

**ADOPTION OF CONTRACEPTIVES AND UNINTENDED  
PREGNANCIES AMONGST ADOLESCENT GIRLS IN  
NYANDO SUB-COUNTY, KENYA**

**BY  
SHIKUKU MARTHA AMBOBO**

**RESEARCH PROJECT SUBMITTED IN PARTIAL FULFILMENT FOR THE  
AWARD OF THE DEGREE OF MASTER OF ARTS IN PROJECT PLANNING AND  
MANAGEMENT OF THE UNIVERSITY OF NAIROBI**

**2017**

## **DECLARATION**

This research project is my own original work and has not been presented for any award in any other University.

---

**SHIKUKU MARTHA AMBOBO**

---

**DATE**

**REG. NO: L50/83393/2015**

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

---

**DR. STEPHEN L. OKELO, PhD**

---

**DATE**

LECTURER,

UNIVERSITY OF NAIROBI.

## **DEDICATION**

I dedicate this research project to my husband Jackson; he is my inspiration. To my children, Belva Ruth Muhonja, Franklin Atundo and Andrew Arthur Achando, their being has been a critical push for me to work hard and achieve academically as an encouragement to them too.

## **ACKNOWLEDGEMENT**

This work would not have been a success without the support and input from many quarters. I am grateful to my supervisor Dr. Stephen Okelo, for his input and valuable comments, positive criticism and the encouragement provided in the whole process of writing this research project. To Prof. Charles Rambo, for his push to enroll for this program soon after my undergraduate studies. To all the lecturers at the Kisumu campus, for their training and insights. I would also wish to acknowledge the Jaramogi Oginga Odinga Teaching and Referral Hospital (JOOTRH) institutional Ethics Review Committee (IERC) and the National Commission for Science, Technology and Innovation (NACOSTI) for reviewing and approving this study.

I am greatly indebted to my dear husband Jackson, for his support and encouragement throughout my studies as well as financial support and guidance. To my dad, Mr. Silas Abutika, for openly demonstrating delight in my career progress. I am very grateful to all those who were involved in different ways including moral, financial, technical and spiritual support in the course of my studies. Not to forget my fellow course mates of the MA Project Planning and Management Program (2015). In particular those who have been my classmates since the undergraduate studies, for discussions, encouragement and assurance even when at my lowest point, they were great and valuable and will remain my great friends in the world of academia.

I also wish to acknowledge the various individuals who were actively involved in data collection at the selected facilities within Ahero and Kabonyo/Kanyagwal Wards of Nyando sub-County, and all the nominated respondents who accepted to be part of the study.

Above all, I thank the Almighty God for His unending grace that has seen me to this end. To Him be the glory and honour.

# TABLE OF CONTENT

<b>Content</b>	<b>Page</b>
<b>DECLARATION</b> .....	<b>ii</b>
<b>DEDICATION</b> .....	<b>iii</b>
<b>ACKNOWLEDGEMENT</b> .....	<b>iv</b>
<b>TABLE OF CONTENT</b> .....	<b>v</b>
<b>LIST OF FIGURES</b> .....	<b>viii</b>
<b>LIST OF TABLES</b> .....	<b>ix</b>
<b>ABSTRACT</b> .....	<b>x</b>
<b>LIST OF ACRONYMS AND ABBREVIATIONS</b> .....	<b>xi</b>
<b>CHAPTER ONE</b> .....	<b>1</b>
<b>INTRODUCTION</b> .....	<b>1</b>
1.1 Background of the Study .....	1
1.2 Statement of the Problem.....	3
1.3 Purpose of the study.....	4
1.4 Objectives of the study.....	4
1.5 Research questions.....	5
1.6 Significance of the Study .....	5
1.7 Basic assumptions.....	6
1.8 Limitations .....	7
1.9 Delimitations.....	7
1.10 Definition of key terms .....	7
1.11 Organization of the study.....	8
<b>CHAPTER TWO</b> .....	<b>10</b>
<b>LITERATURE REVIEW</b> .....	<b>10</b>
2.1 Introduction.....	10
2.2 Overview of Adoption of Contraceptives .....	10
2.3 Socio-demographics and adoption of Contraceptives.....	11
2.4 Method of Contraceptive applied by adolescent girls.....	15
2.5 Culture and adoption of Contraceptives.....	20
2.6 Access to contraceptives and adoption of Contraceptives by adolescents.....	26
2.7 The Health Belief Model .....	28
2.8 Summary of Literature Reviewed.....	29
2.9 Gaps in Knowledge.....	30

2.10 Conceptual Framework.....	32
<b>CHAPTER THREE.....</b>	<b>34</b>
<b>RESEARCH METHODOLOGY .....</b>	<b>34</b>
3.1 Introduction.....	34
3.2 Study Design.....	34
3.3 Target Population.....	34
3.4 Sample Size and Sampling Procedures .....	35
3.4.1 Sample Size.....	35
3.4.2 Sampling Procedure .....	37
3.5 Data Collection Instrument .....	38
3.5.1 Instrument Validity .....	39
3.5.2 Instrument Reliability.....	39
3.6 Data Collection Procedures .....	40
3.7 Data Analysis and Presentation.....	40
3.8 Ethical Considerations .....	41
<b>CHAPTER FOUR.....</b>	<b>42</b>
<b>DATA ANALYSIS, INTERPRETATION AND DISCUSSION OF THE FINDINGS .....</b>	<b>42</b>
4.1 Introduction.....	42
4.2 Respondents return rate.....	42
4.3 Socio-demographic factors influencing adoption of contraceptives amongst adolescent girls.....	43
4.4 Contraceptive methods applied and unintended adolescent pregnancies.....	46
4.4.1 Knowledge of contraceptive methods.....	47
4.4.2 Source of contraceptive Knowledge .....	48
4.4.3: Contraceptive Method Applied.....	49
4.5 Influence of culture on adoption of contraceptives by adolescent girls .....	51
4.6 How access to contraceptives influences adoption amongst adolescent girls.....	53
4.6.1 Challenges to Accessing contraceptives by Adolescents.....	54
<b>CHAPTER FIVE .....</b>	<b>56</b>
<b>SUMMARY OF FINDINGS, CONCLUSIONS AND RECOMMENDATIONS.....</b>	<b>56</b>
5.1 Introduction.....	56
5.2 Summary of Findings.....	56
5.2.1 Socio-demographic factors and adoption of contraceptives .....	56
5.2.2 Contraceptive method applied and unintended adolescent pregnancies .....	57
5.2.3 Culture and adoption of contraceptives by adolescent girls.....	58
5.2.4 Access and adoption of contraceptives by adolescent pregnancy.....	59

5.3 Conclusion .....	60
5.4 Recommendations of the study .....	61
5.5 Suggestions for further studies.....	62
5.5 Contribution to the body of knowledge .....	63
<b>REFERENCES.....</b>	<b>64</b>
<b>APPENDICES .....</b>	<b>69</b>
<b>Appendix 1: Information and Consent Form.....</b>	<b>69</b>
<b>APPENDIX II: QUESTIONNAIRE .....</b>	<b>70</b>
<b>APPENDIX III: INTRODUCTORY LETTER TO NACOSTI .....</b>	<b>74</b>
<b>APPENDIX IV: INTRODUCTORY LETTER TO JOOTRH IERC .....</b>	<b>75</b>
<b>APPENDIX V: ETHICAL CLEARANCE .....</b>	<b>76</b>
<b>APPENDIX VI: NACOSTI LETTER OF AUTHORIZATION .....</b>	<b>77</b>
<b>APPENDIX VII: RESEARCH PERMIT .....</b>	<b>78</b>
<b>APPENDIX VIII: TURNITIN ORIGINALITY CERTIFICATE/REPORT .....</b>	<b>79</b>

## LIST OF FIGURES

<b>Figure 2.1:</b> Constructs of the Health Belief Model.....	29
<b>Figure 2.2:</b> Conceptual Framework.....	32



## LIST OF TABLES

<b>Table 2.1:</b> Knowledge Gap Matrix.....	31
<b>Table 3.1:</b> Sampling Frame for the study sites.....	37
<b>Table 4.1:</b> Questionnaire Return Rate .....	42
<b>Table 4.2:</b> Age Statistics.....	43
<b>Table 4.3:</b> Socio-demographic factors influencing Adoption of Contraceptives .....	44
<b>Table 4.4:</b> Outcome of Pregnancies .....	46
<b>Table 4.5:</b> Knowledge of Contraceptive Methods.....	47
<b>Table 4.6:</b> Source of contraceptive knowledge .....	48
<b>Table 4.7:</b> Contraceptive Method applied .....	49
Table 4.8: Whether Contraceptives are beneficial .....	50
<b>Table 4.9:</b> Benefits of Contraceptives.....	51
<b>Table 4.10:</b> Why adolescent girls do not use Contraceptives.....	52
<b>Table: 4.11:</b> Sources of Contraceptives .....	53
<b>Table 4.12:</b> Respondents Opinion on Challenges to Contraceptive access by Adolescents .....	55
<b>Table 5.1:</b> Study’s Contribution to Knowledge.....	63

## ABSTRACT

Use of contraceptives is one of the pillars of preventing unintended pregnancies amongst adolescent girls globally. The risk of mistimed and unwanted pregnancy is high among adolescents as compared to older women. Adolescent pregnancy is identified as one of the reasons for unsafe abortions, mother and child morbidity as well as mortality and even girls dropping out of school. Regardless, effective contraceptive use among adolescents in low and middle income countries remains low and poorly documented. The study assessed the adoption of contraceptives and unintended pregnancies amongst adolescent girls in Nyando Sub-county. The study objectives were: to establish how socio-demographic factors influence adoption of contraceptives amongst adolescent girls; to determine how contraceptive methods applied prevent unintended pregnancies amongst adolescent girls; to investigate how culture influences adoption of contraceptives amongst adolescent girls; and to determine how access to contraceptives influences adoption of contraceptives amongst adolescent girls in Nyando sub-County. The Health Belief Model (HBM) was applied to understand adolescent contraceptive use. A cross-sectional design and assisted questionnaires were used to collect data. The study targeted adolescent girls (10-19 years) visiting maternal health and child welfare clinics within Nyando Sub-County. Cluster sampling was used where two out of the five wards within Nyando Sub-County were randomly selected to act as the main cluster. All health facilities offering reproductive health services were considered as the next set of clusters where all eligible participants were nominated and consented until 400 respondents were attained. The data was analyzed using excel and IBM SPSS version 20 program and presented in the form of frequency tables, with mean, median and standard deviation and p-values indicated as applicable. All ethical considerations were observed throughout the conduct of the study, with the study being reviewed and approved by the institutional ethics review committee of Jaramogi Oginga Odinga Teaching and Referral Hospital (JOTRH IERC) and the National Commission for Science, Technology and Innovation (NACOSTI). From the study findings, the mean age of respondents was 16 years. From the study findings, a majority (86.3%) of the respondents were already sexually active by age 15. Only 17% of the respondents were married, with all respondents having attained some basic education. The study found out that the majority of adolescent girls got information about contraceptives through their friends. The majority of adolescents also started using any form of contraceptive either after sexual debut or delivery or following an abortion. The study area is predominantly Christian, and this did not have a negative influence on adoption of contraceptives by adolescents. Despite the acknowledged availability of contraceptive methods, and reported use by the majority of respondents upon sexual debut, the majority of respondents had either visited the health facility for antenatal care or child welfare clinic, meaning the contraceptive methods applied (majorly male condoms) did not effectively prevent occurrence of unintended pregnancies in the sub-county. Myths and fear of side effects, real or perceived, were reported to negatively influence adoption of contraceptive use by adolescents. Lack of knowledge about how contraceptives work was also documented as a key challenge to adoption of contraceptives amongst adolescents. The study recommends that social relationships should be tapped and players empowered in order to share accurate contraceptive information. This is informed by the fact that the majority of respondents were influenced and introduced to contraceptives by friends and mothers, yet at the same time parental disapproval was cited as an impediment to adoption of contraceptives. Evaluating the role of social media is also recommended.

## LIST OF ACRONYMS AND ABBREVIATIONS

<b>ACOG</b>	: American College of Obstetrics and Gynaecology
<b>DMPA</b>	: Depot Medroxyprogesterone Acetate
<b>FHI</b>	: Family Health International
<b>FP</b>	: Family Planning
<b>GDHS</b>	: Ghana Demographic Health Survey
<b>HBM</b>	: Health Belief Model
<b>ICPD</b>	: International Conference on Population and Development
<b>IUD</b>	: Intra-Uterine Device
<b>KDHS</b>	: Kenya Demographic Health Survey
<b>KNASRHP</b>	: Kenya National Adolescent Sexual and Reproductive Health Policy
<b>KNBS</b>	: Kenya National Bureau of Statistics
<b>KPHC</b>	: Kenya Population and Housing Census
<b>MCH</b>	: Maternal and Child Health
<b>NACOSTI</b>	: National Commission for Science, Technology and Innovation
<b>NCHS</b>	: National Council for Health Statistics of America
<b>NCPD</b>	: National Council for Population and Development
<b>PS</b>	: Population Services
<b>PSI</b>	: Population Services International
<b>SDG</b>	: Sustainable Development Goals
<b>SES</b>	: Socio-Economic Status
<b>SPSS</b>	: Statistical Package for Social Scientists
<b>STI</b>	: Sexually Transmitted Infection
<b>TDHS</b>	: Tanzania Demographic Health Survey
<b>UN</b>	: the United Nations
<b>UNFPA</b>	: the United Nations Population Fund
<b>USA</b>	: United States of America
<b>USAID</b>	: United States agency for International Development
<b>WHO</b>	: World Health Organization

# CHAPTER ONE

## INTRODUCTION

### 1.1 Background of the Study

Adolescent pregnancy is a notable social and wellbeing concern; it is associated with high maternal and child morbidities and mortality globally. Such pregnancies directly affect the socio-economic well-being of women and their households both in the present and future (Gomes, K., Speizer, Oliveira, Moura, & Gomes, F 2006). The World Health Organization (WHO) defines an adolescent as an individual aged 10-19 years. Adolescence is the period of transition from childhood into adulthood; a time of physical and emotional changes as the body matures and develops, and the mind becomes more independent. Most people actively begin to explore their sexuality during this period. Adolescents represent 17% of total world population as more than 90% of the adolescent population found in developing countries.

Addressing the unmet need for contraception is a key focus of the Sustainable Development Goal three (SDG 3) (i.e. “To Ensure healthy lives and promote well-being for all at all ages), SDG four (“Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all”, and SDG five (“Ensure healthy lives and promote well-being for all at all ages,”). Endowing adolescents to access and utilize contraception is a worldwide general public health priority. The high unmet need for family planning among adolescents translates into a high number of mistimed and unwanted pregnancies, and into high maternal morbidity and mortality in countries with poor maternal health care frameworks. In the United States of America (USA), the utilization of contraception among teenagers and youths has demonstrated cost-effectiveness regardless of the contraceptive strategy utilized. Contraceptive use averted an expected 1.65 million pregnancies among the 15 to 19 year olds in the USA in 1995 (Abma, Chandra, Mosher, et al, 1997). Annually, about one million pre-

adult women (roughly 20% of all sexually active adolescent girls) end up pregnant in the USA, (Alan, 1994). Over half of these girls deliver, while 30% procure abortion (Alan, 1994). Just about 80% of these pregnancies are unplanned, and the greater majority of them happen among the 18 and 19 year olds (Alan, 1994). Close to 25% of adolescent mothers in the USA conceive a second child within 2 years of their first (Alan, 1994), while only 29.8% of sexually active girls aged 15 to 19 use contraceptives

Unintended pregnancy amongst adolescents is one of the problems facing most of the African countries. About 10% of girls become pregnant by the age of 16 years (WHO, 2008). Pregnant girls are likely to drop out of school and not achieve the socio-economic status which can enable them raise their children. The Ghana Demographic Health Survey (GDHS, 2008) revealed low levels of contraceptive use among young people 24% among females. In Tanzania, adolescent pregnancy has been identified as a major bottle neck and reason for school girls drop out. According to recent data from Tanzania Demographic Health Survey(TDHS), 27 out of 100 girls get pregnant before turning age 18 (TDHS, 2015) an increase from 23 in 2010 TDHS.

The 2009 Kenya Population and Housing Census (KPHC) showed that adolescents constitute about 24 percent of the country's total population (i.e. 9.2 million). Prevalence of early childbearing is highest in counties within Nyanza region at 22.2% (KNBS, 2015) followed by Rift Valley 21.2% and Coast 21%; it is lowest in Central 10% and North Eastern region 12.2%. According to KDHS 2014 Homabay County has highest rate of early childbearing which stands at 33.3%, followed by Nyamira at 27.8% and 24.3% within the Nyanza region. Plan International Kenya in 2016 documented that teenage pregnancy in Kisumu County has gone up from 22% to 42%.

The Kenya Demographic and Health survey (KDHS) 2014 reported that in Kisumu County, 25% of teenagers reported to have had sex before the age of 15 years and 80% of teenage pregnancies occurred in primary school (KNBS, 2015). Moreover, 42% of teenage girls were forced to drop out of school due to unintended pregnancy. The same report showed that adolescents from poorer families will probably have started childbearing (26 percent) than girls from the wealthier families (10 percent), with prevalence of early childbearing reported at 22% in the former Nyanza province. A study in Nyando, a predominantly rural sub-County of Kisumu was therefore deemed necessary.

## **1.2 Statement of the Problem**

The study area, (Nyando Sub-County) is largely rural, with life that is characterized by early sexual debut and early marriages among adolescent girls resulting in mistimed pregnancies. The use of contraceptives is essential in preventing unwanted pregnancies, unsafe abortions, and abortion related complications that expose the adolescents to health related risks such as infertility and sometimes death. Childbearing during the teenage years is often associated with other adverse social consequences, especially educational attainment. Contraceptives offer various socio-economic benefits to the household, country and the world at large; they permit individuals to influence the timing and the number of births which is likely to save lives of mothers and children. There is high unmet need for contraception translating into high numbers of unintended pregnancies. Seventy three percent of currently sexually active unmarried women aged 15–19 reported not using any form of contraception (Kenya National Bureau of Statistics, [KNBS] 2011). This was despite availability of contraceptives in government health facilities across the country. Empowering adolescent girls to access and use contraception is a global public health priority.

According to the KDHS 2014, childbearing begins early in Kenya, with almost one-quarter of women becoming mothers by age 18 and nearly half by age 20 years. The KDHS 2014 revealed that 18% of adolescent women age 15-19 are already mothers or pregnant with their first child. The NCPD (2013) revealed that about 13,000 Kenyan girls drop out of school every year due to accidental pregnancy, with 103 out of every 1000 births in Kenya delivered to girls aged 15–19 year olds. Teenage pregnancies in Kisumu County has gone up from 22% to 42%, this is according to report by Plan International Kenya, (2016). This trend can be cut short by use of contraceptives. Even with marked increase in efforts by Kenyan government and support from development partners and other stakeholders through policies, legislations and targeted interventions to enable and sustain access to reproductive health services for the adolescents and young people, the unmet need remains glaringly huge. Little is known about the reasons behind the low contraception use amongst this key population in Kisumu county and specifically Nyando sub-county. This study therefore investigated reasons why despite government and other health facilities providing contraceptives, adolescent unintended pregnancies are still on the rise.

### **1.3 Purpose of the study**

The purpose of the study was to assess adoption of contraceptives and unintended pregnancies amongst adolescent girls in Nyando sub-county, Kisumu County.

### **1.4 Objectives of the study**

The following were the objectives of the study:

1. To establish how socio-demographic factors influence adoption of contraceptives and unintended pregnancies amongst adolescent girls in Nyando Sub-County

2. To determine how contraceptive methods applied influence adoption of contraceptives and unintended pregnancies amongst adolescent girls in Nyando Sub-County
3. To investigate how culture influences adoption of contraceptives and unintended pregnancies amongst adolescent girls in Nyando Sub-County
4. To determine how access to contraceptives influences adoption and unintended pregnancies amongst adolescent girls in Nyando Sub-County

### **1.5 Research questions**

The following were the research questions of the study:

1. How do socio-demographic factors influence adoption of contraceptives and unintended pregnancies amongst adolescent girls in Nyando Sub-County?
2. To what extent do the contraceptive methods applied influence adoption and unintended pregnancies among adolescent girls in Nyando Sub-County?
3. How does culture influence adoption of contraceptives and unintended pregnancies amongst adolescent girls in Nyando Sub-County?
4. How does access to contraceptives influence adoption and unintended pregnancies amongst adolescent girls in Nyando Sub-County?

### **1.6 Significance of the Study**

Collecting data about the use of contraceptives is of importance in the prevention of adolescent pregnancy, termination of pregnancy and transmission of sexually transmitted infections during this transition ages. Unintended pregnancy is a serious cause of unsafe abortions as well as adolescent morbidity. And use of effective contraception is one of the pillars of adolescent pregnancy prevention. The sexual and reproductive health of adolescent girls is a matter of great public health concern. Promoting and sustaining adoption of contraceptives among adolescents globally is necessary to prevent the runaway unintended



pregnancies as well as the health and social impact of such pregnancies. It should be acknowledged that adolescents may have different contraceptive needs.

Previous studies have majorly considered the attitude, perceptions, trends and barriers to contraception amongst school going as well as married adolescents and also women of reproductive age (15-49). Little has however been done and documented about the correlates of contraceptive use among female adolescents (aged 10 to 19) in Kenya. As such, the study was done among adolescent girls visiting maternal and child health and Family Planning (MCH/FP) clinics to determine contraceptive use and factors associated with nonuse of contraception.

Therefore this study was hoped to contribute to already existing literature that would help the adolescents in understanding the extent and consequences of ineffective use of contraceptives. Generated data from the study will be used by future researchers to explore other means of reducing and preventing unintended pregnancies amongst adolescent girls. The knowledge derived from the study was hoped to be significant as it will help the Ministry of Health and its agencies when it comes to creation of public awareness on the importance as well as proper use of contraceptives. The effective strategies will enhance the use of contraceptives amongst adolescent girls. Adolescents will know the methods, source of the methods and use of contraceptives.

### **1.7 Basic assumptions**

The study was conducted with the assumption that all the eligible respondents would give honest and truthful responses that will be representative of the target population. It was also assumed that the nominated participants were willing and able to give informed consent/assent to participate in the study.

## **1.8 Limitations**

The study targeted adolescent mothers and girls aged 13-19 years of age seeking sexual and reproductive health services at the maternal and child health/Family Planning (MCH) clinics within Nyando sub-County. Since the study was conducted in Nyando Sub-County, information related to other sub-counties, which would otherwise have been equally relevant were not included. Some bias especially on sexuality related items could also be likely due to the gender of the research assistants. To address this, female research assistants were majorly recruited and used during active data collection. Tracing adolescents is often a difficult task. The study adopted a cross-sectional approach in order to avoid participant attrition challenges.

## **1.9 Delimitations**

The study was conducted among consenting adolescent girls within Nyando Sub-County, Kisumu County. The findings were therefore confined to this age group.

## **1.10 Definition of key terms**

<b>Access:</b>	The ease with which contraceptives are reached and utilized
<b>Adolescent Pregnancy:</b>	Pregnancy occurring in girls 10-19 years of age, whether or not they are intended
<b>Adolescents:</b>	Adolescent means any person; boy or girl; between 10 and 19 years of age. For this study, adolescents refer to girls, 13-19 years old residing in Nyando Sub-County.
<b>Adoption:</b>	The act of accepting or embracing or utilizing a service
<b>Contraception:</b>	The practice of adopting strategies and methods intended to prevent or space future pregnancy.

- Culture:** The beliefs, attitudes, customs, arts, etc., of a particular society, group, or place
- Prevention of Unintended Pregnancy:** Avoidance of pregnancy that is mistimed, unplanned, or unwanted at the time of conception
- Socio-demographic Factors:** Characteristics of a population such as age, gender, marital status, ethnicity, education level, income, location of residence, etc.
- Use of Contraceptives:** For this study means reported actual utilization or intake of contraception by adolescent girls.

### **1.11 Organization of the study**

This research project is organized into five main chapters. Chapter one gives the background of the study, statement of the problem, purpose of the study, research objectives, research questions, significance of the study, basic assumptions of the study, limitations, delimitations and definition of significant terms as used in the study. Chapter two gives an overview of adolescent contraceptive use; how socio-demographic factors influence use of contraceptives amongst adolescent girls; how contraceptive methods applied influence prevention of unintended pregnancy amongst adolescent girls; how culture influences use of contraception on preventing unintended pregnancies amongst adolescent girls; and how access to contraceptives influences prevention of unintended pregnancies. Also included in chapter two are the theoretical and conceptual frameworks on which this study is based as well as a summary of the literature reviewed. The Health Belief Model (HBM) is applied with respect to how the model will be utilized to organize and analyze use of contraceptives amongst adolescent girls and the knowledge gap summarized. Chapter three describes the research

design, area of study, target population, sample selection and sample size, data collection methods and instruments, validity and reliability of the data collection instruments, and data analysis techniques. Chapter four has the themes on which data was collected and presented, interpretation of the results and a discussion of study data and results. Chapter five of this research project document gives an introduction, summary of findings, conclusion, recommendations, the study's contribution to knowledge and suggestions for further research. This is followed by a list of chronologically organized references and relevant appendices.

## **CHAPTER TWO**

### **LITERATURE REVIEW**

#### **2.1 Introduction**

Literature was reviewed along the following themes in an attempt to gather information already on record regarding use of contraceptives amongst adolescent girls. Thus: Adolescent contraceptive use; How socio-demographic factors influence adoption of contraceptives to prevent unintended pregnancies amongst adolescent girls; How contraceptive methods applied influence prevention of unintended pregnancy amongst adolescent girls; how culture influences adoption of contraception to prevent unintended pregnancies amongst adolescent girls; and How access to contraceptives influences their adoption to prevent unintended adolescent pregnancies. This chapter also documents the theoretical basis of the study, conceptual framework, as well as summarizing the reviewed literature and existing gaps in knowledge.

#### **2.2 Overview of Adoption of Contraceptives**

Contraception by definition is the prevention of pregnancy. It includes all the decisions an individual or couple make about having children. There is no ideal method of contraceptive, but there is a safe and effective method for every woman. Contraception methods vary according to availability, convenience, cost, effectiveness, side effects, risks and benefits for the individual client. Use of contraceptives provides confidential, low-cost, preventive health care to both females and males to help with their sexual and reproductive health needs. (Pillitteri, 2007). Contraceptives offer various economic benefits to the household, country and the world at large; they permits individuals to influence the timing and the number of births which is likely to save lives of children. Secondly, by reducing unwanted pregnancies,

contraceptive service can reduce injury, illness and deaths associated with child birth, abortions and sexually transmitted infections (STIs) including HIV/AIDS (Walker, 2008).

Many community units do not approve premarital sex; they also consider reproductive health services for young people inappropriate (Nare et al., 2007). Consequently, parents, education stakeholders and health care providers are often unwilling to give adolescent girls information and services needed about contraception. This leads to adolescent girls and young women consistently reporting less contraceptive usage, evidence of their unequal power in negotiating safer sex or restrictions on access to services such as lack of information, shame, laws, health provider attitudes and practices or social norms (Nare et al., 2007). The Kenya National Adolescent Sexual and Reproductive Health Policy (2015) emphasizes access to comprehensive sexuality education and adolescent-friendly sexual and reproductive health information and services. Implementing the provisions of this policy would help address the issues related to unintended pregnancies.

### **2.3 Socio-demographics and adoption of Contraceptives**

Many United Nations member countries in the developed world have strong family planning programs. In sub-Saharan Africa, however, many adolescent women continue to have unmet need for contraception despite contraceptive availability, (UNFPA, 2012). According to UNFPA, 2012, the major factors associated with contraceptive use are the women's age, education, and their socioeconomic status. During adolescence, many young people begin to experiment with new roles. Sexual activity is one such exploration, and it involves some amount of risk taking. Adolescent sexual activity is viewed by many as problem behavior since it departs from what is socially acceptable for girls their age. The likelihood that adolescents

will engage in sexual activity, use contraceptives or become parents is influenced by a range of attitudes and behaviors.

The age of the girls has an influence on their choice and adoption of contraceptive. Adolescent girls who initiate sex at an older age are more likely to use contraception regularly, consistently and effectively (Kantner and Zelnik, 1972; Zelnik and Kantner, 1977; Zabin and Clark, 1981; Devaney and Hubley, 1981) as compared to those with a younger age of sexual debut.

Marriage is considered as the right institution within which sex and child bearing are socially and morally acceptable. Marital status is a sociological factor that cannot be ignored while addressing adolescent pregnancies. By the age of 18 years, about one-third of girls in developing countries are often married, while one in nine girls are married by the age of 15 years (UNFPA, 2012), and about 90% of births experienced by adolescent girls occur within marriage. There exists a strong association between the stability and degree of commitment in heterosexual relationships (e.g., going steady, engaged to be married) and the use of contraception (Devaney and Hubley, 1981; Herold, 1980; Hornick et al., 1979; Freeman et al., 1980; Luker, 1975). According to Devaney and Hubley (1981), this observation more common among black teenager girls. Adolescents in stable sexual relationships generally engage in sexual intercourse more frequently than adolescents without strong romantic ties to one partner. Such adolescents were also more likely to use oral contraceptives (Kantner and Zelnik, 1972; Luker, 1975), with other evidence indicating that teenagers who report frequent sexual activity with different partners are also more likely to use contraceptives than those who have intercourse infrequently. The single, socio-economically dependent and sexually active adolescent girl is more likely to adopt contraceptive practice as a wise precaution against STI and pregnancy and their associated implications than her married counterpart.

Social norms and expectations of gender roles strongly influence adolescents' reproductive desires. The belief that a woman's primary value and role in society is that of a wife and/or mother greatly impacts her contraceptive desires and decisions. Early sexual debut and/or marriage in some communities often exacerbate these pressures. While early marriage can provide social recognition and approval for sexual relations, it also exerts pressure on the young girls to prove fertility and bear children (Malhotra et al, 2011). Child marriage is associated with low adoption levels of contraception prior to conceiving the first child (McQueston, Silverman & Glassman, 2012). Also, there exists double standards related to what is socially acceptable with regard to pre-marital sex, with society placing pressure on boys to engage in sexual activity soon after initiation and girls to remain chaste (WHO, 2004). This can potentially make adolescent girls who engage in pre-marital sex to feel embarrassed and ashamed to seek contraceptive methods. In many cultural settings, girls are socially constructed to be passive, not capable of thinking for themselves or voice their opinions, and rather are instructed to do as they are told (Levine et al, 2009; Goicolea, 2009). The pressure that such and other social norms and expectations place on adolescent girls can hinder their ability to understand and exercise their right to make decisions around their own sexual and reproductive health, including adoption of contraceptives.

Having clear educational goals and expectations and are exceptional academic performance have a positive relationship to adoption of contraception than those who lack a strong achievement orientation (Devaney and Hubley, 1981). Better educated parents are more likely to support adolescent girls' adoption of contraceptives (Zelnik et al.1981). The higher the level of education one attains, the greater the probability of using a contraceptive method. The education system exposes girls to more interactions and other sources of information that enables them to make wise decisions such as using a contraceptive when sexually active.



During adolescence, many girls begin experimenting new roles. Sexual activity is one such exploration, and it involves some amount of risk taking. Adolescent sexual activity is viewed by many as a problem behaviour since it departs from what is socially acceptable for girls their age. The likelihood that adolescents will use contraceptives is influenced by their knowledge of the available method. Adolescent reproductive health is increasingly being recognized as one of the major determinant of human development. Among the essential development concern about contraception or prevention of unintended pregnancies considered to have a significant potential in improving the status of adolescents. Knowledge and use of contraceptives among adolescents and youths is widely varied in sub-Saharan Africa as compared to other regions of the world (Gadisa, 2004). A study among adolescents aged 15-19 in Ghana revealed that 85% knows at least one method of contraception while only 17% of sexually active adolescents use contraceptives, the rate for any method in this study group was 27% (Gadisa, 2004). A similar study in Nigeria revealed that over 60% of urban adolescents had heard of at least one contraceptive method but only 4.7% of sexually active adolescents practiced contraception (Ahmed, 2006).

Closer home, a study in Kenya indicated that 90% of Kenyan high school students knew at least one contraceptive method. However, only 43% of female student reported ever using contraceptives (Bekele, 2005). The same study also revealed an increase in contraceptive use from 28% during the first to 29% during the last intercourse among the female students. Only 11% of ever users considered themselves as frequent users of contraception (Bekele, 2005). Knowledge of contraceptive methods among adolescent in most countries of Latin America, the Caribbean, Asia, Near east and North Africa exceeds 90% (Gadisa, 2004).

Most organized religions transmit values through an alliance with the family, both through formal instruction during or in conjunction with religious services and through modeling of behavior by the family.

#### **2.4 Method of Contraceptive applied by adolescent girls**

Use of family planning services is an important indicator of the level of protection from the consequence of unprotected sex. Thus, what affects utilization of family planning service among female adolescents could be important issues for planners and policy makers to identify areas of interventions to protect sexually active female adolescents from consequence of unprotected sex.

The effectiveness of the contraceptive method used to prevent unintended pregnancy is a major factors affecting prevalence of unintended pregnancy and birth rates among adolescent girls. Adolescence is a transitional period from childhood to adulthood characterized by significant physiological, psychological and social changes and developments. This transitional period is associated with high-risk behaviors, such as rape and unsafe sex in exchange for material or monetary incentives. These behaviors expose adolescent girls to risk of unintended pregnancy, affecting their reproductive health (Kalembo, 2013).

Improving contraceptive access and usage is vital to overcome the challenge of unintended pregnancies among unmarried adolescents, and this will help reduce the rates of morbidity and mortality as a result of abortion (Doyle, Mavedzenge, Plummer, Ross 2012). Conception among women of reproductive age is highly likely among the sexually active unless some action is taken to prevent it. Access to and adoption of contraceptives is essential to the achievement of Sustainable Development Goals (SDGs) (previously Millennium Development Goals -MDG) and is an important indicator for tracking progress on improving

maternal health (Bernstein & Edouard, 2007). It is one of four pillars together with antenatal care, safe delivery, and postnatal care that were introduced by the Safe Motherhood Initiative in 1987 to reduce maternal mortality in developing countries, where 99% of all maternal deaths occur (Ahmed et al., 2012). Worldwide, use of contraceptives among the adolescents is low, and in Kenya, little is known about factors associated with the adoption of contraceptives among adolescents aged 13-19 years. Also, little is known and documented about the perceptions of the adolescents regarding access and use of contraceptives, with most of the documented studies relying majorly on secondary data sources without a direct link to the adolescents themselves.

The International Conference on Population and Development (ICPD) declared that it was a basic right for all couples and individuals, to decide freely and responsibly, the number and spacing of their children, and to have the information and means to do so (UN, 1995). To achieve this right, provision of access to voluntary family planning (FP), especially effective contraceptive methods, for women and men is imperative. Contraception is not only essential to directly improve reproductive health outcomes, it is also positively associated with improvements in health, academic attainment and economic outcomes (Canning, Schultz, 2012). Because of its importance, this right has been incorporated into the achievement of universal access to reproductive health.

Erratic supply, cost, and policies prevent unmarried adolescents in low and middle income countries from accessing contraceptive options of their choice. Even in the absence of policy restrictions, health workers often refuse to provide unmarried adolescents with contraceptives because they do not approve of premarital sex. In cases where adolescents are able to obtain contraceptive methods, social pressure may prevent their adoption. In many places, young women are under pressure to bear children soon after marriage; contraception

may be considered after the first child is born. Additionally, the stigma and discrimination surrounding contraception may prevent their adoption by adolescents who are not in stable relationships. A young woman who proposes condom use, for example, runs the risk of being considered 'loose'. Adolescents in many places may also have misconceptions about health effects of contraceptives, including their future ability to bear children. As a result, they may tend to prefer traditional remedies or to use ineffective methods. Many adolescents also have poor understanding of how contraceptives work and may use them incorrectly. Sporadic and infrequent sexual contacts may also lead to an inconsistent use of contraceptives; even within stable relationships, the use of condoms tends to decline over time because they suggest a lack of trust between partners.

Devaney and Hubley, 1981 found out that adolescent girls with clear educational goals and expectations and are performing well in school are more likely to use contraception than those who lack a strong achievement orientation. Similarly, the better educated the parents, the more likely adolescent girls are to use contraceptives consistently (Zelnik et al., 1981). The higher the level of education one attains, the greater the probability of using a contraceptive method. The education system exposes girls to more interactions and other sources of information that enables them to make wise decisions such as using a contraceptive when sexually active.

Among adolescent women at risk of unintended pregnancy in the USA in 2006–2010, 82% were reported to be using a contraceptive method, 59% of them using a highly effective method (Trussell, 2011; Kost et al 2008). Of the sexually experienced adolescents during the same period, 78% reported having used contraceptives the first time they had sex and 86% said they used contraceptives at last sexual encounter. Preventing unintended pregnancies amongst adolescent girls is of high priority in many countries. In the United Kingdom, about 75% of

young people in early adolescence and 85% in mid-adolescence reported using an effective form of contraceptive the last time they had sexual intercourse. The male condom is 98% effective with correct and consistent use in preventing unintended pregnancy. The condom's failure rate however increases to about 18% with common use. The male and female condoms are the only contraceptive methods available that also protect against STIs and HIV in addition to preventing pregnancy (Trussell, 2011; Trussell, 2008; Kost et al 2008). Out of the adolescents who reported having sex in the past month in the USA, 67% of the females used a condom every time they had sex and 39% females reported not using a condom (National Center for Health Statistics [NCHS], 2011).

Among the 2.5 million sexually active teenage women who reported current use of contraceptives (within the last three months) in USA in 2011–2013, 55% relied on the condom (Trussell, 2008; Kost et al 2008). In another study in Ghana, adolescents did not use contraceptives consistently even though condoms was the most used contraceptive method at 82% (Boamah et el 2014). The male condom is the most common used contraceptive method that adolescents use. This is due to the fact that the male partner is involved in the responsibility of contraception. Also, the method is affordable to the adolescents. In Uganda, a study showed that adolescents used condoms more as compared to other contraceptives. Condom consumption was at 34.5% and the other contraceptives were at 8.8% (Nsubuga et al (2016).

Depot medroxyprogesterone acetate (DMPA or Depot Provera) is a birth control method with universal appeal, especially for adolescents (Clark, 2001; Matson, Henderson, McGrath, 1997; Cromer, Berg-Kelly, Van Grogingen, et al, 1998; Cromer, Lazebnik, Rome, et al, 2005). This is an injectable contraceptive method that is highly effective, safe, convenient, reversible and almost user-independent (Lazebnik, Rome, et al, 2005). This method is convenient for many adolescent girls because of its ease of use. There is no

documented evidence that hormonal contraceptives adversely affect the developing foetus. Women are however traditionally asked to wait until menses to initiate birth control to avoid such likely harm (Bracken, 1990; Curtis, Chrisman, Mohllajee, Peterson, 2006). Maintaining this traditional requirement for initiation of contraception delays the onset of contraceptive protection for the girls. Adolescent women often fail to return to family planning clinics to receive their injection because of diminished motivation, confusion regarding when to start their contraceptives, or both (Ohlemeyer, 2003; Moore, Adler, Kegeles, 1996). It is therefore not surprising that many adolescent women unfortunately conceive while waiting to receive their first injection because alternative contraceptives, like condoms are either unacceptable or are used incorrectly. According to the Contraceptive Use Worldwide Report 2015, injectable contraceptives are common in Eastern Africa, Southern Africa, and South-Eastern Asia and in the developing sub-regions within Oceania. The method is also said to be widely employed in some of the poorest countries in Latin America and Caribbean.

Implant contraceptives like Norplant, Implanon and Jadelle are considered among the most effective reversible contraceptive methods currently available, with failure rates of less than 1% for both perfect and typical use. The method has low typical-use failure rates because it does not require user intervention (Trussell, 2008; Kost et al 2008). Less than 5% of the adolescents are however using this method. Implants are placed under the skin in the arm where they provide users with the contraceptive drug continuously. Once in place, these contraceptive method can be used for a period of three to 10 years without having to be removed.

According to Zibners, Cromer, Hayes, (1999), adolescents have higher birth control outcomes and therefore lower unintended pregnancy rates with methods that do not require daily adherence or decisions at the time of intercourse. One method that requires neither is the emergency contraception which includes a pill and Intra uterine Device (IUD). Many

adolescents lack awareness of emergency contraception, which limits its use yet it is the only contraceptive that can be used after sexual intercourse (Davtyan, 2000). Worldwide, one of the biggest obstacles to the widespread use of emergency contraception is that many women do not know about it (Ellertson, Shochet, Blanchard, Trussell, 2000). Without education regarding emergency contraception, women are unable to make informed contraceptive choices. When there is better recommendation of its availability and advantages, women make better choices (Ojule, Oriji, Georgewill, 2008).

Increasing access to accurate information regarding emergency contraception among girls promotes reproductive health education. Establishing and promoting youth friendly centers that are equipped to offer contraceptive information services in our communities and institutions would take care of the reproductive health needs of the girls thereby improving contraceptive usage (Ibekwe, Obuna, 2010).

A committee opinion by the American College of Obstetricians and Gynecologists (ACOG) encourages providers to consider the IUD as a first-line choice of contraception for all adolescents irrespective of whether or not they have previously delivered. Many contraceptive service providers, however, do not offer the IUD to their younger clients. A study by Harper et al (2008) found that many health practitioners who provide family planning services do not even provide counseling or offer their patients IUDs, and fewer than half (46%) of clinicians considered yet to deliver adolescent women as candidates for IUDs.

## **2.5 Culture and adoption of Contraceptives**

Most adolescents could want to use contraceptives after getting accurate information about the different contraceptive methods as well as empowerment to use, but surrounding culture could be a challenge. In many settings globally, adolescents and their unique health

needs are often not seen as different from children. Significant attitudinal, policy and environmental barriers to access exist. This is despite the fact that adolescents are greatly concerned about privacy and confidentiality related to sexual matters. Unmarried adolescents are at particular risk of experiencing negative attitudes from parents, teachers and health-care providers. Often times, even married adolescents face unsupportive attitudes from health-care providers when they seek information regarding contraception before beginning childbearing. These attitudinal barriers create a major disincentive to adolescents interested in receiving sexual and reproductive health information and services, including contraceptives.

Parental influence on the risk of adolescent girls becoming pregnant have been documented, with many adolescent girls reporting that their parents, especially their mothers, are the most important people in their lives (Wilks 1986). Research findings are consistent that parent/child closeness or connectedness, parental supervision or regulation of children's activities, and parents' values against teenage intercourse (or unprotected intercourse) decrease the risk of adolescent pregnancy (Brent, Brad, Kevin, 2000). Residing in disorganized/dangerous neighborhoods and in a lower socio-economic status (SES) family; being raised by or living with a single parent; having older siblings who are sexually active or pregnant/parenting; and being a victim of sexual abuse all expose adolescents to an elevated risk of pregnancy (Brent, Brad, Kevin, 2000).

The social and physical environment in which adolescents reside or attend school affects their perceptions on reproductive health and contraceptive adoption. Maternal approval, for example, has been associated with a higher probability of contraceptive use among adolescents (Hulton, Cullen, & Khalokho, 2000; Jaccord, and Patricia, 2000). In most traditional cultural settings, sexual activity is allowable only in marriage. The breakdown of social structures traditionally used to educate young people on sexuality in Africa has left



adolescents to initiate sex active without appropriate guidance. In a study conducted in Nigeria for example, only 39 percent of parents surveyed had discussed sexuality with their children in the year preceding the study (Izugbara 2007). Lack of accessible, available and affordable quality youth-friendly services and information is another problem associated with low use of contraceptives among the adolescents.

Adolescents' reproductive desires are strongly influenced by social norms and expectations of gender roles. The belief that a girl's primary value and role in society is that of a wife and/or mother can impact greatly her family planning desires and decisions. Early marriage often exacerbates these pressures. While early marriage can provide social recognition and approval for sexual relations, it also places pressure on girls to prove fertility and bear children. Child marriage is associated with low use of contraception prior to the first child, followed by multiple, shortly spaced pregnancies. Additionally, double standards related to what is socially acceptable in regard to pre-marital sex place pressure on boys to engage in sexual activity and girls to remain chaste. This can lead to girls who engage in pre-marital sex feeling embarrassment and shame in regard to seeking to use family planning methods. In many cultures, girls are taught to be passive, to not think for themselves or voice their opinions, and rather are instructed to do as they are told. The immense pressure that these and other social norms and expectations place on girls can constrain their ability to understand and exercise their right to make decisions around their own sexual and reproductive health, including family planning.

Familiarity with the cultural beliefs of a people helps health care providers to give factual information that addresses a woman's beliefs and concerns while at the same time not overstepping in the direction of culture. Some of the beliefs include: women must bear children to please their husbands; only promiscuous women use contraceptives; all sexual acts must be

open to procreation, and the list goes on. Social norms around contraception, pregnancy, and childbearing vary within and across populations. The age at which a woman should begin bearing children, acceptability of unintended pregnancy, and lack of partner support for contraceptive use are just a few of the issues encountered by adolescent girls in their quest for contraception. Awareness of and sensitivity to these attitudes positively impacts health care givers ability to effectively counsel patients.

Governments and non-governmental organizations have pumped so much energy and resources into preaching the message of contraception because reproductive health is at the very heart of meaningful development. There are however many myths and misconceptions surrounding contraceptive methods that many eligible women would rather risk their lives than use them. Adolescents commonly depend on the counsel of their peers and social networks about contraceptive methods from family members. On this basis, the adolescent girls make their decisions with information about contraceptive effectiveness, side effects, safety, or user instructions. Often times, such social networks do not have accurate facts and end up misinforming rather than offer resourceful guidance. Myths, for example those about hormonal contraceptive methods causing birth defects, growth retardation, or causing barrenness (Rivera, Mendez, Gueye, Bachmann, 2007; Sangi-Haghpeykar, Ali, Posner, Poindexter, 2006), may influence decisions on use of such effective contraceptive methods. The common rumours that contraceptives reduce a woman's libido, make her add weight or harm her health plays a great role among the highly sensitive image wise adolescent girls. While it is not contested that all drugs, including contraceptives have side effects, health practitioners agree that this notion has been blown out of proportion.

The world over, most girls incorrectly view the use of oral contraceptives as more dangerous than the pregnancy being prevented (Lee & Jezewski, 2007). In a study conducted

in eight developing countries, 50–70% of women thought that using oral pill posed considerable health risks (Grubb, 1987). According to a study conducted in Mali, many women feared that the contraceptive pill and injection could cause permanent infertility (Castle, 2003). A qualitative study done by Ochako et al, 2015 among sexually active women aged 15–25 in Kenya revealed that many of the women had misconceptions about the side effects of modern contraceptives (i.e. that they cause infertility or can harm a woman’s uterus), but few of the respondents had experienced nor even reported knowledge someone who had experienced an actual side effect of contraceptives. In yet another qualitative study conducted in the former Nyanza Province in Kenya among women of reproductive potential, one respondent reported that the pill “can accumulate into a life-threatening mass in the stomach, among others” (Rutenberg and Watkins, 1997). According to Rutenberg and Watkins, 1997, such myths and misconceptions about contraceptives often spread through informal communication networks and lead to continued negative perceptions among adolescents.

An attitude is a settled way of thinking or feeling about someone or something, typically one that is reflected in a person's behavior and/or actions. The majority of pregnancies among unmarried adolescents are unintended. Most adolescents do not want to become pregnant, although some are not opposed to becoming pregnant and others have ambivalent attitudes. Attitudes of and information from one’s social networks may be considered more reliable and convincing to adolescents than information from health care providers, particularly in regards to side effects (Ochako et al, 2015). In two qualitative studies, Latina and non-Latina women perceived their personal safety and side effect-related experiences and those experiences of their social network to be more valuable and relevant than those of medical providers (Rosenberg et al. 2005). The use of contraceptives is not openly discussed among

young unmarried women due to strong cultural and religious beliefs. This exposes them to an increased risk of unintended pregnancies.

In many African traditional cultural settings, pregnancy prior to marriage is often times considered an abomination. In view of this, many single adolescents who get pregnant seek abortions services for fear of harsh societal judgment and prejudice. Negative stereotypes, stigma, misconceptions and fear limit uptake of contraception. Social stigma, fear and embarrassment were identified by Population Services International (PSI) (2014) as one of the most common barriers to young people accessing contraception services – including the attitude of the service providers. Research in Tanzania by Schuler et al. (2011) found that sexual jealousy discouraged contraceptive use, as men worried that women's use of contraception might allow them to be promiscuous and unfaithful without fear of conceiving. In Uganda, focus group discussions with young people found that they believed and were afraid that contraceptives could harm their fertility (Nalwadda, et al., 2010).

Decision-making on contraception may not include, or may include to a lesser extent, the potential child-bearing girls and women in many settings. Men play a greater role in highly gender-stratified populations (Mishra et al., 2014). The family (e.g. mothers-in-law and husbands) and community members (e.g. elders) may also play a role in decision-making. Those making the decisions may not discuss it with others involved (for varied reasons, e.g. lack of experience, or not feeling comfortable talking about the sensitive issues). Male partner opposition has been often cited as a key reason for not using contraception. Schuler, Rottach and Mukiri (2011) explored the role of gender norms in reproductive health decision-making and contraceptive use in Tanzania. They found that men's dominance in decision-making is a barrier to the use of modern contraceptives. While nearly all the male and female participants held discussions on family planning, the final contraceptive decision is the man's. In many

settings, particularly in Asia and sub-Saharan Africa, there are societal and family expectations for women to become pregnant and give birth soon after marriage and cohabitation (Daniel et al., 2008). This is particularly the case in contexts where women's gender identities and social status are tied to motherhood, such as in sub-Saharan Africa.

The traditional norm of not using modern contraception is sometimes deeply embedded and can take a long time to change, despite interventions. The World Bank's (2015) World Development Report suggested that 'fertility transition may be better viewed as a norm-driven process than as the aggregate outcome of autonomous decisions'. Contradictory messages from partners, parents, clergy, teachers, cultural leaders and health workers about whether to use contraceptives are identified as key obstacles to contraceptive uptake in Uganda (Nalwadda, et al., 2010).

## **2.6 Access to contraceptives and adoption of Contraceptives by adolescents**

Access to good quality information and the availability of contraceptive choices are crucial to family planning programs targeting not only adolescents but the general population as well. Inadequate knowledge of contraceptive methods can become a resistance factor against their acceptance and use (Espejo et al 2003). Likewise, high knowledge levels of contraceptive methods will not bring about any behavior changes unless contraceptive methods are available for adolescents' free choice. Many factors affect an individual's capacity to actualize their right to choose desirable contraceptive methods, including access to and availability of the full range of methods, affordability, availability of skilled medical personnel, method effectiveness, method safety and side effects, and medical eligibility. Sociocultural factors can either facilitate or pose barriers to choice; the most common barriers are lack of partner/spousal support, gender-based and sexual violence, sexual harassment, and discrimination in the wider

society or from medical providers on the basis of gender, age, marital status, sexuality, ethnicity, religious preference, or legal status (American Public Health Association, 2003).

In the developing countries, the lack of access to family planning results in 76 million unplanned pregnancies each year (Population Reference Bureau, 2007). Disapproving healthcare providers and community discourages adolescents from seeking reproductive health care (UNFPA, 2003). Contraceptive services need to be “adolescent-friendly” in order to encourage adolescents to seek reproductive health care (Godia, et al., 2013).

Reproductive health services are most successful when they increase their “adolescent-friendliness”. This is achieved by training providers how to respond to adolescents’ needs; ensuring privacy, confidentiality and respect for adolescent clients; and having a consistent supply of multiple contraceptive methods. It is important to identify what works in increasing or decreasing adolescents’ access to and use of family planning information and services as well as gaps in the evidence that require further research and/or investment. A number of factors are documented as below.

Availability of a wide range of contraceptives gives greater room for choice by prospective users. Thus the myths and misconceptions on contraceptive effectiveness and effects influence choice and access, a point accentuated by the popularity of the much publicized and easily accessed male condom (Ocholla-Ayayo 1992). Adolescents prefer friendly settings that provide their desired service readily, conveniently and at affordable costs. Availability and accessibility of services impacts on the general level of contraceptive practice among the youth. Thus personnel at the service facility can motivate or demoralize the youth from seeking and using services.

In Kenya, only 7 percent of public health facilities provide youth-friendly services (CBS 2004). Most of the clinics in Kenya open from Monday to Friday between 8.00 am to

5.00 pm and are therefore inaccessible to adolescents who are likely to be in school during these times. This timing is clearly not very convenient for adolescents. Complications of pregnancy and childbirth are a leading cause of death among 15–19-year-old women in developing regions, and babies born to adolescent mothers face greater health risks than those born to older mothers. Adolescent childbearing is associated with lower educational attainment among the mothers, and it can perpetuate a cycle of poverty from one generation to the next. Some of the contraceptives are majorly provided at no cost to the clients in public health facilities while some are offered at a fee. Clients at the same have to travel to the facility and often pay for the registration.

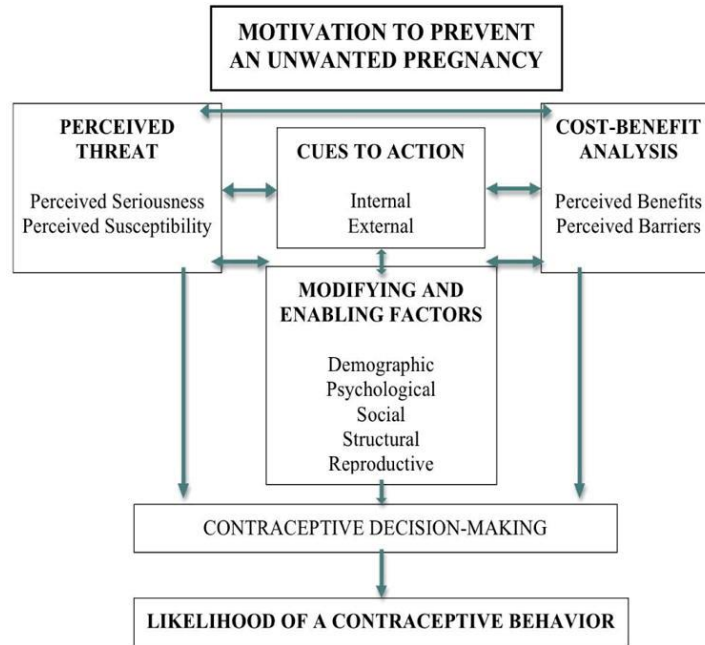
Availability of adolescent friendly reproductive health services is an essential factor in the promotion of service uptake. In Kenya however, only 7 percent of public health facilities provide youth-friendly services (CBS 2004). Most of the clinics in Kenya open from Monday to Friday between 8.00 am to 5.00 pm and are therefore inaccessible to adolescents who are likely to be in school during these times. This timing is clearly not very convenient for adolescents.

## **2.7 The Health Belief Model**

The Health Belief Model (HBM) is a psychological model that attempts to explain and predict health behaviours. It was first developed in the 1950s by a social psychologist called Hochbaum, Rosenstock and Kegels, who were working in the US public health service. The model holds that health behavior is a function of individuals' socio-demographic characteristics, knowledge and attitudes. This model is a framework for motivating the adolescents to adopt positive health actions using the desire to avoid a negative health consequence as the prime motivation. For instance, unintended adolescent pregnancy is a

negative health consequence, and the desire to avoid such pregnancy can be used to motivate sexually active adolescent girls into practicing safe sex or adopting contraception.

### THE HEALTH BELIEF MODEL



(Rosenstock, 1988)

**Figure 2.1: Constructs of the Health Belief Model**

### 2.8 Summary of Literature Reviewed

Reviewed literature revealed that unintended adolescent pregnancy is a major public health concern. There is evidence that contraceptives are available both within government and private/missionary health facilities. There is agreement across authors that adolescents should be allowed unlimited access to contraceptive services offered in a friendly environment. The literature also outlined factors which should be focused on to help prevent the rising unintended pregnancies. These factors included the socio-demographic factors like age, marital status, and educational level of both the adolescent and their parents. Other factors included the contraceptive method used, with some methods being preferred more than others; cultural factors including myths and attitudes held towards adolescent contraception; and factors influencing access to the contraceptives.



The literature suggested that a combination of strategies need to be employed to reach out to all eligible adolescent girls. This study aims to assess the use of contraceptives on prevention of unintended pregnancy amongst adolescent girls attending maternal and child health services at government health facilities in Nyando sub-county, Kisumu County. An attempt will be made to determine whether these factors were limited to the study population alone or support what had been revealed by the reviewed literature.

## **2.9 Gaps in Knowledge**

To address unmet contraceptive needs among adolescents, it is necessary to understand which strategies work to increase contraceptive behaviors among this crucial age group and to identify gaps in the evidence base for future research. Review of literature reveals studies that have attempted to address these issues, though none have looked specifically at contraceptive interventions for adolescents in developing countries that include contraceptive use outcomes. It is important to identify what works in increasing adolescents' access to and use of family planning information and services as well as gaps in the evidence that require further research and/or public investment. The Knowledge gap matrix (Table 2.1) summarized the identified gaps.

### Knowledge Gap Matrix

Objective	Indicators	Author/Year/Title	Gaps
Socio-demographic factors influencing adoption of contraceptives to prevent unintended pregnancies amongst adolescent girls	<ul style="list-style-type: none"> <li>– Age</li> <li>– Education</li> <li>– Religion</li> <li>– Marital Status</li> </ul>	McQueston, K., Silverman, R., & Glassman, A. (2012). Adolescent fertility in low- and middle-income countries: Effects and solutions	This was a review of other studies thus utilized secondary data. The proposed study will collect and analyze primary data
How contraceptive methods applied influence prevention of unintended pregnancies amongst adolescent girls	<ul style="list-style-type: none"> <li>– Condoms</li> <li>– Injectables</li> <li>– Intrauterine devices</li> <li>– Implants</li> <li>– Emergency contraception</li> </ul>	Boamah et al (2014) Use of contraceptives among adolescents in Kintampo, Ghana: a cross-sectional study	Cross-sectional design on both men and women. This study will target female adolescents on
How culture influences adoption of contraceptives to prevent unintended pregnancies amongst adolescent girls	<ul style="list-style-type: none"> <li>– Values</li> <li>– Norms</li> <li>– Attitudes</li> <li>– Myths</li> </ul>	Ochako R et al., (2015). Barriers to modern contraceptive methods uptake among young women in Kenya: a qualitative study	This was a qualitative study. The proposed study will however be a mix of qualitative and quantitative methods
How access to contraceptives influences their adoption to prevent unintended pregnancies amongst adolescent girls	<ul style="list-style-type: none"> <li>– Availability</li> <li>– Distance</li> <li>– Cost</li> <li>– Time</li> </ul>	Godia, et al., 2013. Sexual reproductive health service provision to young people in Kenya; health service providers' experiences	A qualitative study on Service providers. This study will however collect data from the adolescent girls

**Table 2.1: Knowledge Gap Matrix**

## 2.10 Conceptual Framework

This conceptual framework consists of the following independent variables: Socio-demographic factors; contraceptive methods applied; Culture; and Access to contraceptive methods as they influence prevention of unintended pregnancies amongst adolescent girls. The moderating variable is government policy related to reproductive health. These variables interact within the study area to influence the dependent variable, unintended pregnancies.

### CONCEPTUAL FRAMEWORK

#### INDEPENDENT VARIABLES

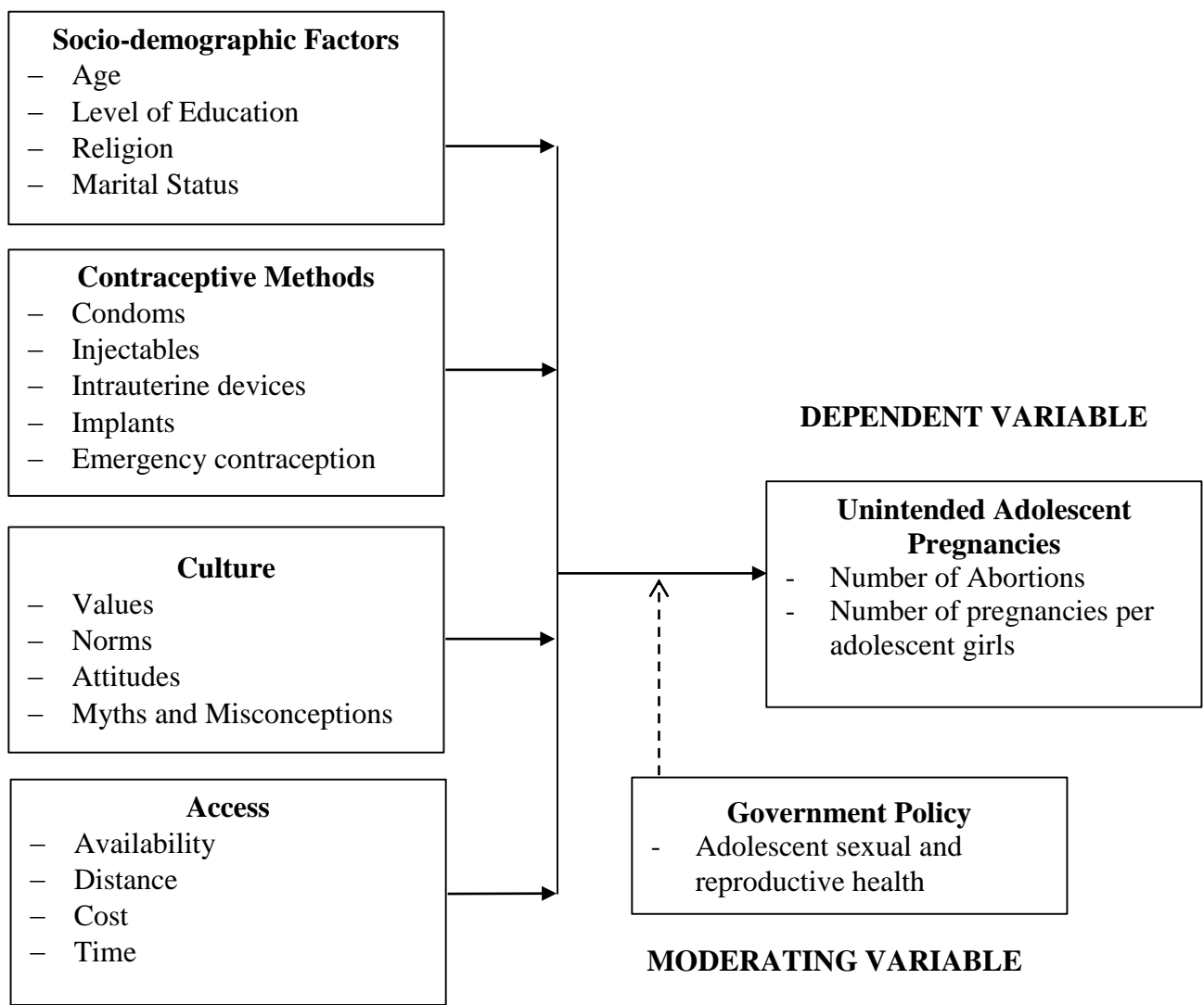


Figure 2.2: conceptual Framework

Increased use of modern contraceptives by adolescents wanting to avoid pregnancy would prevent unintended pregnancies, save lives and improve health. If all adolescent girls who need modern contraceptives were to use them, total pregnancies would drop tremendously. Various contraceptive methods are available for use by adolescents but other factors influencing access including levels of knowledge and awareness are critical in the success of any intervention

## **CHAPTER THREE**

### **RESEARCH METHODOLOGY**

#### **3.1 Introduction**

This chapter presents the methodology used to collect and analyze data in an attempt to answer the research questions. It consists of the research design, target population, sample selection and sample size, research instrument, data collection procedures, data analysis techniques as well as ethical considerations in line with the methodology.

#### **3.2 Study Design**

A descriptive survey design was adopted for the study. This design was appropriate for the study because information unique to the adolescent girls was gathered at one time point for successful implementation. It was used to gather and generate statistics showing various how use of contraception influences prevention of unintended pregnancy among the adolescent girls in the study catchment area. Descriptive survey method will help to collect information by administering questionnaires to a sample from the population (Orodho, 2003). This study design is effective when collecting information about people's attitudes, opinions, habits or any variety of socio-cultural issues (Orodho and Kombo, 2002) including contraception use that is under study. It was therefore deemed to be the most suitable design to be used while attempting to answer the outlined research questions. Assisted questionnaires were used alongside this design.

#### **3.3 Target Population**

The target population of a study is that group of subjects having the desired behaviour or observation under study. The target population for this study comprised of all adolescent girls (10-19 years of age) in the sub-County. From the KNBS 2017 projections, there are approximately 20,854 girls in the targeted age range. More specifically, the study nominated

and enrolled adolescent girls aged 13-19 years of age visiting maternal and child health (MCH) clinics at government health facilities in the sub-county. This was informed by the fact that most girls at this age have experienced menarche and some were likely to have had sexual contact. It is among this population that emancipation has occurred and some have already assumed adult responsibilities.

### **3.4 Sample Size and Sampling Procedures**

Sampling is the statistical practice of selecting an unbiased or random group of individual observations within a population of individuals intended to yield knowledge about the population of concern, especially for the purposes of making predictions based on inference. It is the process of selecting a number of individuals for a study in such a way that the individuals selected represent the large group from which they were selected. This involves choosing a sub-group from a population to participate in the study (Ogula, 2005). It is rare to study an entire population for two main reasons, i.e. the cost is often too high, and the population is dynamic in that the individuals making up the population may change over time (Adèr, Mellenbergh, & Hand, 2008). The study applied both probability and non-probability sampling methods to obtain the respondents for questionnaire administration.

#### **3.4.1 Sample Size**

A sample is a smaller group or sub-group obtained from the accessible population (Mugenda and Mugenda, 1999). This subgroup is carefully selected so as to be representative of the whole population with the relevant characteristics. Each member or case in the sample is referred to as a respondent. To estimate sample size required for a cross-sectional descriptive

study such as this one required a specification of an estimate of the proportion of adolescent girls using modern contraception, the desired level of confidence desired for the proportion estimate; and a tolerance error margin or width of the confidence interval (a measure precision of the estimate), so that the necessary sample size is then calculable for a given precision level.

The sample size formula below was used to estimate the sample size.

$$n = \frac{z_{\alpha}^2 \hat{p}(1 - \hat{p})}{m^2} \dots\dots\dots (Donner 1984)$$

Where

n= Sample size

z= is the standard normal distribution value for which the probability of falling above  $\alpha$  is 95% (the level of our confidence). For  $\alpha=0.05$ ,  $Z_{0.05}=1.96$ , that is for a 95% CI,  $z=1.96$ .

p= Expected proportion or estimated proportion of adolescent girls visiting government health facilities using modern family planning methods = 19.6% (0.196) - (KNBS 2010)

m= degree of precision or a tolerance error margin or width of the confidence interval (a measure precision of the estimate).

For this study, the researcher specified the level of confidence as 95%, an error margin of  $\pm 5\%$  as being considered acceptable and from a past study (KNBS 2010), it was expected that 19.6% of the of adolescent girls aged 10-19 years were using modern contraception. Using the information in the sample size formula above, an estimated sample of 378 adolescent girls was too be sampled for the study. The researcher however nominated a round figure of 400 adolescent girls to cover for likely declines and/or non-responses.

### 3.4.2 Sampling Procedure

A mix of sampling methods was used to select the study subjects. Two (2) out of the five (5) Wards in the sub-County were randomly selected for data collection, (i.e. Ahero and Kabonyo/Kanyagwal Wards). The selected two wards were considered as the main clusters for the study. All rural based clinics within the selected Wards were eligible for consideration for data collection (Table 3.1 outlines the selected study sites). Ahero County Hospital was left out due to urban influence. All adolescent girls receiving maternal, child health and family planning services in the selected health facilities were nominated and approached for consenting and questionnaire administration. The process went on concurrently until the requisite number of subjects (400) was attained.

**Table 3.1: Sampling Frame for the study sites**

	<b>FACILITY</b>	<b>WARD</b>	<b>LEVEL</b>	<b>SUPPORTED BY</b>
1	Ahero County Hospital	Ahero	4	MoH
2	Boya Nursing Home	Ahero	2	Private
3	Bunde Health Centre	Ahero	3	MoH
4	Impact Research- Tuungane (Nyando)	Ahero	2	NGO
5	Kadinda Health Centre	Ahero	3	NGO
6	Ahero Medical Centre	Awasi/Onjiko	2	Private
7	Awasi Mission Health Centre	Awasi/Onjiko	3	Mission
8	Holo Orucho Dispensary	Awasi/Onjiko	2	MoH
9	Oren Health Centre	Awasi/Onjiko	3	MoH
10	The Hope Medical - Awasi	Awasi/Onjiko	3	NGO
11	Wanganga Health Centre	Awasi/Onjiko	3	MoH
12	Ayucha Dispensary	Awasi/Onjiko	2	MoH
13	Ayweyo Dispensary	East Kano/Wawidhi	2	MoH



	<b>FACILITY</b>	<b>WARD</b>	<b>LEVEL</b>	<b>SUPPORTED BY</b>
14	Katolo-Manyatta Health Centre	East Kano/Wawidhi	3	MoH
15	Kinasia Health Centre	East Kano/Wawidhi	3	MoH
16	Magina Health Centre	East Kano/Wawidhi	3	MoH
17	Nyakongo Dispensary	East Kano/Wawidhi	2	MoH
18	Olas Health Centre	East Kano/Wawidhi	3	MoH
19	Kanyagwal Dispensary	Kabonyo/Kanyagwal	2	MoH
20	Kadhiambo Dispensary	Kabonyo/Kanyagwal	2	MoH
21	Reru Koduol Health Centre	Kabonyo/Kanyagwal	3	MoH
22	Komwaga Health Centre	Kabonyo/Kanyagwal	3	MoH
23	Nyangande Health Centre	Kabonyo/Kanyagwal	3	MoH
24	Absalom Wangulu Dispensary	Kobura	2	MoH
25	Hongo Ogosa Health Centre	Kobura	3	MoH
26	Kochieng Health Centre	Kobura	3	MoH
27	Okana Dispensary	Kobura	2	MoH
28	Rabuor Sub-County Hospital	Kobura	4	MoH
29	Umbrella Health Clinic	Kobura	2	Private

Source: The Kenya Gazette 10 November 2017

### **3.5 Data Collection Instrument**

The study utilized the questionnaire to collect the data necessary to answer the proposed research questions. Assisted questionnaires were used to obtain information from each nominated and consenting adolescent girl. The questionnaire consisted of items that seek information on variables under study divided into three sections, i.e.: Section A collecting Socio-demographic information; Section B collecting data on use of Contraception and influence of culture; and Section C on Access to contraceptives. A mix of closed-ended and open-ended questions were used to gather data and information, both qualitative and quantitative. The responses of the respondents sought to establish their views concerning

factors influencing use of contraceptives to prevent unintended adolescent pregnancies in Nyando Sub-County.

### **3.5.1 Instrument Validity**

Instrument validity refers to the extent to which the research instrument measures what it is supposed to measure. This was determined through pilot testing. A total of 10 questionnaires were administered randomly to adolescent girls as a pilot test prior to implementation of the study. This was an important step in the research process because it helped the research team to identify vague questions and unclear instructions. Pilot testing also helped the research team to capture important comments and suggestions from the respondents that enabled the researcher to improve efficiency and therefore validity of the instrument. Through the pilot study, other common responses were captured and included in the questionnaire in order to limit the number of open-ended questions that would otherwise have made analysis complicated. The data collected during pilot testing was prepared, analyzed and interpreted thus leading to further review of the instrument in readiness for the main study data collection phase. The same research team was used during piloting and data collection phase.

### **3.5.2 Instrument Reliability**

Reliability refers to the consistency with which a research instrument measures the attributes/variables under study. It is the level of internal consistency or stability of the research tool over time. A reliability coefficient above 0.5 is generally acceptable for a study. By analyzing the pilot study data, the researcher calculated the reliability coefficient of the tool. The research team reviewed the items in the data collection tool and ensured a common

understanding of what the study intended to measure and the instructions were uniformly given across the team.

### **3.6 Data Collection Procedures**

The researcher recruited and trained facility based research assistants for data collection. During the training sessions, the data collection instrument was discussed and consensus building between the researcher and research assistants done. Each question in the tool was discussed and necessary adjustments made in line with the study objectives/conceptual framework. The data collection team assembled every evening to compare notes and assess progress. Data cleaning was done on a daily basis to ensure completeness and accuracy. An SPSS database was used to store the data pending analysis. The hard copies of the completed questionnaires were identified by codes in line with the Serial ID in the database for easy reference in the event of discrepancies at the analysis point. The completed questionnaires were stored safely even after entries into the database for ease of future reference.

### **3.7 Data Analysis and Presentation**

As outlined in section 3.6 above, the collected data was reviewed, cleaned and entered into an SPSS database on a daily basis to avoid accumulating work. The researcher took full responsibility of this process. Once data entry was completed, this file was considered as the master data base for the study. A copy of this database was made as a measure to avoid loss of data. This copy is what was used to analyze the gathered/entered data to make sense out of it.

The statistical package of social scientists (SPSS) version 20 was used to analyze the data in order to produce descriptive statistics.

Once data analysis was done, the data was presented in the form of descriptive statistics (frequencies and percentages). Frequency tables were used to demonstrate how each variable under test influenced adoption of contraceptive to prevent unintended pregnancies amongst adolescent girls in Nyando Sub-County.

### **3.8 Ethical Considerations**

Data collection for the study was initiated upon proposal defense and approval by the University of Nairobi. Ethical clearance was sought from the institutional ethical review committee of Jaramogi Oginga Odinga Teaching and Referral Hospital (JOTRH IERC) and National Commission for Science, Technology & Innovation (NACOSTI) approval. The researcher sought community consent through facility in-charges in order to access this age group. All nominated participants were informed and consented prior to study participation and personal identifiers were not used. The study targeted emancipated adolescent girls whom guidelines allow to consent independently as well as those who are 18 and 19 years old. Names of the respondents were not indicated on any of the study tools and any other related documents that support the study. Instead, the questionnaires were assigned unique codes for identification. The responses of the respondents were treated with utmost confidentiality. The respondents were also interviewed based on their willingness and allowed to withdraw from participating in the study at their own wish.

## CHAPTER FOUR

### DATA ANALYSIS, INTERPRETATION AND DISCUSSION OF THE FINDINGS

#### 4.1 Introduction

This chapter presents the findings discussed under thematic sub-sections in line with the study objectives. Here, the researcher presents the demographic background of the research participants while describing the various types of marital status the participants described themselves to be in. This is followed by a presentation of the data collected. Although many themes emerging from the study findings cross-cut the framework of the Health Belief model, the socio-demographic factors, Contraceptive methods applied; Influence of culture; and how access to contraceptives influences adoption to prevent unintended adolescent pregnancies are presented as they emerged from the data collected. The Health Belief model is discussed across some of the issues uncovered during the study.

#### 4.2 Respondents return rate

Since the researcher used assisted questionnaires, all questionnaires administered to the respondents were returned on the spot, ensuring the 100% return rate. Each participating ward targeted to enroll 200 respondents spread across the participating clinics as highlighted in Table 3.1 under section 3.4.2. Table 4.1 summarizes the response rate for the study.

**Table 4.1: Questionnaire Return Rate**

<b>Ward</b>	<b>Administered</b>	<b>Returned</b>	<b>Percent</b>
Ahero	200	200	100
Kabonyo/Kanyagwal	200	200	100
<b>Total</b>	<b>400</b>	<b>400</b>	<b>100.0</b>

### 4.3 Socio-demographic factors influencing adoption of contraceptives amongst adolescent girls

The researcher sought to establish how socio-demographic characteristics influenced adoption of contraceptives to prevent unintended pregnancies amongst adolescent girls in Nyando Sub-County. These characteristics included: Age; age at first sex/pregnancy; marital status; level of education; religious affiliation; and educational level of parents.

The study sought to establish the age of adolescent girls who seek sexual and reproductive health services from health facilities within Nyando Sub-County and how adoption of contraception is distributed across the various ages. Table 4.2 summarizes the statistical finding for the age.

**Table 4.2: Age Statistics**

Measure	N	Mean	Median	Std. deviation
Current Age	400	16.20	16.0	1.0249
Age at Menarche	400	12.79	13.0	1.1832
Age at 1st Sex	400	14.35	14.0	1.3587
Age at 1st Pregnancy	346	15.77	16.0	1.1175

From the findings, the overall mean age of the respondents was 16.20 years with the median age of 16 years. Mean age at first menstruation (menarche) was 12.79 years of age with the median age as 13. The mean age at first sexual intercourse was 14.35 years (Median 14 years), while for those who reported at least one pregnancy, the mean age was 15.77 years (Median = 16 years). As a measure of dispersion, the standard deviation was 1.0249; 1.1832; 1.3587; and 1.1175 for age at last birthday, Menarche, first intercourse, and first pregnancy respectively.

The researcher sought to determine the influence of various socio-demographic factors on adoption of contraceptives. It was conceptualized that the educational status of the respondent and her parents, religious affiliation, and marital status may have a relationship with adoption of contraceptives. Table 4.3.presents the combined findings.

**Table 4.3: Socio-demographic factors influencing Adoption of Contraceptives**

Socio-demographics		Ever used Contraceptives		P value
		Count (%)	Count (%)	
Current level of Education	None	0	0	0.951
	Primary	36(18.8%)	156(81.2%)	
	Secondary	40(19.2%)	168(80.8%)	
	Tertiary	0	0	
<b>Total</b>		<b>76</b>	<b>324</b>	
Mother's Education Level	None	0	20(100%)	0.165
	Primary	20(16.1%)	104(83.9%)	
	Secondary	16(13.8%)	100(86.2%)	
	Tertiary	0	24(100.0%)	
	Don't Know	12(37.5%)	20(62.5%)	
	No Mother	28(33.3%)	56(66.7%)	
<b>Total</b>		<b>76</b>	<b>324</b>	
Father's Education Level	None	0	0	0.041
	Primary	28(21.9%)	100(78.1%)	
	Secondary	8(7.1%)	104(92.9%)	
	Tertiary	4(10.0%)	36(90.0%)	
	Don't Know	16(57.1%)	12(42.9%)	
	No Father	20(21.7%)	72(78.3%)	
Religious affiliation	Catholic	28(22.6%)	96(77.4%)	0.751
	Protestant	48(17.6%)	224(82.4%)	
	Muslim	0	4(100.0%)	
Marital status	Single	56(24.1%)	176(75.9%)	0.11
	Dating	4(4.3%)	88(95.7%)	
	Married	16(21.1%)	60(78.9%)	

From the study findings, 324 respondents reported ever using contraceptives against only 76 who had never used contraceptives. The educational level of respondents did not have a significant relationship with adoption of contraceptives. Regarding the education level of the parents, the study found out that 20 (5%) of the mothers had no formal education, 124(31%) had primary level education, 116(29%) had secondary education, while 24(6%) had tertiary education. Thirty two (8%) of the respondents did not know the level of education of their mothers, while 84(21%) of the respondents reported not having a mother. With a P-value of 0.165, the educational level of the respondents' mother was found not to be significant to their adoption of contraceptives. All the respondents' fathers had at least basic level of education, with 128(32%) reporting primary level education, 112(28%) secondary education, 40(10%) had tertiary education, 28(7%) did not know the educational level of their father, while 92(23%) reported not having a father in their lives. With a P-value of 0.041, the educational level of the father was found to be significant in the adoption of contraceptives.

The study respondents were requested to declare their religious affiliation. This was with a view of determining whether religion in the study area influenced adoption of contraceptive use. From the study findings, 124 respondents were of the Catholic faith, 272 respondents were Protestants, and 4 were Muslims. Religious affiliation does not play a significant role in adoption of contraceptives by adolescent girls. Regarding the marital status of the respondents, 232 respondents reported being single, 92 were dating, and 76 were married. The marital status was not found to be significant in influencing adoption of contraceptives amongst adolescent girls in the study area. These findings depart from the UNFPA 2012 that revealed that over 90% of births experienced by adolescent mothers occurred within marriage.



#### 4.4 Contraceptive methods applied and unintended adolescent pregnancies

Pregnancy in the context of marriage is often expected sociologically, and therefore intended. Out of all the 348 girls who reported ever being pregnant, only 68 (19.6%) occurred within marriage. Three hundred and twenty (320) girls reported having had one pregnancy, 24 girls had 2 pregnancies each, while 4 girls reported 3 pregnancies each. Total pregnancies reported were therefore 380. The researcher also sought to establish the outcome of the reported pregnancies. Table 4.4 summarizes the findings.

**Table 4.4: Outcome of Pregnancies**

<b>Pregnancy Outcome</b>	<b>Frequency</b>	<b>Percent</b>
Currently Pregnant	176	46.3
Abortion	56	14.7
Live Birth	148	38.9
<b>Total</b>	<b>380</b>	<b>100.0</b>

Based on the study findings, 176 (46.3%) of the reported pregnancies were yet to be delivered; 56(14.7%) of the pregnancies were reported as aborted; while 148(38.9%) of the adolescent pregnancies led to live births that were being actively followed up at the various child welfare clinics in the sub-county. Abortion is an illegality in Kenya, and more often than not, is unsafely procured, exposing the girls and women to both physical and psychological trauma. With 14.7% abortions reported by the study population, it means the adolescent girls had not intended to get pregnant and so had to do away with the pregnancy.

The researcher sought to determine how contraceptive methods applied could influence prevention of unintended pregnancies amongst adolescent girls that could lead to the reported abortions, or live births by young girls unable to independently take care of them. Specifically, the researcher sought to establish how many of the respondents knew about a contraceptive

method and if they did, which method(s) they knew about. For those who knew about a contraceptive method, the study sought to establish from whom they knew about the method(s) and whether they have ever used any contraceptive. What prompted the girls to use contraceptives was also examined by the study.

#### 4.4.1 Knowledge of contraceptive methods

The researcher asked respondents if they knew any contraceptive method. For those who reported knowledge of a contraceptive method, the researcher enquired further to know which method(s) they knew about the method(s). Table 4.5 is a summary of the findings.

**Table 4.5: Knowledge of Contraceptive Methods**

<b>Know any Contraceptive?</b>	<b>YES</b>	<b>NO</b>
	377(94.3%)	23(5.7%)
<b>Contraceptive Method Known</b>	<b>Frequency</b>	<b>Percent</b>
Pills	191	47.7
Injectable Methods	309	77.3
Intrauterine Devices (IUDs)	18	4.5
Implants	255	63.6
Emergency Pill	105	26.1
Male Condom	295	73.9
Female Condom	18	4.5

From the study findings, 377 out of 400 (94.3%) respondents reported knowledge of at least a contraceptive method while 23(5.7%) did not know any contraceptive method. Regarding which contraceptive methods were known by the girls, 191(47.7%) knew contraceptive pills; 309(77.3%) knew injectable contraceptives; 18(4.5%) knew the Intrauterine contraceptive devices; 255(63.6%) knew about Implant contraceptives;

105(26.1%) reported knowledge of the emergency pill; while condoms were reported by 295(73.9%) and 18(4.5%) of respondents respectively. Therefore, a majority, 309 (77.3%) of the respondents reported knowledge of the injectable contraceptives followed by 295 (73.9%) who knew about the male condom and 255 (63.6%) who knew about implants and 191(47.7%) the pills.

#### 4.4.2 Source of contraceptive Knowledge

The researcher sought to establish how respondents gained knowledge on contraceptive methods. Some of the respondents knew about contraceptives through multiple sources. Table 4.6 summarizes the findings on source of knowledge.

**Table 4.6: Source of contraceptive knowledge**

Source of Contraceptive Knowledge	Frequency	Percent
School Teacher	34	8.4
Mother	92	22.9
Media	106	26.5
Sibling	82	20.5
Friend	299	74.7
Health care worker	63	15.7
Books/Magazine	34	8.4
Sexual Partner	77	19.3

From the study findings, 34(8.4%) respondents knew about contraceptives through their school teacher; 92(22.8%) through their mother; 106(26.5%) through the media; 82(20.5%) through their sibling; 299(74.7%) through friends; 63(15.7%) through a health care worker, 34(8.4%) through reading books/magazines, and 77(19.3%) through the sexual

partner. The majority, 299(78.4%) of the respondents who knew about a contraceptive method reported they learnt about contraceptive methods through a friend. Friends (peers) therefore play a more integral role in informing each other about contraceptives. This findings depart from study findings by Ranjhen, Kumar, Pattanshetty and Sagir (2010) who found out that 73% of their respondents had gained information about family planning and contraception from the media, 33% from newspapers, 32% from friends and 21% from health personnel.

#### **4.4.3: Contraceptive Method Applied**

Besides knowledge of contraceptives, the study sought to find out whether the respondents had ever used contraceptives, and the contraceptive methods used by adolescent girls. The findings are summarized in table 4.7.

**Table 4.7: Contraceptive Method applied**

<b>Contraceptive Method Applied</b>	<b>Frequency</b>	<b>Percent</b>
Condoms	138	34.5
Condoms and Pills	7	1.8
Injectables	36	9.1
Condoms and Injectables	58	14.5
Implants	36	9.1
Condoms and Implants	29	7.3
None	95	23.6

From the study findings, 95(23.6%) of the respondents reported not using any contraceptive. Condoms were reported by 138(34.5%) of the respondents while condom in combination with injectable contraceptives was reported by 58(14.5%) of the respondents;

injectable contraception and implants by 36(9.1%) of each; Condoms combined with implants by 29(7.3%) and condoms combined with pills by 7(1.8%) of the adolescent girls. The majority (34.5%) of respondents therefore use condom, a method that only serves best with correct and consistent use. These result are in agreement with study findings by Nsubuga et al (2016) in Uganda which showed that condom consumption was at 34.5%. Implants and injection were also popular among the adolescent girls. From the study data on pregnancies, a total of 348 adolescent girls reported ever being pregnant. With condom being the common contraceptive method in use, it implies less effectiveness in preventing unintended pregnancies. The study by Ranjhen, Kumar, Pattanshetty and Sagir (2010) also established that the most common method of contraception used by students were condoms at 81% followed by combined oral pills and condoms at 17%.

Upon establishing contraceptive use, the respondents were asked whether they thought contraceptives were beneficial, and their responses are as summarized in table 4.8.

**Table 4.8: Whether Contraceptives are beneficial**

<b>Are contraceptives Beneficial?</b>	<b>Frequency</b>	<b>Percent</b>
Yes	309	76.4
No	77	20
No Response	14	3.6
<b>Total</b>	<b>400</b>	<b>100.0</b>

From the study findings, 309(76.4%) of the respondents believed that contraceptives were beneficial; 77(20%) did not think contraceptives were important; while 14(3.6%) of the respondents did not give a response to this question. The study findings show that a majority (76.4%) of the respondents acknowledged that contraceptives are beneficial. These findings closely agree with previous study findings by Ranjhen, Kumar, Pattanshetty and Sagir (2010)

in India that revealed that 71% of the respondents thought contraceptives were beneficial. The reported benefits of contraceptives are summarized in table 4.9, with some respondents giving more than one benefit.

**Table 4.9: Benefits of Contraceptives**

<b>Benefits of Contraceptives</b>	<b>Frequency</b>	<b>Percent</b>
Prevention of unwanted/unplanned pregnancies	300	97.1
Prevention of STIs	23	7.4
No Response	9	2.9

From the study findings, out of the respondents who reported that contraceptives were beneficial, 300(97.1%) reported they protect against unwanted/unplanned (unintended) pregnancies; 23(7.4%) reported protection against STIs including HIV, while for 9(2.9%) the response. The majority (97.1%) of the respondents therefore reported that contraceptives protect against unintended pregnancies, which is what the ministry of health and reproductive health campaigners also advocate for.

#### **4.5 Influence of culture on adoption of contraceptives by adolescent girls**

The community within which individuals live and interact have an influence on health seeking behavior. In view of this, the researcher sought to determine how culture influences adoption of adolescent contraception in the study area. Culture was considered to include attributes like value systems, norms, attitudes as well as myths and misconceptions held against contraceptives. The respondents were asked why they thought some adolescent girls in do not use contraceptives yet they are available. Their responses are summarized under table 4.10.

**Table 4.10: Why adolescent girls do not use Contraceptives**

<b>Reason for not using Contraceptives</b>	<b>Frequency</b>	<b>Percent</b>
Myths and misconceptions	102	25.5
Religious Opposition	58	14.5
Fear of Side Effects	225	56.4
Parental Disapproval	240	60.0
Embarrassment	29	7.3
Yet to confirm fertility	29	7.3
Low awareness of methods and benefits	51	12.7
Don't know	51	12.7

From the study findings, 102(25.5%) dues to myths and misconceptions surrounding contraceptives; 58(14.5%) due to religious opposition to contraceptives; 225(56.4%) fear side effects of contraceptives; 240(60%) of the respondents reported that parental disapproval of adolescent contraception prevented use; 29(7.3%) delay contraceptive use due to embarrassment and a similar margin due to unconfirmed fertility; 51(12.7%) due to lack of awareness; and another 51 (12.7%) of the respondents did not know any reason why adolescent girls do not use contraceptives. The study findings therefore revealed that parental disapproval (60%) and the fear of side effects (56.4%), real or perceived, were the major reasons affecting utilization of contraception by adolescent girls within the sub-county.

Whereas Ranjhen, Kumar, Pattanshetty and Sagir (2010) found that 23% of their respondents cited not using contraceptives as such practice was against their religious beliefs, only 14.5% cited a similar reason in the current study. The fear of side effects, as demonstrated by the study findings, is a confirmation of findings by Ochako et al (2015) that attitudes of and

information from one’s social networks may be considered more reliable and convincing to adolescents than information from health care providers, particularly in regards to side effects. This study separately determined that adolescents in Nyando sub-county are mainly introduced to contraceptive knowledge through friends at 78.4%. Mothers had also been reported as a key source of contraceptive knowledge at 29.4% , and in these findings, with parental disapproval featured prominently by 60% of the respondents and myths and misconceptions at 25.5%, the quality of contraceptive information disseminated in the study area needs to be reviewed.

#### **4.6 How access to contraceptives influences adoption amongst adolescent girls**

The study team attempted to establish how access to contraceptives influences adoption to prevent unintended adolescent pregnancies. Respondents were asked whether they knew about the availability of contraceptives within their areas of residence. A total of 386 respondents knew at least a source of contraceptives within the study area. For all those responding to the affirmative, the researcher sought to establish the known sources. Table 4.11 summarized the study findings, with some of the respondents knowing more than one source.

**Table: 4.11: Sources of Contraceptives**

<b>Source of Contraceptive Methods</b>	<b>Frequency</b>	<b>Percent</b>
Government health facility	379	98.1
Private health facility	267	69.2
NGO Clinic	37	9.6
Youth Centre	37	9.6
Dispensing Chemists	30	7.7



From the study findings, 379(98.1%) of the respondents knew a government health facility as a source of contraceptives while 267(69.2%) knew a private health facility within the region as a source. NGO clinics and Youth centres were identified by 37(9.6%) each of the respondents, while 30(7.7%) of the respondents mentioned dispensing chemists as a source of contraceptives. The majority (98.1%) of the respondents identified government health facilities as a source of contraceptives.

#### **4.6.1 Challenges to Accessing contraceptives by Adolescents**

According to WHO, there is an urgent need to implement programs that meet the contraceptive needs of adolescents and remove barriers to reproductive health services targeting adolescents. This informed the introduction of a bill in the Kenyan National assembly to make access to contraceptives possible to girls as young as 10 years. The researcher, upon determining there was widespread knowledge on sources of contraceptive methods within the study catchment area, sought to determine and document the challenges to accessing contraceptives from the available sources. The respondents were asked to rank the likely challenges based on their level of agreement or disagreement with the statements. Table 4.17 displays the study findings.

**KEY:** SA – Strongly Agree (1); A-Agree (2); SD – Strongly Disagree (3); D – Disagree (4);  
DK – Don’t Know (5)

**Table 4.12: Respondents Opinion on Challenges to Contraceptive access by Adolescents**

<b>Challenge to Access</b>	<b>SA</b>	<b>A</b>	<b>SD</b>	<b>D</b>	<b>DK</b>	<b>Mean</b>	<b>Std. Deviation</b>
Lack of knowledge on proper use	64	309	0	23	5	2.14	0.98494
Transport to Facility	0	82	5	300	14	3.72	0.85375
Long waiting time	0	32	14	300	55	3.99	0.70345
Lack of information on source	0	145	0	232	23	3.30	1.09637
Bad Health worker attitude	5	41	9	282	64	3.98	0.77824
Preferred Method unavailable	0	14	5	327	55	4.12	0.47737
Preferred source is far	0	41	0	336	23	3.90	0.68902
Embarrassment at health facility	0	18	9	327	45	4.09	0.47344

From the study findings on challenges faced by adolescent girls while accessing contraceptives, respondents were majorly in agreement that lack of knowledge on proper use was a challenge leading most of them not to access that which they least understood even though widely available. The majority of the respondents were in disagreement with the other likely challenges. These study findings demonstrate that contraceptives are not only available but also easily accessible to all, including adolescent girls. Access is therefore not a barrier to adolescent contraceptive adoption in the study area.

## **CHAPTER FIVE**

### **SUMMARY OF FINDINGS, CONCLUSIONS AND RECOMMENDATIONS**

#### **5.1 Introduction**

This chapter contains the summary of the study findings, conclusion, recommendations, contributions to knowledge, and suggestions for future research.

#### **5.2 Summary of Findings**

The study sought to establish how socio-demographic factors influence adoption of contraceptives to prevent unintended pregnancies amongst adolescent girls; to determine how contraceptive methods applied influence adoption of contraceptives to prevent unintended pregnancies amongst adolescent girls; to investigate how culture influences adoption of contraceptives to prevent unintended pregnancies amongst adolescent girls; and to determine how access to contraceptives influences their adoption to prevent unintended pregnancies amongst adolescent in Nyando sub-County, Kisumu County, Kenya.

##### **5.2.1 Socio-demographic factors and adoption of contraceptives**

The findings from the study, the age range of participants was 13 to 18 years, with the mean age being 16.2 years. The mean age at sexual debut was 14.1 years, while the mean age at first pregnancy was 15.8 years. Regarding religious affiliation, 98.9% of the respondents were Christians (31.8% Catholic and 67.1% protestant). All the respondents had at least some basic level of education, with 55.7% reporting some secondary education. Only 17% of the respondents reported being married, with the rest either actively dating or reporting being single at the time of the study. Regarding pregnancies, 13.6% of the respondents had never been pregnant, with the majority (79.5%) having had only one pregnancy, most of them

unintended. Regarding parenting, 21.6% of the respondents did not have a mother while 25% reporting not having a father.

The study sought to find out how the socio-demographic factors influenced adoption of contraceptives to prevent unintended adolescent pregnancies in the study area. Asked about adopting contraceptives to prevent unintended pregnancies that had been demonstrated to be high, the majority (60%) of the respondents cited parental disapproval while only 14.5% cited religious opposition.

### **5.2.2 Contraceptive method applied and unintended adolescent pregnancies**

Different contraceptive methods applied yield different prevention results due do attributes like efficacy, consistency and correctness of use. The study sought to establish the proportion of adolescent girls using contraceptives, at what point they started using contraceptives, and which method they were using. From the study findings, 94.3% of the adolescent respondents knew at least a contraceptive method, with the majority (90.2%) reporting knowledge of injectable contraceptives, 74.4% implants, and male condoms by 70.6% of the respondents. This knowledge about contraceptives was gained majorly through friends as reported by 78.4%. The majority (79.5%) of the respondents reported ever using contraceptives to prevent pregnancy, with 71.4% starting applying contraceptives upon sexual debut. About 24.7% of the respondents reported starting contraception after delivery while 11.4% started after abortion. This means that 37.1% of the adolescents who participated in the study chose to apply contraceptives to prevent future pregnancies, a case of once beaten, twice shy.

Ninety five (23.6%) of the respondents had never used any contraceptive method by the time of the study. Of those who reported ever using a contraceptive, the majority (34.5%) reported condoms as the method applied. Condoms as a contraceptive method are only effective with correct and consistent use. A majority (71.4%) of the respondents reported applying contraceptives soon after they became sexually active. With only 13.6% adolescent girls reporting never being pregnant, it follows that the methods applied by the girls soon after becoming sexually active were not effective in preventing pregnancy.

### **5.2.3 Culture and adoption of contraceptives by adolescent girls**

The study sought to determine the cultural perspectives within which adolescent girls chose to or not to adopt contraceptives to prevent unintended pregnancies. We sought to find out how adolescent girls gained knowledge about contraceptives, who introduced them to contraceptives, and how the community within which they stay perceives adolescent contraception. The study findings showed that the majority of respondents knew about contraceptives through their friend, who in this case are likely to be adolescents as well, with the media and mothers playing a role as well. The friends did not only share information about contraceptives, they also introduced 49.4% of the adolescent girls to the contraceptive they were using, while the girls' mothers introduced 21.7% on contraceptives. Health care workers also took an opportunity to discuss and introduce adolescents who had already delivered to contraceptives at 42.2%. Several respondents were introduced to contraceptives by multiple sources but ended up at the health care workers desk for the methods. There were 76.4% respondents who believed that contraceptives were important out of whom 97.1% reported prevention of unintended pregnancies as the chief benefit of contraceptives.

The study findings also showed that parental disapproval at 60% was the major reason for non-use of contraceptives amongst adolescent girls while fear of side effects was cited by 56.4% of the respondents. The study also established that some myths and misconceptions existed within the study area against contraception for adolescents as reported by 25.5% of the respondents. Some adolescent reported the feeling of embarrassment (7.3%) whenever at the health facility while others reported that the fact that adolescent girls have not confirmed fertility (7.3%) prevents adoption of contraceptives. The study also found out varied perceptions of the public about adolescent contraceptive use, with the majority (29.5%) reporting that contraceptives are believed to make young girls infertile, and in a related view, 12.5% reported that contraceptives lead to delayed resumption on monthly periods and therefore conception.

The study findings therefore indicate the existence of strong peer and parental influence towards use of contraceptives as well as the negative view held that include contraceptives making the girls infertile and/or delaying resumption of menses.

#### **5.2.4 Access and adoption of contraceptives by adolescent pregnancy**

All factors (socio-demographic, methods applied and culture) held at a constant, the study sought to determine how access to contraceptives influences their adoption to prevent unintended adolescent pregnancies. Respondents were asked if they knew about any source of contraceptives within their area of residence, to which 96.4% responded in the affirmative. Government health facilities were reported as a known source of contraceptives by the majority (98.1%) of the respondents. Asked about the challenges in accessing contraceptives from the known sources, the majority of respondents overwhelmingly agreed that lack of m proper

knowledge on how available contraceptive methods work makes many adolescents not to go for them. On the other hand, the study found out that transport to the facility, waiting time, lack of information on source, health worker attitude, and distance are not barriers to access to contraceptive methods by adolescent girls. Many adolescents do not also feel embarrassed to visit reproductive health clinics within their reach, and their preferred methods are always available.

### **5.3 Conclusion**

The study was conducted to investigate adoption of contraceptive use and prevention of unintended pregnancy amongst adolescent girls in Nyando sub-County. It was conceptualized from the fact that many adolescent girls are experiencing disruptions in their studies and risking their lives due to unintended pregnancies that are on the increase yet can be prevented. The government through the ministry of health ensures supply of contraceptive commodities to the lowest of health facilities at community level. There is also an adolescent sexual and reproductive health policy in place yet many adolescent girls continue conceiving. This means they are either not using contraceptives, or if they are using, it is not effective. In line with the health belief model (HBM), the study believed that if the adolescent girls believed in the benefit of adopting contraceptive use, they will seek and utilize available services appropriately and therefore prevent unintended pregnancies amongst them.

A mix of factors was found to influence adoption of contraceptives amongst this highly productive and reproductive population group. Study findings demonstrate that adolescent girls know about contraceptives, but knowledge on how the contraceptives work was limited. Friends are the main source of contraceptive information. By age of 15 years, most of the

adolescent girls have become sexually active and started using one contraceptive or the other, with male condoms being the commonest method. Since friends were identified as the main source of contraceptive information, service providers and stakeholders should empower this group so they can share accurate information across the communities. The male condom was also a common method applied yet girls still got pregnant, meaning failure rate was high. This could be due to incorrect and inconsistent use. Condom information and demonstration will likely increase the efficacy of this method, while at the same time mobilizing the adolescents to embrace dual contraception. Adolescent sexual and reproductive health stakeholders should also step up efforts to appraise the risks of unintended pregnancies amongst the adolescent girls in order to reinforce adoption of contraceptives in order to limit the proportion of sexually active adolescents who get pregnant unintentionally.

#### **5.4 Recommendations of the study**

The success of any given intervention focusing on adolescent sexual and reproductive health service delivery and utilization depends on more than one strategy. This study therefore recommends a multifaceted approach towards ensuring accurate dissemination of contraceptive information via the reported ways through which adolescents gain awareness.

Reproductive health stakeholders need to go beyond awareness creation and monitor/evaluate the output and outcome of the interventions. This will ensure that desired outcomes are attained for sustainable prevention of unintended adolescent pregnancies. This is unlike the situation revealed by the study where the girls are adopting condoms upon sexual debut yet still end up conceiving.



A participatory approach where adolescent girls and boys are actively involved in mapping out the best delivery methods and information dissemination would be critical. Since friends were the major source of information, using them would be more resourceful as they will share accurate information. Adolescent girls who have experienced use of contraceptives are recommended here as influence agents who can be used by the ministry of health to reach out to their peers with the gospel of embracing effective contraceptive methods.

### **5.5 Suggestions for further studies**

This study investigated adoption of contraceptives and unintended adolescent pregnancies in Nyando sub-County, Kisumu, Kenya. Adolescent contraceptive use is a fairly recent practice that is gaining prominence both sociologically and within the health care fraternity. It has huge potential of reversing the runaway rate of unintended adolescent pregnancies if well executed. Further research is suggested in the following areas:

1. The influence of social media on enhancing adolescent contraceptive use
2. Demystifying adolescent contraceptive use
3. The role of adolescent boys and young men in successful implementation of adolescent contraceptive use

## 5.5 Contribution to the body of knowledge

**Table 5.1: Study's Contribution to Knowledge**

<b>Objective</b>	<b>Contribution to body of knowledge</b>
1. To establish how socio-demographic factors influence adoption of contraceptives to prevent unintended pregnancies amongst adolescent girls in Nyando Sub-County	- The study found out that parental disapproval impedes successful adoption of contraceptives amongst adolescent girls
2. To determine how contraceptive methods applied influence adoption of contraceptives to prevent of unintended pregnancies amongst adolescent girls in Nyando Sub-County	- The study revealed that the majority of adolescent girls have adopted the male condom soon after sexual debut. They however still get pregnant
3. To investigate how culture influences adoption of contraceptives to prevent unintended pregnancies amongst adolescent girls in Nyando Sub-County	- Peers influence adolescent girls' prominently influence adolescent girls' awareness and adoption of contraceptives. Also, fear, especially of side effects and parental disapproval are the leading barrier to adoption of contraceptives.
4. To determine how access to contraceptives influences adoption to prevent unintended pregnancies amongst adolescent girls in Nyando Sub-County	- This study confirmed that the government through the ministry of health has made different contraceptive methods available. The adolescents were also aware of the availability and so access in not a barrier to adoption of adolescent contraception

## REFERENCES

- Abma JC, Chandra A, Mosher WD, et al. Fertility, family planning and women's health: new data from the 1995 national survey of family growth. National Center for Health Statistics. *Vital Health Stat* 1997; 23: 1-114.
- Ahmed S, Li Q, Liu L, Tsui A. O (2012). Maternal deaths averted by contraceptive use: an analysis of 172 countries. *The Lancet*. 2012; 380:111–125. [http://dx.doi.org/10.1016/S0140-6736\(12\)60478-4](http://dx.doi.org/10.1016/S0140-6736(12)60478-4).
- Alan Guttmacher Institute (1994). *Sex and America's teenagers*. New York: Alan Guttmacher Institute.
- American Public Health Association. Position paper 2003: preserving consumer choice in an era of religious/secular health industry mergers. Available at: <http://www.apha.org/policies-and-advocacy/public-health-policy-statements/policy>
- Boamah EA, Asante KP, Mahama E, Manu G, Ayipah EK, Adeniji E, Owusu-Agyei S (2014). *Use of contraceptives among adolescents in Kintampo, Ghana: a cross-sectional study*. Dove Medical Press Limited.
- Borgatta L, Murthy A, Chuang C, et al (2002). Pregnancy diagnosed during Depo-Provera use. *Contraception*; 66(3):169–72.
- Bracken MB (1990). Oral contraception and congenital malformations in offspring: a review and meta-analysis of prospective studies. *Obstet Gynecol*; 76:552–7.
- Brent C. Miller, Brad Benson, Kevin A. Galbraith (2000). *Family Relationships and Adolescent Pregnancy Risk: A Research Synthesis*. <https://doi.org/10.1006/drev.2000.0513>
- Canning D, Schultz TP (2012). The economic consequences of reproductive health and family planning. *Lancet*; 380:165. doi:10.1016/S0140-6736(12)60827-7
- Castle S (2003). Factors influencing young Malians' reluctance to use hormonal contraceptives, *Studies in Family Planning*, , 34(3):186–199.
- Clark LR (2001). Will the pill make me sterile? Addressing reproductive health concerns and strategies to improve adherence to hormonal contraceptive regimens in adolescent girls. *J Pediatr Adolesc Gynecol*; 14:153–62.
- Cromer BA, Berg-Kelly KS, Van Groeningen JP, et al (1998). Depot medroxyprogesterone acetate (Depo-Provera) and levonorgestrel (Norplant) in adolescents among clinicians in northern Europe and the United States. *J Adolesc Health*; 24:74–80.

- Cromer BA, Lazebnik R, Rome E, et al (2005). Double-blinded randomized controlled trial of estrogen supplementation in adolescent girls who receive depot medroxyprogesterone acetate for contraception. *Am J Obstet Gynecol*;192:42–7
- Curtis KM, Chrisman CE, Mohllajee AP, Peterson HB (2006). Effective use of hormonal contraceptives: Part I: combined oral contraceptive pills. *Contraception*;73
- Davtyan C (2000). Evidence-based case review. Contraception for adolescents. *West J Med*;172:166-71.
- Division UNP (2011). World population prospects: The 2010 revision. New York: UN.
- Donner, A. (1984), Approaches to sample size estimation in the design of clinical trials--a review. *Stat Med.* 3(3): p. 199-214.
- Doyle AM, Mavedzenge SN, Plummer ML, Ross DA (2012). The sexual behaviour of adolescents in sub-Saharan Africa: Patterns and trends from national surveys. *Trop Med Int Health* 17: 796-807.
- Ellertson C, Shochet T, Blanchard K, Trussell J. Emergency contraception: A review of the programmatic and social science literature. *Contraception* 2000;61:145-86.
- FHI, USAID: Youth Net Assessment Team: Assessment of Youth Reproductive Health Programs in Ethiopia. Addis Ababa, Ethiopia, 2004.
- Goicolea, I. (2009). Adolescent pregnancies in the Amazon Basin of Ecuador: A rights and gender approach to girls' sexual and reproductive health (medical dissertation). Retrieved from <http://www.diva-portal.org/smash/get/diva>.
- Gomes, K.R.O., Speizer, I.S., Oliveira, D.D.C., Moura, L.N.B. & Gomes, F.M., 2006, 'Contraceptive method used by adolescents in Brazilian State Capital', *Journal of Pediatric and Adolescent Gynecology*, 21(4), 213–219. <http://dx.doi.org/10.1016/j.jpag.2007.05.002>, PMID:18656076
- Grubb GS (1987). Women's perceptions of the safety of the pill: a survey in eight developing countries. Report of the perceptions of the pill survey group, *Journal of Biosocial Science*, 19(3):313–321.
- Haghpeykar H, Ali N, Posner S, Poindexter AN (2006). Disparities in contraceptive knowledge, attitudes and use between Hispanic and non-Hispanic whites. *Contraception*;74:125–132.

- Harper CC, Blum M, de Bocanegra HT, et al. Challenges in translating evidence to practice: the provision of intrauterine contraception. *Obstet Gynecol.* 2008;111:1359–69
- Hubacher D, Mavranezouli I, McGinn E. Unintended pregnancy in sub-Saharan Africa: magnitude of the problem and potential role of contraceptive implants to alleviate it. *Contra.* 2008; 78(1):73–8.
- Ibekwe PC, Obuna JA. Awareness and Practice of Emergency Contraception among University Students in Abakaliki, Southeast Nigeria. *Niger J Clin Pract* 2010;13:20-3
- Izugbara Chimaraoke O, Ochako R, Izugbara C. Gender scripts and unwanted pregnancy among urban Kenyan women. *Cult Health Sex.* 2011;13(9):1031–45.
- Jerman P, Constantine NA: Demographic and psychological predictors of parent-Adolescent communication about sex: a representative statewide analysis 2010. *J Youth Adolesc.* 2010, 39: 1164-1174. 10.1007/s10964-010-9546-1.
- Jones J, Mosher WD and Daniels K, Current contraceptive use in the United States, 2006–2010, and changes in patterns of use since 1995, *National Health Statistics Reports*, 2012, No. 60, <http://www.cdc.gov/nchs/data/nhsr/nhsr060.pdf>.
- Kahn JG, Brindis CD, Gleit DA. Pregnancies averted among U.S. teenagers by the use of contraceptives. *Fam Plann Perspect* 1999; 31: 29-34.
- Kalembo FW (2013) Effective Adolescent Sexual and Reproductive Health Education Programs in Sub-Saharan Africa. *Californian Journal of Health Promotion* 11: 32-42.
- Kenya National Bureau of Statistics (KNBS, 2015). Kenya Demographic and Health Survey 2014. Calverton, Maryland: KNBS and ICF Macro.
- Kost K et al., Estimates of contraceptive failure from the 2002 National Survey of Family Growth, *Contraception*, 2008, 77(1):10–21.
- Lee J and Jezewski MA (2007), Attitudes toward oral contraceptive use among women of reproductive age: a systematic review, *Advances in Nursing Science*, 30(1):E85–E103.
- Levine, R., Lloyd, C.B., Greene, M., & Grown, C. (2009). *Girls count: A global investment and action agenda*. Washington, DC: The Center for Global Development.
- Malhotra, A., Warner, A., McGonagle, A., & Lee-Rife, S. (2011). *Solutions to end child marriage: What the evidence shows*. Washington, DC: ICRW.

- Matson SC, Henderson KA, McGrath GJ. Physical findings and symptoms of depot medroxyprogesterone acetate use in adolescent females. *J Pediatr Adolesc Gynecol* 1997;10:18–23.
- McQueston, K., Silverman, R., & Glassman, A. (2012). Adolescent fertility in low- and middle-income countries: Effects and solutions (CGD Working Paper 295). Washington, DC: Center for Global Development
- Moore PJ, Adler NE, Kegeles SM. Adolescents and the contraceptive pill: the impact of beliefs on intentions and use. *Obstet Gynecol* 1996;88: 48S–56S.
- Mugenda, O. M. and Mugenda, A. G. (1999). *Research Methods: Quantitative and Nairobi: Masola Publishers. New York: Longman.*
- Mushi, D.L, Mpembeni R.M, and Jahn A. (2007). Knowledge about safe motherhood and HIV/AIDS among school pupils in a rural area in Tanzania. *BMC Pregnancy and Childbirth*7:5. <https://doi.org/10.1186/1471-2393-7-5>
- Nare, C, Katz, K. and Tolley, E. (2007). Adolescent access to reproductive health and family planning services in Dakar. *African Journal of Reproductive Health*, 11(3), 7-12.
- National Council for Population and Development. Kenya Population Situation Analysis. In: NCPD and UNFPA. 2013. Google Scholar
- Ochako Rhoun, Mwendu Mbondo, Stephen Aloo, Susan Kaimenyi, Rachel Thompson, Marleen Temmerman and Megan Kays, (2015). Barriers to modern contraceptive methods uptake among young women in Kenya: a qualitative study, *BMC Public Health*, 15(1):118.
- Ogula, P. A. (2005). *Research Methods. Nairobi: CUEA Publications.*
- Ohlemeyer CL. Adolescents' compliance with return visits for depot medroxyprogesterone initiation. *J Pediatr Adolesc Gynecol* 2003;16: 297–9.
- Ojule JD, Oriji VK, Georgewill KN. Awareness and Practice of Emergency Contraception. *Niger Health J* 2008;8:6-9.
- Orodho, A. J. (2003). *Essentials of Educational and Social Sciences Research Method. Nairobi: Masola Publishers.*
- Pillitteri ,A. (2007). *Maternal and child health nursing. Care of the child bearing and child rearing family.*

- Renjhen, P., Kumar, A., Pattanshetty, S., Sagir, A., & Samarasinghe, C. M. (2010). A study on knowledge, attitude and practice of contraception among college students in Sikkim, India. *Journal of the Turkish German Gynecological Association*, 11(2), 78–81. <http://doi.org/10.5152/jtgga.2010.03>
- Rivera CP, Mendez CB, Gueye N-A, Bachmann GA (2007). Family planning attitudes of medically underserved Latinas. *Journal of Women's Health*;16:879–882.
- Rutenberg N and Watkins SC (1997). The buzz outside the clinics: conversations and contraception in Nyanza Province Kenya, *Studies in Family Planning*, 28(4)
- Smith, R., Ashford, L., Grible, J. and Clifton, D. (2009). Family planning saves lives (PDF). Retrieved from <http://www.prb.org/pdf09/>.
- The National Research Council and Institute of Medicine, (2005). *Growing up global: the changing transitions to adulthood in developing countries*. Washington, DC,.
- Trussell J (2011). Contraceptive failure in the United States, *Contraception*, 83(5):397–404
- United Nations (1995). *International Conference on Population and Development*. Cairo, 5–13 September 1994, New York,
- Walker, A. (2008). Saving Nigerians from risky abortions. Retrieved from <http://news.bbc.co.uk/1/hi/world/africa/7328830.stm>.
- Warenius LU, Faxelid EA, Chishimba PN, Musandu JO, Ong'any AA, Nissen EB (2006). Nurse- midwives' attitudes towards adolescent sexual and reproductive health needs in Kenya and Zambia. *Reprod Health Matt*;14(27):119–28.
- WHO (2008). Facts sheet. Avenue Appia 20, CH-1211 Geneva 27, Switzerland
- Wilks J (1986). The relative importance of parents and friends in adolescent decision making. *Youth Adolesc*. 1986 Aug; 15(4):323-34
- Wood K, Jewkes R (2006). Blood blockages and scolding nurses: Barriers to adolescent contraceptive use in South Africa. *Reprod Health Matt*.;14(27):109–18.
- World Health Organization, 2004. Geneva, Discussion papers on Adolescence Issues in adolescent health and development
- Zibners A, Cromer BA, Hayes J (1999). Comparison of continuation rates for hormonal contraception among adolescents. *J Pediatr Adolesc Gynecol*;12:90–4

## APPENDICES

### Appendix 1: Information and Consent Form

**Participant Code:** \_\_\_\_\_ **Date:** \_\_\_\_\_

I am Martha A. Shikuku, an MA student Project Planning and Management at the University of Nairobi. As part of the requirements for this course, I am carrying out a study on Use of Contraceptives among adolescent girls. The study title is: “Adoption of Contraceptives and Unintended Pregnancies amongst Adolescent Girls in Nyando Sub-County, Kenya”.

**Reason for the study.** We would like to find out how adolescent girls in Nyando Sub-County use various contraceptive methods to prevent unintended pregnancies. The study will provide an opportunity to obtain a comprehensive picture on what influences the adolescent girls to use available contraceptive methods at government health facilities to tame unintended pregnancies that otherwise frustrate achievement of better health, economic and educational outcomes amongst the adolescent girls.

**Benefits of the study.** The Findings of the study will provide information on how best to engage adolescents and other stakeholders in reproductive health and to improve the health, economic and educational outcomes of adolescent girls.

**Risks of the study.** No invasive procedures that will be performed on you during this study. However some of the questions you will be asked may be sensitive and are of a private nature, and may make you feel uncomfortable. Please be assured that this discussion will be strictly confidential, and names will not be recorded. The findings of the study will be generalized and not linked to the individual respondents.

**Participation in the study.** Your participation in the study is purely voluntary; if you do not wish to answer particular questions, that is okay. There are also no right or wrong answers to the questions that you will be asked. Please feel free to answer as honestly as possible. You are free to withdraw from the interview at any time without the need to justify your decision.

I would like to seek your consent before I proceed. Are you willing to allow me to continue with the interview?

Yes

No

Do you have any question(s) for me?

If the Respondent does not agree to continue, thank him/her and go to the next nominee.

For further information about this study please contact me on:

Tel 0738189100



## APPENDIX II: QUESTIONNAIRE

### RESEARCH QUESTIONNAIRE – ADOLESCENT USE OF CONTRACEPTIVES

INSTRUCTION: Please kindly tick [] as your response inside the boxes and you are also required to write in some questions as may be required by the question(s)

#### SECTION A: SOCIO-DEMOGRAPHIC INFORMATION

1. How old were you at your last birthday? ..... (years).
2. Age at first menstruation (Menarche): ..... OR [] Never experienced menarche
3. What is your current level of education?  

<input type="checkbox"/> No formal Education	<input type="checkbox"/> Secondary
<input type="checkbox"/> Primary	<input type="checkbox"/> Tertiary
4. Religious affiliation  

<input type="checkbox"/> Catholic	<input type="checkbox"/> Muslim
<input type="checkbox"/> Protestant	<input type="checkbox"/> Other (Specify): .....
5. Marital status  

<input type="checkbox"/> Single	<input type="checkbox"/> Married/cohabiting
<input type="checkbox"/> Dating	<input type="checkbox"/> Widowed
6. What is the level of your mother's education?  

<input type="checkbox"/> No formal education	<input type="checkbox"/> Tertiary
<input type="checkbox"/> Completed Primary	<input type="checkbox"/> Do not know
<input type="checkbox"/> Completed Secondary	<input type="checkbox"/> No mother
7. What is the level of your father's education?  

<input type="checkbox"/> No formal education	<input type="checkbox"/> Tertiary
<input type="checkbox"/> Completed Primary	<input type="checkbox"/> Do not know
<input type="checkbox"/> Completed Secondary	<input type="checkbox"/> No father
8. What is your parents' job status?  

<input type="checkbox"/> Both are Peasants	<input type="checkbox"/> Only my mother works
<input type="checkbox"/> Both of my parents work	<input type="checkbox"/> Both don't work
<input type="checkbox"/> Only my father works	
9. How old were you the first time you had sex? .....years
10. How old were you at first pregnancy? ..... Years

SECTION B: USE OF CONTRACEPTIVES

11. How many pregnancies have you ever had? .....

12. What was the outcome of the pregnancy (ies)?

- Currently pregnant  Live birth
- Abortion and currently pregnant  Live birth and abortion
- Abortion

13. Do you know any contraceptive method(s)?  Yes  No

a) If yes, which ones? (Mark all that are named)

- Pills  Emergency pill  Diaphragm
- Injectables  Male Condoms  Forming Tablets
- IUDs  Female Condoms
- Implants  Sterilization

b) How did you know about the contraceptives? (Mark all that apply).

- School teacher  Sibling  Books/Magazine
- Mother  Friends  Others (specify):
- Media  Health professional .....

14. Have you ever used a contraceptive method?  Yes  No

a) If yes, which method?

- Condoms  IUD
- Pills  Implants
- Injectables  Others (Specify): .....

b) At what point did you start using the contraceptives?

- After delivery  Onset of monthly periods
- After an abortion  Mother brought them home
- When I started having sex  Other (Specify):.....

c) Who introduced you to the contraceptives?

- School teacher/Nurse  Friends
- Mother  Health professional
- Sibling  Others (specify):.....

15. Are the contraceptives beneficial?  Yes  No

a) If yes, what are the benefits?: .....

.....  
.....

16. What have you heard people say about adolescent girls using contraceptives?

.....  
.....  
.....  
.....  
.....  
.....

17. In your own view, why do most adolescent girls not use contraceptives?

- Discouraging myths and misconceptions
- Religious opposition
- Fear of side effects
- Afraid of being seen by parents
- Parental/Partner's disapproval
- Embracement
- Yet to confirm fertility
- Do not have regular sexual partner
- Others (please specify).....

SECTION C: ACCESS TO CONTRACEPTIVES

18. Within your residence, are contraceptives available?  Yes  No

a. If yes, please name all the sources of contraceptives you know? Mark all that apply

- Govt. Hospital
- Youth centre
- Any office
- Dispensing chemists
- Private hospital/ Clinic
- Others (specify):.....
- NGO clinic

19. Which challenges do adolescents encounter to use contraceptives? Tick as applicable

<b>Challenges to Contraceptive Access</b>	<b>Strongly agree</b>	<b>Agree</b>	<b>Strongly disagree</b>	<b>Disagree</b>	<b>Don't know</b>
Lack of knowledge on how to use properly					
Transport to service points					
Long waiting at the health facility					
Lack of information about source					
Bad health workers attitude					
Preferred method not available					
Preferred source is far					
Embarrassment at health facility					

## APPENDIX III: INTRODUCTORY LETTER TO NACOSTI



UNIVERSITY OF NAIROBI  
OPEN, DISTANCE AND e-LEARNING  
SCHOOL OF OPEN DISTANCE LEARNING  
KISUMU CAMPUS

The Secretary  
National Council for Science and Technology  
P.O Box 30623-00100  
NAIROBI, KENYA

20th October, 2017

Dear Sir/Madam,

**RE: SHIKUKU MARTHA AMBOBO - REG NO: L50/83393/2015**

This is to inform you that **Shikuku Martha Ambobo** named above is a student in the University of Nairobi, Open, Distance and e-learning centre, School of Open and Distance learning, Kisumu Campus.

The purpose of this letter is to inform you that **Martha** has successfully completed her Masters Course work and Examinations in the programme, has developed a Research Proposal and submitted before the School Board of Examiners which he successfully defended and made corrections as required by the School Board of Examiners.

The research title approved by the School Board of Examiners is: *"Adoption of Contraceptive Use and Unintended Pregnancies amongst Adolescent Girls in Nyundo Sub-county, Kenya"*. The Project is part of the pre-requisite of the course and therefore, we would appreciate if the student is issued with a research permit to enable her collect data and write a report. Research project reflect integration of practice and demonstrate writing skills and publishing ability. It also demonstrates the learners' readiness to advance knowledge and practice in the world of business.

We hope to receive positive response so that the student can move to the field to collect data as soon as he gets the permit.

Yours Faithfully

  
CO-ORDINATOR  
P.O. Box 40100  
KISUMU  
**20 OCT 2017**  
DR. STEPHEN L. OKELO, PhD  
CO-ORDINATOR- ODeL  
KISUMU CAMPUS

## APPENDIX IV: INTRODUCTORY LETTER TO JOOTRH IERC



UNIVERSITY OF NAIROBI  
OPEN, DISTANCE AND e-LEARNING  
SCHOOL OF OPEN DISTANCE LEARNING  
KISUMU CAMPUS

The Chairperson  
Jaramogi Oginga Odinga Teaching and Referral Hospital-IERC  
P.O. BOX 849, KISUMU, KENYA

20 October, 2017

Dear Sir/Madam,

**RE: SHIKUKU MARTHA AMBOBO - REG NO: L50/83393/2015**

This is to inform you that **Shikuku Martha Ambobo** named above is a student in the University of Nairobi, Open, Distance and e-learning centre, School of Open and Distance learning, Kisumu Campus.

The purpose of this letter is to inform you that **Martha** has successfully completed her Masters Course work and Examinations in the programme, has developed a Research Proposal and submitted before the School Board of Examiners which she successfully defended and made corrections as required by the School Board of Examiners.

The research title approved by the School Board of Examiners is: *"Adoption of Contraceptives to prevent Unintended Pregnancies amongst Adolescent Girls in Nyundo Sub-county, Kenya"*. The Project is part of the pre-requisite of the course and therefore, we would appreciate if the student is issued with ethical clearance and a research permit to enable her collect data and write a report. The research project reflects integration of practice and demonstrates writing skills and publishing ability. It also demonstrates the learners' readiness to advance knowledge and practice in the real world.

We hope to receive positive response so that the student can move to the field to collect data as soon as he gets the permit.

Yours Faithfully

  
DR. STEPHEN L. OJWANG  
CO-ORDINATOR- ODeL  
KISUMU CAMPUS - P.O. BOX 849  
KISUMU

ISO 9001: 2015 CERTIFIED

*The Fountain of Knowledge: Providing Leadership in Academic Excellence*

## **APPENDIX V: ETHICAL CLEARANCE**

## **APPENDIX VI: NACOSTI LETTER OF AUTHORIZATION**



**APPENDIX VII: RESEARCH PERMIT**

**APPENDIX VIII: TURNITIN ORIGINALITY CERTIFICATE/REPORT**

# ADOPTION OF CONTRACEPTIVES AND UNINTENDED PREGNANCIES AMONGST ADOLESCENT GIRLS IN NYANDO SUB-COUNTY, KENYA

## ORIGINALITY REPORT

13%

SIMILARITY INDEX

8%

INTERNET SOURCES

4%

PUBLICATIONS

8%

STUDENT PAPERS

## PRIMARY SOURCES

1

Submitted to University of Alabama at Birmingham

Student Paper

<1%

2

Submitted to City and Islington College, London

Student Paper

<1%

3

Submitted to Campbell University

Student Paper

<1%

4

Submitted to University of Waikato

Student Paper

<1%

5

Submitted to Agua Fria Union High School

Student Paper

<1%

6

fwhspta.org

Internet Source

<1%

7

www.gendergovernancekenya.org

Internet Source

<1%

8

Submitted to Middle Tennessee State University

<1%

- 9 Prachi Renjhen, Ashwini Kumar, Sanjay Pattanshetty, Afrin Sagir, Charmaine Minoli Samarasinghe. "A study on knowledge, attitude and practice of contraception among college students in Sikkim, India", Journal of the Turkish German Gynecological Association, 2010  
Publication <1%
- 
- 10 [webcache.googleusercontent.com](http://webcache.googleusercontent.com)  
Internet Source <1%
- 
- 11 [www.ijbmer.com](http://www.ijbmer.com)  
Internet Source <1%
- 
- 12 Asiimwe, John, Patricia Ndugga, John Mushomi, and James Manyenye Ntozi. "Factors associated with modern contraceptive use among young and older women in Uganda; a comparative analysis", BMC Public Health, 2014.  
Publication <1%
- 
- 13 [ysnap.net](http://ysnap.net)  
Internet Source <1%
- 
- 14 [www.theverge.com](http://www.theverge.com)  
Internet Source <1%
- 
- 15 [www.odi.org.uk](http://www.odi.org.uk)  
Internet Source <1%
-

16

[www.iiasa.ac.at](http://www.iiasa.ac.at)

Internet Source

<1%

17

Submitted to Gulf Coast State College

Student Paper

<1%

18

Submitted to St. Mary'S High School

Student Paper

<1%

19

Submitted to Dupont Manual High School

Student Paper

<1%

20

Submitted to Ballyfermot College

Student Paper

<1%

21

Submitted to Universitas Diponegoro

Student Paper

<1%

22

[panis.spc.org.fj](http://panis.spc.org.fj)

Internet Source

<1%

23

[iajournals.org](http://iajournals.org)

Internet Source

<1%

24

Submitted to Polytechnic of Namibia

Student Paper

<1%

25

Submitted to Chapman University

Student Paper

<1%

26

[fitun.etharc.org](http://fitun.etharc.org)

Internet Source

<1%

27

Submitted to California State University,

<1%

28 Chacko, M.R.. "Assessment of oral contraceptive pill continuation in young women", *Journal of Pediatric and Adolescent Gynecology*, 199908 <1%  
Publication

---

29 [doaj.org](http://doaj.org) <1%  
Internet Source

---

30 Submitted to Sikkim Manipal University, Ghana <1%  
Student Paper

---

31 M. R. Sable. "Hispanic Immigrant Women Talk About Family Planning", *Affilia*, 05/01/2009 <1%  
Publication

---

32 Sahu, Priyanka, Ismail Inamdar, and Mohan Doibale. "Contraceptive practices: an experience from ever married women in a city of Maharashtra, India", *International Journal of Reproduction Contraception Obstetrics and Gynecology*, 2015. <1%  
Publication

---

33 [www.dtic.mil](http://www.dtic.mil) <1%  
Internet Source

---

34 [pediatrics.aappublications.org](http://pediatrics.aappublications.org) <1%  
Internet Source

---

35

Internet Source

<1%

---

36

Submitted to University of Ghana

Student Paper

<1%

---

37

[opus.bath.ac.uk](http://opus.bath.ac.uk)

Internet Source

<1%

---

38

[www.fpconference2009.org](http://www.fpconference2009.org)

Internet Source

<1%

---

39

[jesussevilla23.blogspot.com](http://jesussevilla23.blogspot.com)

Internet Source

<1%

---

40

Submitted to University of Saint Francis

Student Paper

<1%

---

41

[www.teenpregnancysc.org](http://www.teenpregnancysc.org)

Internet Source

<1%

---

42

[scholar.google.co.uk](http://scholar.google.co.uk)

Internet Source

<1%

---

43

[staging.nationmedia.com](http://staging.nationmedia.com)

Internet Source

<1%

---

44

Submitted to George Washington University

Student Paper

<1%

---

45

Submitted to Palm Beach Atlantic University

Student Paper

<1%

---

46

Submitted to Kaplan International Colleges

Student Paper

<1%

---

47	Submitted to Kingston University Student Paper	<1%
48	Submitted to Radboud Universiteit Nijmegen Student Paper	<1%
49	Submitted to Rancocas Valley Regional High School Student Paper	<1%
50	"Reports Summarize HIV/AIDS Findings from Makerere University (Correlates of ever had sex among perin", AIDS Weekly, Nov 9 2015 Issue Publication	<1%
51	Submitted to Bournemouth University Student Paper	<1%
52	<a href="http://documents.worldbank.org">documents.worldbank.org</a> Internet Source	<1%
53	Submitted to University of Wales, Bangor Student Paper	<1%
54	Submitted to 87986 Student Paper	<1%
55	Submitted to Troy State University (main campus) Student Paper	<1%
56	<a href="http://adhdghana.org">adhdghana.org</a> Internet Source	<1%

---



---

57 Submitted to Indiana University <1%  
Student Paper

---

58 [www.pathfinder.org](http://www.pathfinder.org) <1%  
Internet Source

---

59 [clinmedjournals.org](http://clinmedjournals.org) <1%  
Internet Source

---

60 Submitted to Benedictine University <1%  
Student Paper

---

61 [www.ecu.edu.au](http://www.ecu.edu.au) <1%  
Internet Source

---

62 "AWARENESS AND PRACTICE OF EMERGENCY CONTRACEPTION AMONG UNIVERSITY STUDENTS IN ABAKALIKI, SOUTHEAST NIGERIA", Nigerian Journal of Clinical Practice/11193077, 20100301 <1%  
Publication

---

63 [raiseinitiative.org](http://raiseinitiative.org) <1%  
Internet Source

---

64 [hrmars.com](http://hrmars.com) <1%  
Internet Source

---

65 [ftp.cica.es](http://ftp.cica.es) <1%  
Internet Source

---

66 [www.crimesolutions.gov](http://www.crimesolutions.gov) <1%  
Internet Source

---

67 Submitted to United States International University  
Student Paper <1%

---

68 kintampo-hrc.org  
Internet Source <1%

---

69 Submitted to Drexel University  
Student Paper <1%

---

70 M Nebot. "Adolescent motherhood and socioeconomic factors. An ecologic approach",  
The European Journal of Public Health, 1997  
Publication <1%

---

71 Submitted to University of Hong Kong  
Student Paper <1%

---

72 Submitted to American Sentinel University  
Student Paper <1%

---

73 shodhganga.inflibnet.ac.in  
Internet Source <1%

---

74 Submitted to University of Medicine and Dentistry of New Jersey  
Student Paper <1%

---

75 Submitted to Timberline High School  
Student Paper <1%

---

76 aidsfree.usaid.gov  
Internet Source <1%

---

77	<a href="http://deepblue.lib.umich.edu">deepblue.lib.umich.edu</a> Internet Source	<1%
78	<a href="http://d.lib.msu.edu">d.lib.msu.edu</a> Internet Source	<1%
79	<a href="http://pub.uni-bielefeld.de">pub.uni-bielefeld.de</a> Internet Source	<1%
80	J. Tripp. "Sexual health, contraception, and teenage pregnancy", BMJ, 3/12/2005 Publication	<1%
81	Ahmed, Saifuddin, Qingfeng Li, Li Liu, and Amy O Tsui. "Maternal deaths averted by contraceptive use: an analysis of 172 countries", The Lancet, 2012. Publication	<1%
82	Mehta, S.. "Contraception and women's health", International Journal of Gynecology and Obstetrics, 199408 Publication	<1%
83	<a href="http://repository.out.ac.tz">repository.out.ac.tz</a> Internet Source	<1%
84	Martha Campbell. "Barriers to Fertility Regulation: A Review of the Literature", Studies in Family Planning, 6/2006 Publication	<1%
85	Submitted to Staffordshire University Student Paper	

<1%

86

[www.bth.se](http://www.bth.se)

Internet Source

<1%

87

[www.pdfpedia.com](http://www.pdfpedia.com)

Internet Source

<1%

88

Submitted to California InterContinental  
University

Student Paper

<1%

89

[www.thebyteshow.com](http://www.thebyteshow.com)

Internet Source

<1%

90

[southwestharbor.homestead.com](http://southwestharbor.homestead.com)

Internet Source

<1%

91

[www.nlsbibliography.org](http://www.nlsbibliography.org)

Internet Source

<1%

92

[d-scholarship.pitt.edu](http://d-scholarship.pitt.edu)

Internet Source

<1%

93

[preview-reproductive-health-  
journal.biomedcentral.com](http://preview-reproductive-health-journal.biomedcentral.com)

Internet Source

<1%

94

[becauseiamagirl.ca](http://becauseiamagirl.ca)

Internet Source

<1%

95

[www.ca.uky.edu](http://www.ca.uky.edu)

Internet Source

<1%

96

[reproductive-health-journal.biomedcentral.com](http://reproductive-health-journal.biomedcentral.com)

Internet Source

&lt;1%

97

[degrees.fhi360.org](http://degrees.fhi360.org)

Internet Source

&lt;1%

98

Otedo Amos, Estambale Benson, Omolo Ongati, Simbiri Kenneth. "Mathematical modelling of liver cancer in western Kenya", *Applied Mathematical Sciences*, 2017

Publication

&lt;1%

99

Alkema, Leontine, Vladimira Kantorova, Clare Menozzi, and Ann Biddlecom. "National, regional, and global rates and trends in contraceptive prevalence and unmet need for family planning between 1990 and 2015: a systematic and comprehensive analysis", *The Lancet*, 2013.

Publication

&lt;1%

100

Hardee, Karen Harris, Shannon Rodriguez, Mariela Kumar, Jan Bakamjian, Lynn Newman, Karen Brown, Win. "Achieving the goal of the London Summit on Family Planning by adhering to voluntary, rights-based fa", *International Perspectives on Sexual and Reproductive Health*, Dec 2014 Issue

Publication

&lt;1%

101

"The Girl Child in 2030 [opinion].", *Africa News*

&lt;1%