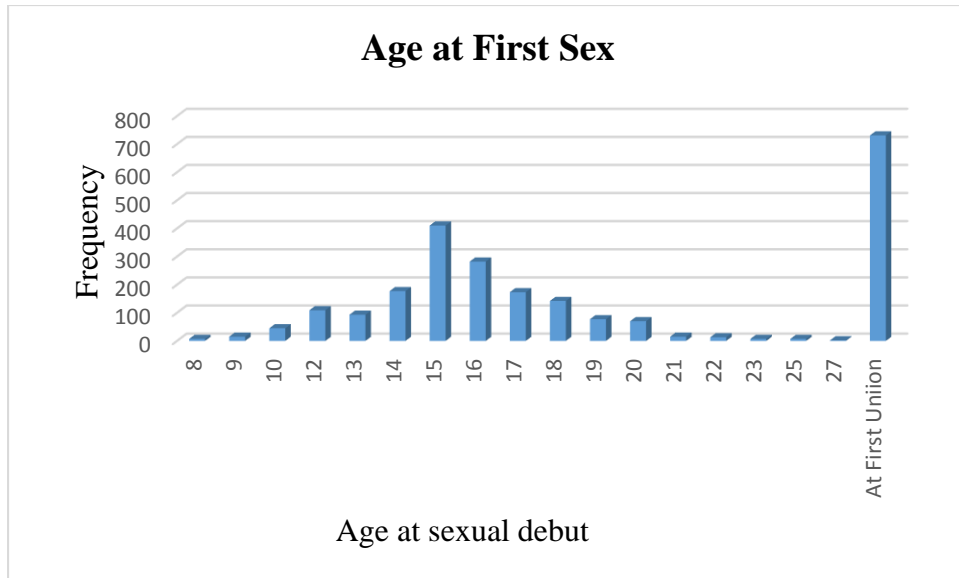
Figure 4.1: Age at Sexual Debut

The findings show that the highest number (410) of respondents had sexual debut when aged 15 years followed by those at 16 years and those who had sexual debut at 14 years with a frequency of 282 and 177 respectively. The data also shows that the   ages 14 to 18 are   when   most   teenagers   first   have   sex   with   a   combined   frequency   of   1184.those respondents who did not give the exact age of sexual debut but indicated that they made the debut at first union accounted for 731 respondents.

Table 4.4: Frequency of age when married

Age when married	Frequency	Percentage
10	47	2.03
11		1.6
12	113	4.88
13	83	3.59
14	172	7.43
15	255	11.02
16	317	13.69
17	331	14.3
18	242	10.45
19	193	8.34
20	97	4.19
21	125	5.4
22	96	4.15
23	79	3.41
24	65	2.81
25	7	0.3
26	15	0.65
27	14	0.6
28	8	0.35
30	5	0.22
31	4	0.17
32	5	0.22
37	5	0.22

Figure 4.2: Age When Married

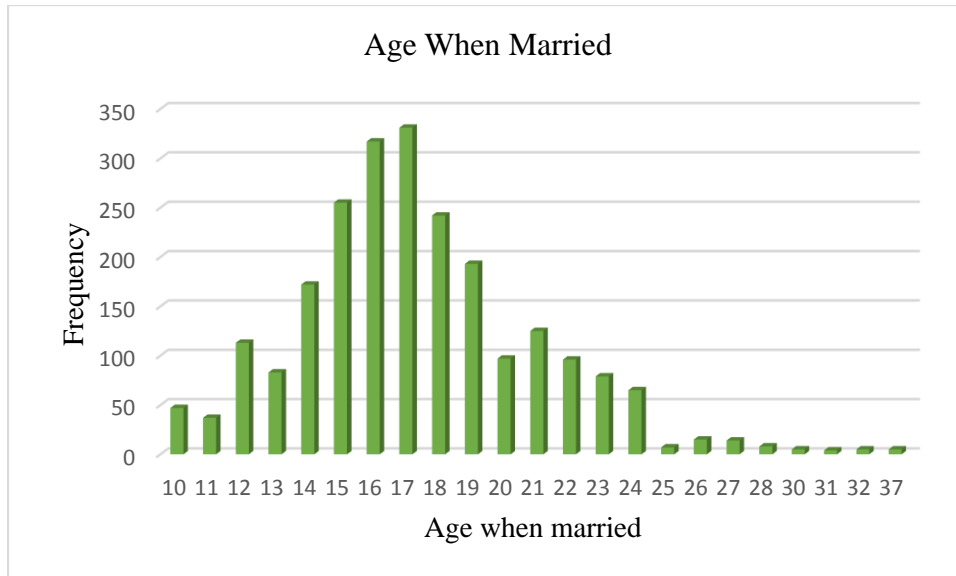A majority of those who took part in the survey had their first union while teenagers aged 17 as evident from a frequency of 331 followed by those at 16 and 15 years with frequencies of 317 and 255 respectively.

4.2.2 Results for Logit Model

The dependent variable was teenage pregnancy which was regressed against age of teenager, age when married, contraceptive use, age at sexual debut, place of residence, religion, wealth index, level of education and marital status. Dummies where generated for religion, wealth index, level of education and marital status. Thus Religion had four dummy variables namely; Catholic, protestant, Muslim and no religion. In this study no religion was used as the reference category while Muslim was omitted due to collinearity. Education level had four dummy variables namely; no education, primary, secondary and higher education. No education was the reference category. Wealth index had five dummy variables namely; poorest, poorer, middle, richer and richest. The poorest was the reference category. The dummy variable richest was omitted due to collinearity. Lastly the variable

marital status was used to generate six categories namely; never married, married, living with partner, widowed, divorced and separated with the dummy variable single used as the reference category.

Table 4.5: The Results for Logit Model

Teenage pregnancy	Coefficient	Std.Err	Z	P>IzI	[95% Conf Interval]	
Age of Teenager	0.04731	0.0062	-7.6	0.0000	-0.0595	-0.0351
Contraceptive use	-0.26738	0.0974	-2.8	0.0060	-0.4583	-0.0765
Age Marriage	-0.14530	0.0145	-10	0.0000	-0.1737	-0.1169
Place Residence	0.53939	0.1590	3.39	0.0010	0.2278	0.8509
Sexual debut	-0.00456	0.0013	-3.5	0.0000	-0.0071	-0.0020
Catholic	0.51654	0.2173	2.38	0.0170	0.0907	0.9424
Protestant	0.17353	0.1724	1.01	0.3140	-0.1644	0.5115
Poorer	-0.33056	0.1229	-2.7	0.0070	-0.5715	-0.0896
Middle	-0.31305	0.1494	-2.1	0.0360	-0.6059	-0.0202
Richest	0.38238	0.2327		1.64	0.1000	-0.0738
Married	-0.43880	0.2443	-1.8	0.0730	-0.9177	0.8385
Widowed	-0.32473	0.3045	-1.1	0.2860	-0.9214	0.0401
Divorced	-0.59208	0.3494	-1.7	0.0900	-1.2769	0.2720
Separated	1.80011	0.4082	4.41	0.0000	1.0001	0.0928
Primary education	0.48842	0.1127	4.33	0.0000	0.2675	2.6002
Secondary education	0.29801	0.1722	1.73	0.0840	-0.0395	0.7093
Higher Education	-0.85630	0.3414	-2.5	0.0120	-1.5254	0.6355
Constant	3.77732	0.5125	7.37	0.0000	2.7729	-0.1872

The variables age of a teenager had positive sign of the coefficient imply that an increase of the age of the teenager from 15 to 19 teenage pregnancy becomes more likely. The variable contraceptive_use had a negative sign denoting that as contraceptive use increases

teenage pregnancy is less likely. Moreoverthe variable age when married had negative sign of the coefficient indicating that as age of respondent when married increases teenage pregnancy becomes less likely. The variable sexual_ debut also had a negative sign signifying that as age a teenager's sexual_debut increases teenage pregnancy becomes less likely.in the same vain the dummy variables poorer, middle, married and higher education have negative coefficients. This shows that an increase in one unit of each of the dummy variables makes the occurrence of a teenager pregnancy less likely.

Place of residence have positive coefficients implying that has a teenager moves from urban area to rural area teenage pregnancy is more likely. Conversely the dummy variables of secondary education, Catholic and separated had positive coeffient sign this shows that an increase in one unit of each variable make the occurrence of a teenager to be pregnancy more likely.

The results show that age of teenager ($P=0.000<0.05$), contraceptive use ($P=0.006<0.05$), age at marriage ($P=0.000<0.005$), place of residence ($P=0.0010<0.005$), sexual debut ($P=0.000<0.05$), Catholic ($P=0.017<0.05$), poorer ($P=0.007<0.05$), middle ($P=0.036<0.05$), separated ($P=0.00<0.05$), primary education ($P=0.00<0.05$) and higher education ($P=0.012$) have a significant effect on teenage pregnancy. On the other hand, married ($P=0.073>0.05$), richest ($P=0.1>0.05$), protestant ($0.31>0.05$), secondary education ($P=0.084>0.05$), divorced ($P=0.09>0.05$) and widowed ($P=0.286>0.05$) do not have a significant   effect on teenage pregnancy.

4.2.3: Results for odds ratio from logistic model

Table 4.6: The results for Logit model

Teenage pregnancy	Odds Ratio	Std.Err	Z	P>IzI	[95% Conf Interval]	
Age of Teenager	0.953797	0.00593	-7.61	0.000	0.94224	0.96549
Contraceptive use	0.765383	0.07455	-2.75	0.006	0.63238	0.92637
Age Marriage	0.864762	0.01251	-10.04	0.000	0.84058	0.88964
Place Residence	1.714959	0.27261	3.39	0.001	1.25588	2.34186
Sexual debut	0.995454	0.00128	-3.54	0.000	0.99295	0.99797
Catholic	1.676219	0.36423	2.38	0.017	1.09490	2.56619
Poorer	0.718520	0.08832	-2.69	0.007	0.56469	0.91426
Middle	0.731215	0.10926	-2.1	0.036	0.54558	0.98001
Separated	1.522971	0.11360	-2.98	0.000	0.34165	0.80052
Primary education	1.629747	0.18366	4.33	0.000	1.30676	2.03257
Higher Education	0.424729	0.14500	-2.51	0.012	0.21753	0.82930
Constant	43.698760	22.39427	7.37	0.000	16.00496	119.31190

The results showed that age of teenager, contraceptive use, age at marriage, age at sexual debut, poorer, middle, married and higher education have odds ratio less than one. This indicates that one unit change in contraceptive use, age at marriage, age at sexual debut makes teen pregnancy less likely. In addition, a teenager who is poorer is less likely to become pregnant than a teenager who is poorest. The results also show that a teenager who is in middle level of wealth index is less likely to become pregnant that a teenager who is poorest. It can be inferred that a teenager with higher education is less likely to become pregnant than a teenager who has no education.

Place of residence, Catholic, separated and primary education have odds more than one. This shows that a change in place of residence increases chances of a teenager becoming pregnant. A teenager who is Catholic is more likely to become pregnant than a teenager who has no religion. A teenager who has primary education is more likely to become pregnant than a teenager with no education. A teenager who is separated is more likely to become pregnant than a teenager who is not married.

4.2.4 Evaluating Marginal Effects

Table 4.7: Marginal Effects

Teenage pregnancy	Marginal Effect	Std.Err	Z	P>IzI	[95% Conf Interval]	
Age of Teenager	0.01152	0.00151	-7.62	0.0000	-0.01448	-0.00856
Contraceptive use	-0.06514	0.02370	-2.75	0.0060	-0.11158	-0.01869
Age Marriage	-0.03538	0.00353	-10.01	0.0000	-0.04231	-0.02846
Place Residence	0.13134	0.03871	3.39	0.0010	0.05547	0.20722
Sexual debut	-0.00111	0.00031	-3.54	0.0000	-0.00172	-0.00050
Catholic	0.12016	0.04759	2.53	0.0120	0.02689	0.21344
Poorer	-0.08146	0.03050	-2.67	0.0080	-0.14125	-0.02168
Middle	-0.07729	0.03719	-2.08	0.0380	-0.15019	-0.00440
Separated	0.36389	0.07434	4.89	0.0000	0.21819	0.50960
Primary education	0.11909	0.02737	4.35	0.0000	0.06544	0.17274
Higher Education	-0.21057	0.08019	-2.63	0.0090	-0.36774	-0.05340

The results show that an increase in age makes the probability of a teenager becoming pregnant 1.15% more likely. In addition, teenagers who use contraceptives are 6.5% less likely to become pregnant than those who do not use. Similarly, an increase in age at marriage makes the chances of a teenager less likely by 3.5%. On the other hand, a change in place of residence make the possibility of a teenager becoming pregnant increase by 13.13%. An increase in age at sexual debut reduces the chances of a teenager becoming pregnant by 0.1%. Being a Catholic increases chances of a teenager becoming pregnant by 12% when compared to one with no religion. A poorer teenager is 8.14% less likely to become pregnant than one in poorest category. A teenager in middle level of wealth index is 7.7% less likely to become pregnant than a teenager in poorest level. A teenager who is separated is 36.3% more likely to be pregnant than a teenager who is not married. A teenager with primary education is 11.9% more likely to become pregnant than one with no education. A teenager with a higher education is 21.06% less likely to become pregnant that one with no education.

4.3 Discussion

The study found that age of a teenager and the age when married have a significant effect on teenage pregnancy. This findings are similar to those of Rutaremwa (2013) and NDHS (2013). The findings can be attributed to the fact that age increase number of teenagers starting having sexual relationships also increases as shown by Oringanje et al., (2009). Also age brings maturity, knowledge, experience and self-assuredness. The ability to navigate challenges, confront problems expected or unforeseen is less in teenagers when compared to adults. Consequently, teenagers are less likely to think through tough times, make informed choices and utilize effective coping approaches. Reproductive related

choices and those in engaging in sex either for pleasure or for money are some of choice teenagers encounter. Given teenager are less likely to make the right choices they will most probably make decisions that increase their chances of becoming pregnant.

The findings showed that contraceptive use has a significant effect on teenage pregnancy. This finding are similar to those of Francoeur (2004) and Hoffman-Wanderer et al. (2013). The significance of contraceptive use can be explained by the increased chances of being pregnant between those who use and those who have not embraced any method of contraceptives. This is the case for those who are married or yet be married but are sexually active. If used effectively, contraceptives significantly reduce the chances of being pregnant. As such those who do not use any form of contraceptives have a higher exposure to becoming pregnant when compared to those who use at least one method of contraceptives. Additionally Research has shown that planned-parenthood can have significant effect on reducing number of teenage pregnancies. Contraceptive use is essential in planned-parenthood hence the significant effect on probability of teenage pregnancy.

The results also showed that age when married has a significant effect on teenage pregnancy. These findings are similar to those of Sharma (2012), Loaiza and Wong (2013) and McCall et al., (2015). The age when one is married is directly proportional to determining if they get married as teenagers or as young adults. As such, those who get married while teenagers increase chances of baring children. This is directly tied to teenage pregnancy. For instance, one who gets married while 15 years old has a higher chance of teenage pregnancy before they turn 19 when compared to those who delay their marriage.

Evidently from the results, age at sexual debut significantly affects teenage pregnancy. This finding are similar to those of Azevedo et al. (2012) and Baumgartner et al., (2009). The findings imply that those who have their sexual debut early have higher chances of becoming pregnant as teenagers when compared to those who defer their first sex experiences. This shows that age at sexual debut and teenage pregnancy are indirectly proportional. Similarly the findings of the study are in agreement with Xie et al., (2001) that early sexual debut increases the number of times one will possibly have sex as a teenager. On the other hand, those who delay sexual debut closer to 19 reduce chances of becoming pregnant as teenagers. Those who have their sexual debuts past 19 will not contribute to teenage pregnancy.

Place of residence had a significant effect on teenage pregnancy. This is similar to the findings of Regmi (2010c) and Mugisha and Hagembe (2003). This can be explained by socioeconomic disparities between rural and urban areas. Arguably, those in urban set up have increased access to social amenities and health facilities where they will acquire health reproductive related information. This information can be used in seeking contraceptives and other pregnancy prevention measures. In addition, those in rural areas are likely to have cultures of early marriage hence increasing probability of teenage pregnancy.

With regard to religion the study established that being Catholic significantly affects teenage pregnancy. Notably the findings differ based on type of religion. This shows that religion has an effect on teenage pregnancy. This is similar to the findings of Goodman (2009) and Yasmin, Kumar and Parihar (2014). This can be explained by the fact that religious organizations have varied doctrines on sexual intercourse for teenagers and the

use of contraceptives. Religious organizations that are not against the use of contraceptives or family planning methods such as condoms will encourage their followers to use them hence reducing the chances of teenage pregnancy. The Roman Catholic discourages the use of family planning approaches such as condoms explaining the higher chances when compared to one with no religion.

The findings show poorest and middle categories of wealth index have significant effect on teenage pregnancy. However, there are dissimilar effects of different categories. This shows that wealth index has a significant effect on the chances of teenager becoming pregnant. This is similar to the findings of Willan (2013), and Akella and Jordan (2015). This can be explained by the fact that poor families cannot afford essential needs such as education, food, health care, shelter and clothing. As such given that they live in a community where early marriages are is encouraged, families which struggle to provide basic needs will likely marry off their teenage daughters to reduce the burden and get dowry to cater for the needs of other siblings. Arguably, teenagers from poorer families are likely to seek money and other benefits in exchange for sex. This consequently increases their chances of getting pregnant. On the other hand, teenagers from wealthy families will likely have the means to complete education and are less likely to get married while teenagers. They are also less likely to trade fiscal benefits for sex.

The study also established that a teenager who has primary education is more likely to become pregnant than a teenager with no education while one with higher education is less likely to become pregnant than a teenager who has no education. This shows that level of education has a significant effect on probability of teenage pregnancy. This is similar to what Uromi (2014) and Nguyen, Shiu and Farber (2016) established. This can be explained

by the fact that education empowers teenagers to make life choices including use of contraceptives. Narok is inhabited mainly by the Maasai which is one of the communities that practice early marriages. However, it is feasible that when one continues with education to higher levels they are less likely to be forced into early marriages particularly in their teens. As such education is likely to reduce one's chances of getting married early consequently having children while still a teenager.

The results show that a teenager who is separated is more likely to become pregnant than a teenager who is not married. This is an indication that there is a significant effect of marital status on teenage pregnancy. This is similar to the findings of Sharma (2012) and Loaiza and Wong (2013). Bearing children is one of the main reasons people get married. Consequently, teenagers who get married will likely get pregnant as a matrimonial expectation unlike unmarried teenagers. Arguably there are variations between those who are married and not married when using contraceptives. With such differences in prevention of pregnancy there will also be dissimilarities between chances of getting pregnant.

CHAPTER FIVE

SUMMARY CONCLUSION AND RECOMMENDATION

5.1 Introduction

This chapter presents the summary of the study and the findings. The chapter also includes a conclusion as well as recommendations for further research and policy implications.

5.2 Summary

This study sought to establish determinants of teenage pregnancies in Narok County. This was achieved by determining the effect of individual characteristics, socioeconomic factors and cultural factors on teenage pregnancy in Narok County. Identifying the determinants of teenage pregnancies would provide important information to parents, health care providers, teachers and others stakeholders to deal with those determinants through policies and initiatives.

Teenager's individual characteristics were age, contraceptive use and age at sexual debut. Additionally, the socioeconomic factors were educational level, wealth index and place of residence of the teenagers. Lastly the Cultural factors were marital status and age at marriage and religion. Secondary data from the KDHS 2014 which was a countrywide survey that captured level demographic and health indicators was used.

Descriptive statistics and logit regression were used as data analysis approaches. To make the findings comparable with the final KDHS report and other similar studies, the study focused on respondents who had first given birth aged 15-19.The dependent variable was teenage pregnancy which was regressed against age of teenager, age when married, contraceptive use, age at sexual debut, place of residence and the dummy variables for religion, marital status, wealth index and level of education.

5.3 Conclusion

The results show that age of teenager, contraceptive use, age marriage, place residence, sexual debut Catholic, poorer, middle, married, separated, primary education, and higher education has a significant effect on teenage pregnancy. Conversely, richest, protestant, secondary education, divorced and widowed do not have a significant effect on teenage pregnancy. Age or teenager directly affects ability to make right decision including those that increase exposure to getting pregnant. Being poor or rich affects the ability of one to complete school and affordability of essential needs which increase chances of completing higher education levels and reduce chances of early marriages. This reduce the possibility of a teenager becoming pregnant.

Having primary education and secondary education which are levels of education affect probability of teenage pregnancy. An increase in education reduces the chances of teenage pregnancy. In the same vein place of residence significantly affects teenage pregnancy. This is attributed to variations in socioeconomic aspects between rural and urban places. The probability of teenage pregnancy varies with marital status. This is because being married is directly related to having sex more often and the chances of becoming pregnant as a matrimonial expectation.

Age at sexual debut and age when married significantly teenage pregnancy. Delaying sexual debut reduces chances of becoming pregnant while still a teenager. Similarly, those who are married later in life reduce chance of teenage pregnancy or even eliminate them completely. As such age at sexual debut and age when married are indirectly proportional to chances of teenage pregnancy.

5.4 Recommendations for Further Research

There is need for further research to establish which contraceptive methods are most effective for teenagers. In addition, there should be further research to establish other effect modifiers such as peer pressure and other cultural factors on teenage pregnancy. There is also need for further research to establish the effect of current government policies on reducing teenage pregnancy. This should also be extended to the impact of non-governmental initiatives in combating teenage pregnancy. This will help identify strengths and weakness and reveal any necessary changes to the polices and initiatives.

5.5 Policy Recommendations

The government (county or national) and policy makers should take into consideration the variations in urban and rural places of residence when formulating measures to curb teenage pregnancy. The government and stakeholders should strengthen policies and enhance initiatives to educate more girls and reduce early marriages. The government (county or national) should also take into consideration the effect of religion on policies to combat teenage pregnancy. This will increase their efficacy.

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