RELATIONSHIP BETWEEN ACCESS TO REPRODUCTIVE HEALTH INFORMATION AND RISKY SEXUAL BEHAVIOURS AMONG SECONDARY SCHOOL ADOLESCENTS IN KIAMBU COUNTY, KENYA

PERIS MURUGI MUREITHI (B.ScN)

A THESIS SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE AWARD OF THE DEGREE OF MASTER OF PUBLIC HEALTH (REPRODUCTIVE HEALTH), IN THE SCHOOL OF PUBLIC HEALTH OF KENYATTA UNIVERSITY

FEBRUARY, 2020

DECLARATION

This thesis is my original work and has not been presented for a degree in any other university.

Signature: ……. Date ……

NAME: Peris Murugi Mureithi

Q139/CTY/PT/27377/2014

Supervisor Approval

This report has been submitted for review with our approval as University Supervisors.

Signature: …… Date: …….

Dr. Syprine A. Otieno

Department of Zoological Sciences

Signature: …… Date: …….

Dr. Wachuka G. Njoroge

Department of Medical Laboratory Sciences

DEDICATION

To the Almighty God, my husband, my three children, and the Kenyatta university fraternity for making this thesis successful.

ACKNOWLEDGEMENTS

I thank the Almighty God for making all things possible. My sincere gratitude goes to my family for their patience and support as I embarked on this work.

To my supervisors Dr. Syprine Otieno and Dr. Wachuka Njoroge for their professional and consistent guidance, support and timely review of this work.

To the Department of Population and Reproductive Health personnel and student colleagues, thank you… would not have come this far without your diligent support. My sincere gratitude to Kenyatta University review committee, NACOSTI, Kiambu County and education directors, sub-county directors and school principals for granting me permission to carry out the study. Thank you, guidance and counselling teachers for your assistance. Lastly, my appreciation goes to all the respondents who participated in the study.

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ABBREVIATIONS AND ACRONYMS

AFIDEP	African Institute for Development Policy
AIDS	Acquired Immune Deficiency Syndrome
APHRC	Africa Population Health and Research centre
ARHD	Adolescent Reproductive Health and Development
ASRH	Adolescent Sexual and Reproductive Health
CSE	Comprehensive Sexual Education
HIV	Human Immunodeficiency Virus
KDHS	Kenya Demographic Health Survey
NGOs	Non-Governmental Organizations
OHCHR	Office of the United Nations High Commissioner for Human Rights
PMTCT	Prevention of Mother-to-Child Transmission
SCT	Social Cognitive Theory
SHE	Sexual Health Education
SRH	Sexual and Reproductive Health
SRHR	Sexual and Reproductive Health Rights
STIs	Sexually Transmitted Infections
UNAIDS	United Nations Programme on HIV/AIDS
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNFPA	United Nations Population Fund
USAID	U.S Agency for International Development
WHO	World Health Organization
NACOSTI	National Commission for Science, Technology and Innovation

KII	Key Informant Interview
FGD	Focus Group Discussion
TCA	Thematic Content Analysis
KUERC	Kenyatta University Ethical Review Committee

DEFINITION OF OPERATIONAL TERMS

Access: The ability of secondary school adolescents to receive appropriate, adequate and accurate information related to sexual and reproductive health

Adolescent: Someone between the age of 10 to 19 years of life, characterized by critical physical, psychological and social changes leading to adulthood.

Age appropriate reproductive health information: The suitable information that is culturally relevant to a certain age, and is accurate, scientific, realistic and non-judgmental at all developmental stages in matters pertaining to sexual and reproductive health.

Awareness: Knowledge of existence of reproductive health information, and understanding that application of reproductive information has impact on risky sexual behaviour.

Health: The state of complete physical, mental, emotional, and social well-being and not necessarily absence of a disease or infirmity.

Perception: The way adolescents interprets reproductive health information in terms of ease to access, understand, and apply in different circumstances.

Reproductive health: A state of being physically, mentally and socially fit in all issues related to sexual and reproduction and not just the non-existence of ailments or illness.

Risky sexual behaviours: Sexual actions that could render secondary school adolescents to dangers of STIs including HIV and unintended pregnancies. The sexual activities

include early sexual initiation, unprotected sexual intercourse, numerous sexual partners, sex with partner who are potential carriers of STIs.

Sexual health: The state of being physically, mentally, emotionally, and socially complete in issues of sexuality but not absolute absence of illness, disorder or ailment.

ABSTRACT

Reproductive health information is critical to adolescents in empowering them make sexual and reproductive health decisions. Studies have shown that adolescents in secondary schools lack adequate, accurate and age appropriate reproductive health information; though faced with unique sexual and reproductive health needs, making them vulnerable to risky sexual activities and behaviours. The study aimed to determine the relationship between access to reproductive health information and risky sexual behaviours among secondary school adolescents in Kiambu County, Kenya. Specifically, the study assessed the level of awareness, sources of reproductive health information, adolescent perception on reproductive health information and influence of social cultural factors on access to reproductive health information, in relation to risky sexual behaviour. This was a descriptive cross-sectional study. The study targeted 7002 adolescent students from all the 13 public secondary schools in Thika West Sub-County. The following schools were selected: Chania Girls' Boarding School; Chania Boys' Boarding School and Broadway mixed day school with an accessible population of 2047 students. Fisher's formula was used to arrive at 364 respondents of which 10% was added to cater for attrition, giving a sample of 400. Stratified sampling technique was adopted in selecting participating schools; to allocate the sample in the respective strata. The study sampled 400-students, and their guidance and counselling teachers as the key informants. The Researcher administered questionnaires, interview schedules (KII) and focus group discussion guides (FGD) were used in data collection. Descriptive statistics included mean, mode and percentages, while for inferential statistics chi square and binary logistic regression was applied. A p value ≤ 0.05 was considered statistically significant. The findings from the chi square relationship revealed that the risky sexual behaviour was low at 44.7% as indicated by the students who had had sexual relationships. The study found that there is less likelihood of risky sexual behaviour (by 0.571 times and by 0.349 times) for those students who received information from teachers, school counsellors and parents respectively. The relationship was found to be significant represented by a p value of 0.001. The findings also revealed that there is less likelihood of risky sexual behaviour (by 0.626 times, 0.648 times and by 0.629 times) for students who listened to information, on contraceptives, safe sex and STIs respectively. This relationship was found to be significant represented by a(p value of 0.020, 0.003 and 0.019) respectively. The study found that there is less likelihood of risky sexual behaviour (by 0.2012 times, by 0.591 times, by 0.6211 times and by 0.359 times) for those students who found reproductive health information easily available, very useful, and easy to understand and apply respectively. The conclusion of the study was that access to reproductive health information among adolescents in Thika sub-county was statistically significant in relation to risky sexual behaviours. The study recommends that adolescents should be equipped with adequate age appropriate reproductive health information as early as possible, and consistently made accessible throughout their lives to enable them in make sound sexual and reproductive health decisions thus reducing risky sexual behaviour.

CHAPTER ONE: INTRODUCTION

This chapter includes the study background, statement of the problem, the purpose of the study, objectives of the study, questions and hypothesis, the significance of the study, assumptions, and the theoretical and conceptual framework.

1.1 Background to the study

Risky sexual behaviours refer to the acts of involvement in unprotected sexual intercourse, multiple partners' sexual indulgences under influence of substance abuse or an early age sexual initiation (Horowitz, 2019). Age appropriate reproductive health information is the provision of information relating to body development, sexuality and relationships in all developmental stages, along with skills building, to help young people communicate, and make informed decisions about sexuality and their sexual health. The information should be appropriate to individual development and cultural background (UNESCO, 2015). The information includes puberty and reproduction, abstinence, safe relationships and sexual orientation and with aim of preventing unintended pregnancies, and sexually transmitted infections and HIV/AIDS. It also provides adolescents with scientific and correct age-appropriate information and necessary skills to help them take personal responsibility for their wellbeing (CDC, 2013).

Significant literature shows that adolescents' are faced with exceptional reproductive health challenges (Kipping *et al*., 2014). The developmental changes they experience influence them to increased risk of unintended pregnancy and contracting HIV/STIs (*Ikamari et al;* 2013). Worldwide, sixty out of every one thousand female adolescent

conceive each year, with up to 4.4 million girls aged fifteen to nineteen undertaking unsafe abortions (WHO, 2012). Adolescents engage in early premarital sex and risky sexual behaviours such as multiple sexual partners for incentives, and rarely use protective measures against unintended pregnancy and sexually transmitted infections (UNICEF, 2013). Adolescents' lack of negotiation skills makes them give in to coercion, exposing them to risks of induced abortion under unsafe conditions and sexually transmitted infections including HIV (Bendavid, 2011).

Most African countries, including Kenya have comprehensive sex education (CSE) in the curriculum but adults are reluctant and resistant to discuss sexual matters openly, upholding traditions and beliefs that young people should abstain until marriage (UNESCO, 2013). A study in United States of America (U.S.A) on the influence of sexuality education on adolescent's risk-taking behaviour for ages 15 to 19 years revealed that 50% of adolescents taught comprehensive sex education were not likely to be pregnant compared to those who received abstinence-only till marriage information (Durowade *et al*., 2017).

Parents' involvement with children sexuality promotes safe sexual life. Poor parental involvement in open discussions due to traditional beliefs that providing sexual information makes an individual sexually active, deny the adolescent skills in making healthy decisions (Kasiye, 2014).

In Kenya, premarital sex starts early, with first sex debut being at 15 years, with adolescent birth rate at 96 per 1000 women, which is high compared to United States at 57 per 1000 (WHO, 2015) yet many do not have adequate knowledge on HIV

transmission and prevention (UNESCO, 2013). About 40% of unmarried 15-24-year-old girls have had sexual intercourse, 14% were sexually active and 13,000 high school female adolescents were leaving school every year due to pregnancy. This was the second most common cause of adolescent girls dropping out of school in Kenya (Hussain, 2012).

In Kiambu County, early sexual debut remains a key HIV challenge, where girls aged 15 to 24 years account for 21% of all new HIV infections (KAIS,2012)while the county is rated among the 18 high burden county contributing to 3% of all new HIV infections in Kenya (NASCOP, 2016). Adolescents fertility rate for girls aged 15 to 19 years is at 47 births per 1000 which is twice less than Wajir county which has highest birth rate(129) in Kenya and half the national birth rate (96) (KDHS, 2014)

Thika West Sub-county was reported to have increased cases of unintended pregnancies, pregnancy-related school dropouts, and spread of STIs, which otherwise could have been prevented through provision of age appropriate reproductive health information (NASCOP, 2016). In view of these reproductive health challenges among in-school adolescents, the study assessed the relationship between access to reproductive health information and risky behaviour among adolescents in Thika West Sub- County, Kiambu County.

1.2 Statement of the problem

Most adolescents are initiated to sex early, indulge in unprotected sexual activity and engage in sex with multiple partners before receiving adequate information on potential risks (UNESCO, 2013). The move from cultural practices to modernization in Kenya has denied young people informal education systems through which adults imparted sexuality

matters (Misati, 2015). The formal education system moved the roles of teaching and enlightening adolescents from the society to the teachers, who might not be trained adequately on skills and extent of sexuality education (Sidze *et al*., 2017). Hence, adolescents rely on peers and social media for reproductive health information, which is at times inaccurate and limited in scope (Abdullahi & Abdulquadri, 2018). Adults and health providers' attitudes towards unmarried adolescents seeking reproductive health information influence adolescents' perception of reproductive health information (Gordia *et al.,* 2014). Risky sexual behaviours are associated with social economic factors, making them vulnerable to early sex activities, multiple sexual partners, unprotected sex and mixed age sexual practices (Kamangu *et al.,* 2017).

In a statement released by one of the high school principals, a total of 7 and 10 students sat for their Kenya Certificate of Secondary Education (KCSE) while pregnant in 2015, 2016 respectively. In her report, poverty and vulnerable backgrounds reportedly contributed to early sex with elderly men who provided economically to the girls (King'ang'i, 2017). Her words were reinforced by then sub county director Mr Ronald Mbogo who reported that ;"*There is a rise in the number of students dropping out of school to get married to men financing their education"* (Ngare & Ayodo, 2017).

In 2015, Kiambu County contributed to 7.1% of new HIV cases in Kenya, out of which 8% were adolescents aged 10-19 years. There is high rate of school dropouts related to teenage pregnancy; the spread of STIs in Thika sub-county in comparison to other sub-counties in Kiambu County (NASCOP, 2016). Empirically, it has been noted that there is scanty research shedding light on the problem especially in the context provided. This was therefore designed to determine relationship between accessibility of reproductive

health information and risky sexual behaviours among adolescents in Thika sub-county, Kiambu County.

1.3 Justification of the study

Timely age-appropriate reproductive health information reduces adolescents' engagement to risky sexual behaviours (UNESCO, 2009). Studies in the U.S.A have shown decrease of risky sexual behaviours when adolescents were exposed to reproductive health information (Chin *et al*., 2012). Sexual and reproductive decisions adolescent make today affects health and well-being of their countries and communities over decades to come (AFIDEP, 2012) and despite the increased rates of teenage pregnancies and the spread of STIs, there are limited studies found on relationship between age-appropriate reproductive health information and risky sexual behaviours among the adolescents in secondary schools, in Thika West, Kiambu County. For instance, (Kamangu *et al.,* 2017) focused on barriers to parent-child communication on sexual and reproductive health issues in East Africa and failed to address early sexual debut in secondary school students.

In addition, Horowitz *et al* (2019) assessed the relationship between girls' education and early marriage in Ethiopia and India however, studies need to be extrapolated in Kenyan context. This was therefore designed to determine the relationship between the relationship between accessibility of reproductive information and risky sexual behaviour among adolescents in Thika Sub-County. The study findings would help to identify gaps, and benefit policy makers in formulating policies that enhance equipping adolescence with reproductive health information.

1.4 Research questions

i. What is the relationship between awareness on reproductive health information and risky sexual behaviour among secondary school adolescents in Thika West Sub-County, Kiambu County?

ii. What is the influence of perceived benefits/usefulness of reproductive health information on risky sexual behaviours among secondary school adolescents in Thika west Sub-County, Kiambu County?

iii. What is the adolescent perception of reproductive health information on risky sexual behaviours among secondary schools in Thika West Sub-County, Kiambu County?

iv. What is the influence of social cultural factors on accessing age reproductive health information with reference to risky sexual behaviour among secondary school adolescents in Thika West Sub-County, Kiambu County?

1.6 General objective

To determine the relationship between access to reproductive health information and risky sexual behaviours among secondary school adolescents in Kiambu County, Kenya.

1.7 Specific objectives

i. To determine the relationship between the level of awareness and reproductive health information and risky sexual behaviour among adolescents in Thika West Sub-County, Kiambu County.

ii. To determine the influence of sources of reproductive health information and risky sexual behaviour among secondary school adolescents in Thika West Sub-County, Kiambu County.

iii. To assess adolescent perception on reproductive health information and risky sexual behaviour among secondary school adolescents in Thika West Sub-County, Kiambu County.

1.8 Significance of the study

The findings of the study will be of benefit to different groups; which includes Policymakers in the ministry of education and ministry of health as it will guide in formulating policies and programmes that enhance equipping adolescent with reproductive health information.

The secondary school adolescents will benefit from this study when interventional policies and programs, which are adolescent and oriented easing access to reproductive health information and thus reduce indulgence to risky sexual behaviour.

The community at large will benefit as adolescents will make better decisions on sexual and reproductive health matters, controlling indulgence in risky sexual behaviour, and this will ensure adolescents reach their full potential, for the benefit of personal and national social-economic development.

1.9 Limitations and delimitations of the study

1.9.1 Limitations of the study

The constraints of finances and time confined the study to selected secondary schools in Thika West Sub-County Kiambu, county. Generalizations of the study findings to adolescents in the county were with assumption they had similar experiences regarding sexual reproductive challenges.

1.9.2 Delimitations of the study

The study was limited to adolescents' in school as it was easy to reach them, and enhanced consistency.

1.110 Conceptual framework

A conceptual framework is a diagrammatic representation of variables in order to show their existing relationships (Casanave & Li, 2015). The dependent variable is the risky behaviours that are early sexual initiation, sexual intercourse with many partners, and unprotected sex. The independent variables in this study as shown in Figure 1.1 below are the level of awareness, sources of information, perception, and social cultural factors influencing the accessibility to reproductive health information.

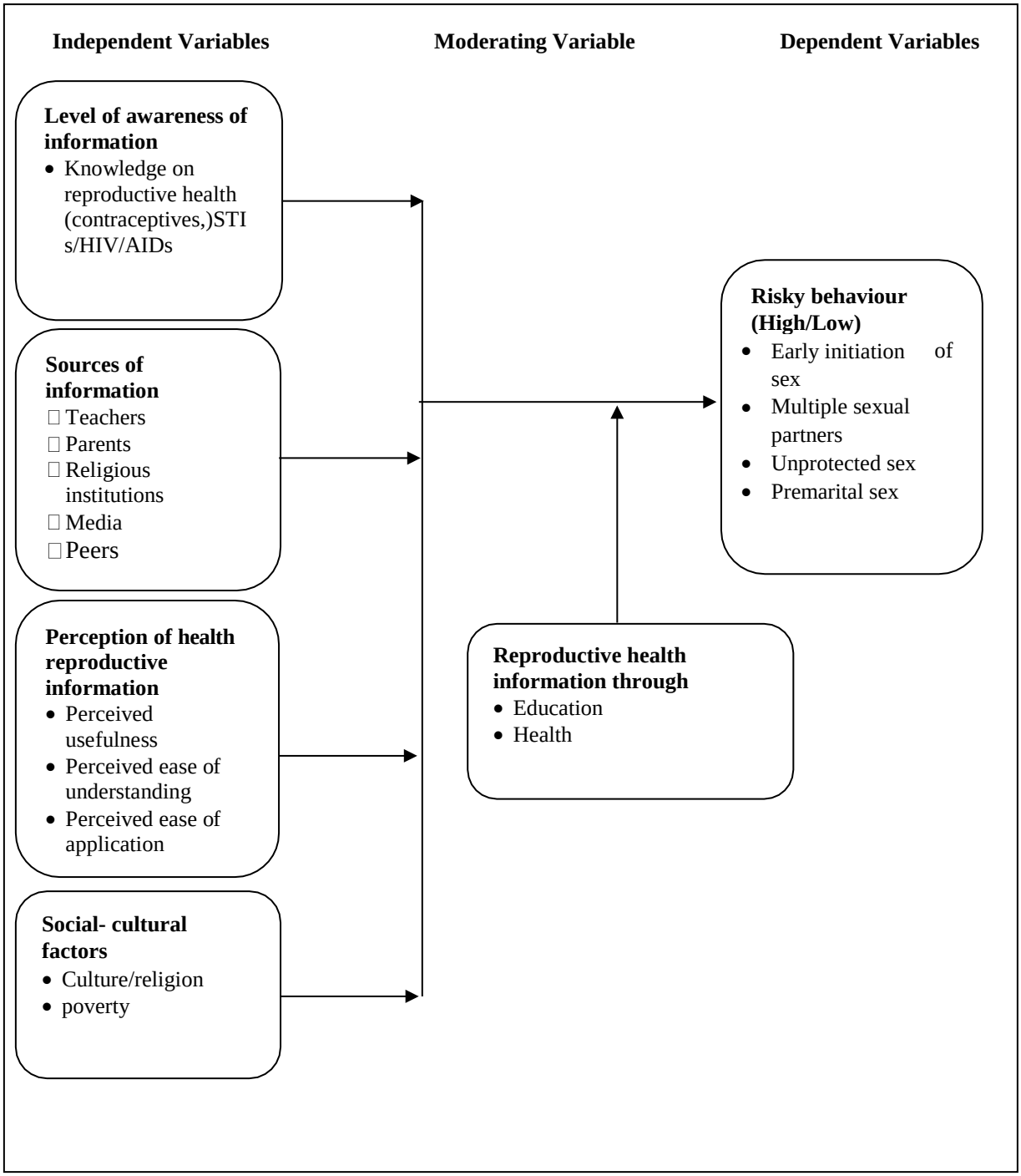

Figure1.1: Conceptual Framework

Source: Adapted from Mekonnen (2015), Modified by Peris Mureithi (2019).

CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

The chapter presents a review of literature, which includes the overview of reproductive health information, level of awareness on reproductive health information, sources of reproductive health information, perception and the influence of social- cultural factors on reproductive health information and finally the summary of the literature review

2.2 Reproductive health information

Adolescence is of significance as there is a lot of exploration, and sexual debut happens during this period (WHO, 2012). At this stage, adolescents undergo major physical, emotional, sexual, social and cognitive changes, which determine the adolescents' behaviour (WHO, 2012).

Reproductive health information that offered age-appropriate, accurate, comprehensive, and developmental information on human sexuality, enhanced risk-reduction strategies (Chin *et al.*, 2012). The strategies include use of condoms, contraception and delayed sexual activity, which enables adolescents to take precaution to protect their health (UNESCO, 2013; Chin *et al.,* 2012). The information provided makes adolescents know their rights, and empowers them in making informed decisions (Berglas *et al.,* 2014). One way of reaching the adolescent is through school-based sex education, which is currently compulsory in many nations (Tesfaye *et al.,* 2014). Regardless of the broadly perceived significance of sexuality education, it remains a delicate and infrequently discussed issue possibly due to social cultural and religious influence (Tesfaye *et al.,* 2014)

2.3 Empirical review

2.3.1 Level of awareness on reproductive health information

This section explored the level of knowledge concerning available reproductive health information among the adolescents.

Adolescents face transitional challenges as they complete their physical, cognitive, emotional and psychological journey to adulthood. Many are not aware of how their bodies change, how to shape relationships and their future and so they become vulnerable to risky sexual behaviours and negative health outcomes (Steinberg, 2015).

Age appropriate reproductive health information is an essential step in enabling adolescents to practice safe sex. Adolescents who had no access to reproductive health information were less likely to seek or utilize reproductive health services (Banister *et al.,* 2011; Nove *et al.,* 2014). A conducive environment positively influences adolescents' knowledge, attitude, perceptions, and skills on reproductive health, thus reducing their risky sexual behaviour, increases access and use of sexual and reproductive health services (Svanemyr *et al.,* 2015).

In USA, adolescents aged 15-19 years, who had received comprehensive sex education, were 50% less likely to experience pregnancy (Durowade *et al*., 2017) than those who received abstinence-only-until-marriage programs. Saracoglu *et al.* (2014) found that 3.6% of adolescents were sexually active from the age of 15 years with male adolescents being more knowledgeable than females about sexual health matters, but were less concerned over contracting STIs.

In Ethiopia, knowledge on puberty, reproductive health, sexuality and consequences of sexual and reproductive health behaviour enhances responsible decision-making and resistance to peer pressure. The level of knowledge was also low among the adolescents Adinew *et al*., (2013).

In Kenya, majority of adolescents are sexually active and with inadequate information on sexual matters (Njoroge *et al*., 2010; MOH, 2016; KDHS, 2014). They engage in high-risk sexual behaviours including having affair with many partners but have low and inconsistent use of condoms (Njoroge *et al.,* 2010; Chio & Mishra, 2009).

2.3.2 Sources of information on sexual and reproductive health among adolescents

Adolescents acquire reproductive and sexual information from different sources including peers, parents, media, magazines, internet, advertisements, religious leaders and schoolteachers. Globally, most adolescents' are initiated to sex early and indulge in unprotected sexual activity before receiving adequate information on potential risks (USAID, 2012; Abdullahi & Abdulquadri, 2018). According to UNESCO (2013) and UNESCO (2015), young people require age-appropriate reproductive and sexual information targeted to their particular needs in all stages of development.

Adolescents' sexual health education is an international, regional and national priority that it should be integrated into school curriculums and other ministries activities (UNESCO, 2013; Banister *et al.,* 2011). Furnishing adolescents with age-appropriate reproductive health information, which is precise and accurate, made them responsible decisions, abstinence being key to prevention of unintended pregnancy, STIs and HIV/AIDS and risks of subsequent infertility (Chin *et al*., 2012).

In Sub Saharan Africa, parent-child communication has remained a challenge as most traditional communities prohibit free sexual communication (Kamangu *et al*., 2017). Social norms significantly controlled sexuality and plays a big role in shaping adolescents sexual behaviour (UNICEF, 2012; Tesfaye, 2014). Though teachers are expected to provide sexuality education in school, many lack training skills on sexual issues and are embarrassed to have open discussions on sexual matters with the adolescent (APHRC, 2017). This prevents effective communication and so adolescents, discuss their reproductive challenges with their peers who may be misinformed. Source of information significantly influences sexual behaviour (Kajula *et al.,* 2011). Studies in Ethiopia show those adolescents who received sexual information from parents' practised safer sex than those who sought information from peers (Tesfaye *et al.,* 2014).

Adolescents today spend much of their time watching and interacting with the media. However, media and internet have significant influence, with both constructive and antagonistic information on adolescents (Victor *et al.*, 2010; Farzaneh *et al.,* 2011). Students turn to media because of information they easily access and possibly because of parents reluctances to give reproductive health information or are vague when asked questions and accuse the adolescents about their intentions when they show interest on the topic (Chemtai, 2011; Kalinga, 2011). Mass media and internet tend to expose adolescents to misguided judgments about sexual and reproductive health information, as they explore to inappropriate sites such as watching pornographies (Candace, 2015). Boys get sexually stimulated through what they see in pornographic films, while girls by constantly viewing soap operas at a young age get aroused, increasing chances of sexual engagement (Harris, 2011).

2.3.3 Perception of information on reproductive health among adolescents

In this study, deduction may be that perceptions would influence the adolescents' everyday experiences and determine their sexual behaviour in relation to age-appropriate reproductive health information (Houck & Brown, 2014). In United States of America (USA) adolescents portrayed negative attitudes and perceptions on reproductive health information and services attributed to lack of appropriate information from the parents and the health service providers who handled them suspiciously (Lindberg *et al;* 2016).

In Nigeria, a third (28.9 %) of the subjects aged 15 years had experienced sexual intercourse, sexual experience increased with age, and more than a third of his respondents perceived pre-marital sex as normal Omobuwa, (2012). In Botswana, adolescents desired to seek information on reproductive health, but they perceived service providers who portrayed negative attitude towards the unmarried adolescents as barriers to quality age-appropriate reproductive health information (Lesedi *et al.,* 2011). In Nigeria, a review of information and reproductive health services and perception among adolescents indicated that the most regularly reproductive issues reported were menstrual related distress, undesirable pregnancy, HIV/AIDs and absence of adequate sex education (Omubuwa *et al.,* 2012).

In Kenya, majority of health providers are not aware of adolescents' friendly services nor supported national strategy and guidelines to adolescent sexual and reproductive health (KPSA, 2013). The Kenya Population Situation Analysis revealed that health service providers imposed their individual attitudes, social and religious constraints rather than considering desired adolescent rights of accessing and acquiring age-appropriate

reproductive health information(Gordia *et al.,* 2012). Most schools lacked health office and the few with centres had deficient staff medications. This discouraged the adolescents from seeking and obtaining timely age-appropriate reproductive health information. (UNESCO, 2015).

2.3.4 Social- cultural factors influencing reproductive health information

Norms, culture, taboo, religion and economic status in a few social orders are among obstacles to provision and utilization of reproductive health information among adolescents. Religion played a significant role as adolescents associated their delay in premarital sex to religious beliefs unlike those who were sexually active (Hussain, 2012). Some religious groups like Protestants support the teaching of reproductive health information to young people (Arousell & Carbom, 2015), while others like the Catholic Church and numerous Islamic pioneers contradict any approach and program components related to sex education (Smith *et al.,* 2007). These may make adolescents have little information that would make them have control over their sexual life so they can avoid engaging in risky sexual behaviour.

In Africa, the area of settlement influenced early sexual debut. Adolescents living in slums, which are normally congested, reported to have early sexual debut compared to those who lived in better and uncongested estates (Robinson & Yeh, 2011). Individuals living in slum areas reported insufficiency of sexual information and peer emotional attachments and relationships influenced risky sexual behaviour (Ali & Dwer, 2011; Markham *et al*., 2010).

In Kenya, many communities perceive that boys cannot control their sexual urge (Ministry of Education, 2010). A study done in Nairobi, among teen boys and girls in public secondary schools indicated that; 11% of young girls and 50% of young boys were sexually active (Vught *et al.,* 2016). The study also revealed that these adolescents had sexual affair with more than one partner. This level of sexual exposure related to perceived parental religiosity, attitude on sex, and living arrangements. (Vught *et al.,* 2016).

2.4 Risky sexual behaviour among adolescents

Globally, adolescents engage in risky behaviour like unprotected sexual intercourse, early sexual debut, and multiple partners all of which expose them to negative consequences like sexually transmitted infections, unplanned pregnancies and unsafe abortions among others (UNICEF, 2013).

In Britain, the mean age at first intercourse over a period of 10 years and found that the average age at first sex for boys and girls, between 16-19 years was 15 years for boys and 16 years for girls. The proportion of adolescent girls who had sexual intercourse before age 16 increased from 18.7% in 1990 to 25.6% in 2000. The extent of men having had sexual intercourse before age 16 years remained genuinely consistent (27.6% and 29.9%) (Wellings *et al*., 2001). In South Carolina, only less than half of all sexually active adolescents reported using condoms as protection against HIV (Nicholson, 2012).

In Africa, peer pressure influenced early sexual debut (Ali & Dwyer, 2011). Markham *et al*., 2010). On the other hand, established that peer relationships protect adolescents against risky sexual behaviours. Early sexual initiation contributed to increased chances

of contracting STIs (Stocki *et al.,* 2013). A study in Ethiopia found that adolescents engaged in risky sexual behaviours without consistent use of condom, which offer protection against sexually transmitted infections (Nigatu & Seman, 2011). In Uganda many adolescents were reported to have had multiple partners (Agardh *et al*., 2011)

In Kenya, interventional programs aimed at keeping adolescents in school like cash transfers program reported that education decreased early sexual debut (Cho *et al.,* 2011). Low social economic status contributes to high-risk transactional sex among adolescent girls including multiple sexual partners, compared to their male counterparts (Robinson & Yeh, 2011). Sexual expectations among adolescents are high, with young girls feeling they have a commitment to offer to men's sexual requests, particularly if the men offer them money (Ministry of Education, 2010). In conclusion, higher risky sex activity, combined with low and conflicting condom use among adolescents pre-disposes them to a high danger of unwanted pregnancies and STIs (Delva *et al.,* 2010).

Summary and gaps identified

Reproductive health information is critical in preventing risky sexual behaviour. Lack of comprehensive, accurate and adequate reproductive health information increased likelihood of risky sexual behaviour while access to the information enhanced risk reduction strategies. Conceptually, the reviewed studies showed inconsistent results regarding the influence of awareness, sources, perception and social cultural factors in relation to reproductive information and risky sexual behaviour. Therefore there was need for further study to address these concerns .identification of relationship between reproductive health information and risky sexual as an important factor in enhancing

reproductive health information aimed at preventing risky sexual behaviour. Besides this, limited studies are conducted in this area of geographical scope of current study. Coupled with these inconsistencies, the current study seeks to fill the conceptual and contextual gaps by carrying out a study on the relationship between access to reproductive information and risky sexual behaviour among secondary school adolescents in Thika West Sub-County, Kiambu County.

CHAPTER THREE: MATERIALS AND METHODS

3.1 Introduction

This section entails the research design, the sample and sampling techniques, the target population, and data analysis methodologies.

3.2 Research design

The study adopted a descriptive cross-sectional design to determine the relationship between appropriate age information on reproductive health and risky behaviour among adolescents (15-19 years) in Thika West Sub-County, Kiambu County.

3.3 Study variables

The dependent variable was risky sexual behaviours, which measured early sexual debut, unprotected sexual activity and multiple sexual partners. Since the variable was dichotomous in nature, the operationalization was done into two categories (that is 1= high risky sexual behaviour, 0 = low risky sexual behaviour). This was based on the students who had had sex at an early age and those who had never had sex at all. Risky sexual behaviour was operationalized by sexual intercourse without protection, having many sexual partners, and concern over STI infection. This risky sexual behaviour was assessed only on those students who had had sex before. Therefore, those who had had sex represented the students who engaged in risky sexual behaviour while those who had never had sex represented the students who did not engage in risky sexual behaviour.

Reproductive health information through trusted agencies like ministry of education and ministry of health were intervening variables. The independent variables included level of awareness, sources, perception and social cultural factors all in relation to reproductive health information.

3.4 Location of the study

Thika West Sub-County is one of the sub-counties in Kiambu County (Appendix V1). The sub-county occupies an area of 217.60 square kilometres. The population according to the 2009 census stood at 165,342. It has five wards among them Township, Kamenu, Hospital, Gatuanyaga and Ngoliba (IEBC, 2013). The sub-county has thirteen public secondary schools, seven boarding schools, two mixed, three girls and two boys' boarding schools. Day schools are six in number, four mixed day schools and two girls' day schools. The area selected had high level of school dropout among girls due to pregnancy and increase cases of STIs (King'angi', 2017; NASCOP, 2016).

3.5 Study population

The study targeted adolescent students from public secondary schools, guidance, and counselling teachers in public secondary schools in Thika West Sub-County, Kiambu County. Adolescents spend most of their time in school, undergo developmental and transitioning during their school life and experience close interaction with their peers who would influence their sexual and reproductive behaviours (APHRC, 2017). Schools are critical in shaping reproductive and sexual reproductive health information, which is essential in meeting adolescents' current and future concerns (UNESCO, 2015). The guidance and counselling teachers as agents of information interacted with students;

therefore, their opinion on student's sexual behaviour was of importance. There were 13 public secondary schools in Thika West Sub-County with 7002 students in all the public secondary schools.

3.5.1 Inclusion criteria

The study included the adolescents in selected secondary schools during the time of the study in Thika West Sub-County, Kiambu County.

3.5.2 Exclusion criteria

The study excluded students who declined to participate in the study as well as those who were not in school at the time of the study.

3.5.3 Respondents of the study

The study included form two and form three adolescent's students who were assumed to be a bit settled to give reliable information as compared to form ones and form fours who were busy settling and preparing for final exams respectively. Their guidance and counselling teachers were the key informants, in the selected schools in Thika-sub County, Kiambu County, during the time of the study.

3.6 Sampling techniques and sample size

Stratified sampling technique was adopted in selecting participating schools. This allowed achievement of desired representation from various subgroups, in this case from clusters of girls and boys boarding schools, and mixed day schools. In this regard, the

following schools were selected Chania Girls' Boarding School; Chania Boys' boarding School Broadway Mixed Day School. The number of students was proportionately calculated to obtain the total number of participants from each school (Table 3.1). Systematic random sampling using a class list of students was used in selecting participants in every school. Guidance and counselling teachers from the selected schools were purposively included in the study as key informants.

3.7 Sample size determination

The sample of the study was drawn from a population of 7002 students from the 13 public schools in Thika West, Kiambu County, and the sample size was determined according to the Fisher's formula used by (Mugenda & Mugenda, 2003).

$$n = \frac{Z^2pq}{d^2}$$

Where: n=the desired sample size (if the target population is greater than 10, 000)

z= the standard normal deviate set at1.96 normal distribution curve and corresponding to 95% confidence level.

q=1-p

d=the level of statistical significance set at 0.05

p= the proportion of the target population estimated to have characteristics being measured;

The proportion of the target population assumed to have the characteristics of interest, 50% was used (Mugenda & Mugenda, 2003).

Substituted as in

$$n = \frac{(1.96)^2(.50)\ (.50)}{(0.05)^2}$$

$$= 384$$

Target population less than 10,000, final estimate (n_f) is calculated as;

$$n_f = \frac{n}{(1+n)/N}$$

Where: n_f = the desired sample size (if the target population is greater than 10,000)

n = the desired sample size (when the target population is greater than 10,000)

N= the estimate of the population size

n = n / [1+ (n/N)] =384/ [1+ (384/7002) =363.98=364

The sample size was 364 + 10% (364) = 400

The 10% was added cater for possible non-response rate/attrition

.

Table 3.1: Sampling to Size

Strata	Nature of school	Schools	Target Population	Sample
Day	**Mixed**	Broadway Mixed Day School	665	130
Boarding	**Boys**	Chania Boys Boarding School	770	150
	Girls	Chania Girls' Boarding School	612	120
		Total	**2047**	**400**

3.8 Construction of research instruments

A semi-structured questionnaires, interview guide tools and Focus Group Discussions were used in collecting both qualitative and quantitative data from the selected students in the selected schools and the guidance and counselling teachers respectively. Open-ended questions allowed in-depth responses while close-ended questions were easy to analyse and administer. This allows the researcher to reach out to a big population sample within a short period (Kothari, 2012). Questionnaires collected quantitative data, questions were clear, organized, and numbered for ease following and filling as this enhanced high response rate.

The qualitative data was collected using Focus Group Discussion (FGD) guides and Key Informant Interview (KII) guides. The guidance and counselling teachers' were interviewed as the key informants using the Key Informant Interview (KII) guides since they were considered to have expert information regarding the students' sexual behaviour, for instance, the number of drop outs due to pregnancy cases. A group of 6 to

10 students were classified and used to gather the qualitative data based on the use of the Focus Group Discussion (FGD) guides. The use of FGDs and KIIs provided supplementary information to reinforce the responses from the individual respondents.

3.9 Pretesting

Pre-testing of the data instruments was done at Kimuchu Mixed Secondary School, which was not included in the study. Any inconsistencies of the data tools were corrected accordingly.

3.10 Validity

There are two types of validity that is, content and construct validity. Since the study is more of qualitative than quantitative, content validity was used. Expert judgment can be used to enhance content validity through identifying weaknesses and trying to correct (Best et al., 2011). Thus, the instruments were pretested to check for consistency, accuracy and modifications were made to ensure the instruments measured what was expected.

3.11 Reliability

The reliability of the instruments was ensured by pre-testing on 10% of the sample population, which was not part of the actual study. This helped the study to adjust the instruments to reduce ambiguities in the instruments and inconsistencies resulting from the respondents' reactions.

3.12 Data collection techniques

Data of the study was collected using questionnaires and interviews. The respondents were engaged in interviews and responding to the questionnaires and interview guides. Trained three-research assistants helped in the voice recording through a phone as the interview was going on. Data collection was done by use of interviews, semi-structured questionnaires, and focus group discussions. The 364 students were the main target respondents who were issued with the questionnaires to fill in the responses therein. A drop and pick method was used to administer and collect back the questionnaires from the students. In order to gain further insight into the students' perceptions, the researcher randomly picked a group of 6 to 10 students (1 group per school) who formed the focus group discussions. The researcher with the help of research assistants engaged the students in an open discussion where the students were allowed to openly discuss the questions asked while the researcher took notes. The researcher approached the key informants (who were the guidance and counselling teachers) and interviewed them regarding sexual behaviour of students. The interviews were recorded using a tape recorder and stored for later reporting.

3.13 Data analysis

The study was basically quantitative and qualitative in nature. Thus, quantitative data was coded cleaned, refined and entered into excel sheet and SPSS for analysis. The quantitative data collected from the closed-ended questionnaire items, tallied, presented in form of descriptive statistics such as frequencies and percentages while inferential statistics helped in measuring the relationship and difference among variables. The

quantitative data was analysed using Statistical Package for Social Sciences (SPSS) version 23. Chi-square tested the study statistical significance, binary logistic regression determined the independent predictors while Thematic Content Analysis (TCA) analysed qualitative data after transcription. The analysed data was presented in forms of tables and graphs for easy interpretation.

Qualitative data was grouped, arranged as themes and sub-themes in accordance with the study objectives. Qualitative data collected by use of interview guides, focus group discussions and from the open-ended parts of the questionnaire, were analysed in form of themes and content. That is, by use of thematic and content analysis.

3.14 Logistical and ethical considerations

Study approvals from; Kenyatta University ethical review committee, NACOSTI, clearance from, Kiambu County commissioner, Educational County Commissioners;. Thika West Sub-County Commissioner, sub county commissioner of education and the principals of the selected secondary schools.

Informed consent for KII and assent from adolescents, confidentiality and anonymity of the respondents was ensured at all times and participants were informed of the freedom to withdraw at any stage of the study. The researcher ensured confidentiality on the part of respondents so that all the information obtained was only used for the study. The researcher urged the respondents to provide accurate information for this study so as to eradicate possible circumstances of biasness which can make the results of this study unrealistic, and was achieved by informing the respondents on benefits of undertaking this study.

CHAPTER FOUR: RESEARCH FINDINGS

4.1 Introduction

This chapter comprises of data analysis, findings and interpretation. The results are in tables, pie charts, bar graphs and figures. The data was analysed per the objectives of the study.

4.2 Response rate

A total of 340 questionnaires, were properly filled and returned. This represented an overall successful response rate of 85% as shown on Table 4.1. The 60 unreturned represented the non-response rate of 15%. Some students did not respond to most of the questions, others filled them wrongly and were not useful for the study. Based on these assertion 85% response rate was adequate for the study.

Table 4.1: Response rate

Response	**Frequency**	**Percentage**
Returned	340	85%
Unreturned	60	15%
Total	**400**	**100%**

4.3 Demographic information

The results in Table 4.2 showed that 52% of the students were boys, slightly more than the females (48%); 97.7% were aged between 14 and 19 years, 70.6% had both parents, 16.5% had mothers only, 8.2% did not specify their guardian and 2.4% had either

grandparent or father as their guardian. For religious affiliation, 77.1% of the respondents were Christians, 5% Hindus, 1.2% Muslims and 4.7% were Atheists (Table 4.2).

Table 4.2: Demographic information

Demographic Information	Indicator	Frequency	Percentage
Gender	Female	132	38.8
	Male	208	61.2
Age	Below 14 years	4	1.2
	14 - 16 years	252	74.1
	17 – 19 years	80	23.6
	Above 19 years	4	1.2
Guardian	Both Parents	240	70.6
	father only	8	2.4
	mother only	56	16.5
	Grandparents	8	2.4
	Others	28	8.2
Religious affiliation	Protestant	160	47.1
	Catholic	136	40
	Hindu	12	3.5
	Muslim	4	1.2
	Atheists agnostics	16	4.7
	Others	12	3.5

4.3.1 Relationship between Age and risky sexual behaviour

About 14.9% (28) of the students below 14 years had never had sex as compared to 2.6% (4) of the students who had had sex (Table 4.3). Among the students, 70.2% (132) those students between 14 and 16 years had never had sex as compared to 60.5% (92).

Table 4.3: Relationship between age and risky sexual behaviour

	Category	No	Yes	Chi square	P value
Age	Below 14 years	28(14.9%)	4(2.6%)	38.563a	0.001
	14 - 16 years	132(70.2%)	92(60.5%)		
	17 – 19 years	24(12.8%)	56(36.8%)		
	Above 19 years	4(2.1%)	0		

4.4 Level of awareness of age appropriate reproductive health information among adolescents in Thika West Sub-County, Kiambu County

The results in Table 4.4 revealed that 64.7% of the respondents had listened to information on contraceptives more than once, 83.5% had listened to information on safe sex more than once and 90.6% had listened to information on HIV/AIDS and STIs more than once.

Table 4.4: Level of awareness on reproductive health information

Frequency of information on	Indicator	Frequency	Percentage
Contraceptives	zero times	120	35.3
	1-3 times	104	30.6
	more than 3 times	116	34.1
Safe sex	zero times	56	16.5
	1-3 times	104	30.6
	more than 3 times	180	52.9
STIs	zero times	32	9.4
	1-3 times	92	27.1
	more than 3 times	216	63.5

4.4.1 Awareness on the use of reproductive health information

The respondents as shown in Table 4.5 revealed that 45.89% of the respondents were not aware of contraceptives, 43.53% were aware of the information on safe sex and 70.59% were aware of the information of HIV/AID s and STIs, Furthermore, 43.53% were not aware of the information on the use of a condom, 44.71% were not aware of health services to teenagers and 71.76% were not aware of the information on safe abortion.

Table 4.5: Proportion of respondents with various levels of knowledge on use of reproductive health information

Information on:	Not aware	less aware	moderately aware	much aware	very much aware
Contraceptives use	17.65	28.24	25.88	10.59	17.65
safe sex	12.94	10.59	32.94	16.47	27.06
STIs	4.71	8.24	16.47	14.12	56.47
condom use	28.24	15.29	17.65	5.88	32.94
Teenagers' services	27.06	17.65	18.82	15.29	21.18
safe abortion	55.29	16.47	11.76	7.06	9.41

Respondents were asked to indicate other reproductive health information, the study established a theme of "*Abstaining from sex*". While other stated that *"I have heard about menstruation in girls, which can make her be pregnant if she meets with a boy.my friends say a person can use pills ,a condom….. But I have never known how they are used to prevent pregnancy."*

"I think there are diseases that a person can get when they have sex with a person who is sick especially HIV because this infections are transmitted through sexual contact."

During discussion on awareness of risky sexual behaviour, majority expressed the following, *"It is very risky to have sex without protection. You can get AIDS or the girl will become pregnant .but sometimes you just do it and hope nothing will go wrong because you don't have something to use"*

"The respondents responses to whether they are able to access reproductive health information easily was that; we get this information yes but we are not able to sort it out it's sometimes hard to know what is right to do"

The guidance and counselling teachers were further asked to rate the adolescents' awareness on appropriate age information on reproductive health. Their responses were as follows:

Informant 1 "*moderately aware through biology and life skills lessons*"

Informant 2 "*most don't have information*"

Informant 3 "*fair due to exposure*"

The guidance and counselling teachers were further asked the kind of information that adolescent and access. Their responses are as follows:

Informant 1 "*Not possible to know but adolescents are guided accordingly*"

Informant 2 "*Pornographic, unfiltered information. Biology, religious education*"

Informant 3 "*Pornography, abortion all kind*"

The guidance and counselling teachers described how adolescents accessed reproductive health information. Their responses were as follows:

Informant 1 "*School curriculum has lessons on reproductive health information*"

Informant 2 "*technological devices like internet*"

Informant 3 "*Mobile phones, movies and from their peers*"

4.4.2 Helpfulness of reproductive health information

In regard to helpfulness of reproductive health information, 75.3% of the students, found reproductive health information useful while 8.2% of the respondents found reproductive health information not helpful (Table 4.6).

Table 4.6: Helpfulness of reproductive health information

Usefulness of reproductive health information	Frequency	Percent
Very helpful	148	43.5
Helpful	108	31.8
Moderately helpful	56	16.5
Less helpful	16	4.7
Not helpful	12	3.5
Total	**340**	**100**

4.4.3 Relationship between the level of awareness on reproductive health information and risky sexual behaviour

The results indicated that there is a high likelihood of risky sexual behaviour (by 0.626 times) for those students listening to contraceptive information more than 3 times compared to those who listen to contraceptive information less than three times. The relationship was found to be significant represented by χ^2=1.761 and p = 0.020.

There is a less probability of risky sexual behaviour (0.648 times) for those students listening to information on safe sex more than 3 times compared to those who listen to information on safe sex less than three times. The relationship was found to be significant represented by χ^2 11.794 and p = 0.003.

There is less probability of risky sexual behaviour (by 0.629 times) for those students listening to information on STIs for more than 3 times compared to those who listen to information on STIs less than three times. The relationship was found to be significant represented by a chi square value of 3.812 and a p value of 0.019 (Table 4.7).

Table 4.7: Presentation of the results of the relationship between the levels of awareness on reproductive health information and risky sexual behaviour

Level of Awareness (No of times you listen to information on :)		**Risky sexual behaviour**				
		Low	**High**	**Chi Square (χ^2)**	**P value**	**OR(95 % CI)**
Contraceptives	less than 3 times	72(38.3%)	48(31.6%)	1.761	0.020	1
	more than three times	116 (61.7%)	104(68.4%)			0.626
safe sex	less than 3 times	28(14.9%)	28(18.4%)	11.794	0.003	1
	more than three times	160(85.1%)	124(81.6%)			0.648
STIs	less than 3 times	16(8.5%)	16(10.5%)	3.812	0.019	1
	more than three times	172(91.5%)	136(89.5%)			0.629

*The first category was used as a reference category

4.5 Influence of sources of reproductive health information among secondary school adolescents in Thika West Sub-County, Kiambu County

4.5.1 Ease of discussion on sexual related issues with parents

As shown in figure 4.1, 64.7% (220) of the students had difficulties in discussing sex related issues with their parents/guardians, 17.7% (60) of them found it easy to discuss with parents.

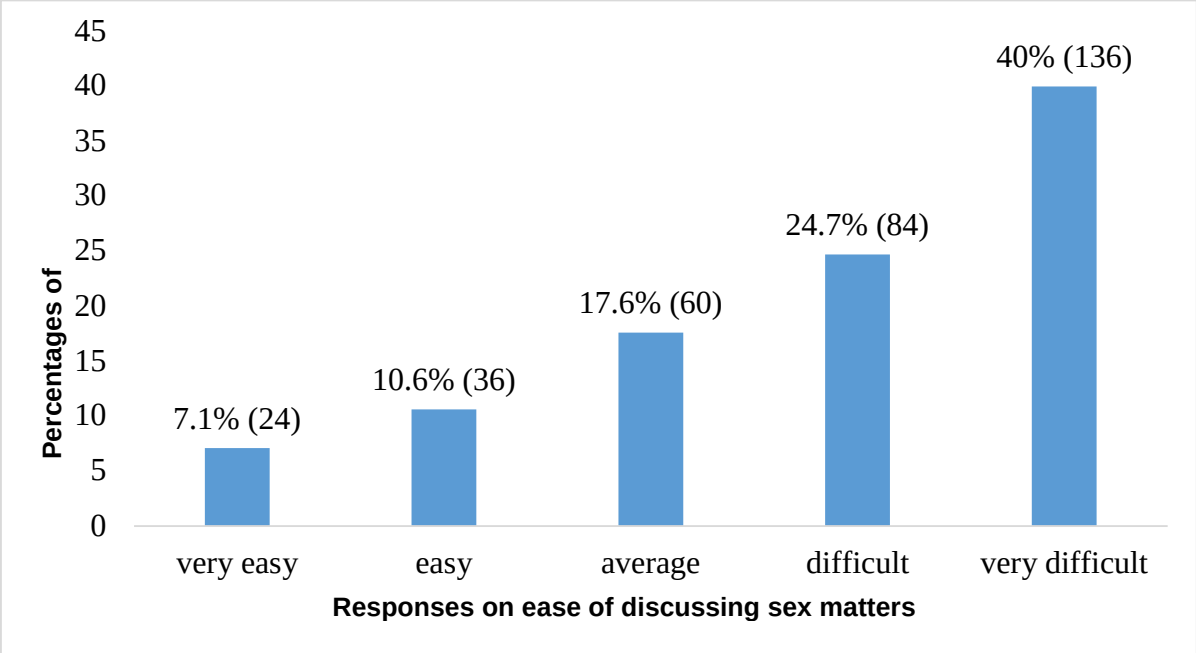

Figure 4.1: Responses on ease of discussing sex related issues with parents/guardians

4.5.2 Sources of information reproductive information

Table 4.8 indicates that 48.24% of the respondents got great content of information from their teachers and school counsellors. The results also revealed that 45.89% of the respondents got less content of information from their parents. The results revealed that 54.12% of the respondents got great content of information from mass media. Study results further, revealed that that 62.35% of the respondents got the great content of information from social media and the internet. The results also revealed that 42.36% of the respondents got the great content of information from their friends and age mates. The results also revealed that 42.36% of the respondents got the great content of information from their religious leaders.

Table 4.8: Sources of information on reproductive health information

Statement	no content	less content	moderate content	great content	very great content
Teachers and school counsellors	9.41	7.06	35.29	17.65	30.59
Parents	24.71	21.18	22.35	11.76	20
Mass media and newspapers	10.59	18.82	16.47	12.94	41.18
Social media and internet	17.65	14.12	5.88	18.82	43.53
Friends and age mates	15.29	27.06	15.29	17.65	24.71
Religious leaders	18.82	16.47	22.35	21.18	21.18

4.5.3 Preference and importance of sources of reproductive health information

Most of the students, that is, 50.6% preferred reproductive health information from parents and social media, 16.5% from friends and age mates while 14.1% of the respondents preferred reproductive health information from mass media as well as religious leaders (Table 4.9).

Table 4.9: Preference of sources of reproductive health information

Statement	Indicator	Frequency	Percentage
	Parents	100	29.4
	mass media	48	14.1
	social media	72	21.2
	friends and age mates	56	16.5
	religious leader	48	14.1
Preference	none of the above	16	4.70

4.5.4 Helpfulness of the sources of reproductive health information

The proportion of 47.1% (160) of the students found sources of reproductive health information very helpful, 36.5% (124) helpful, 10.6% (36) moderately helpful while 5.9% (20) of the students found the sources unhelpful (Figure 4.2).

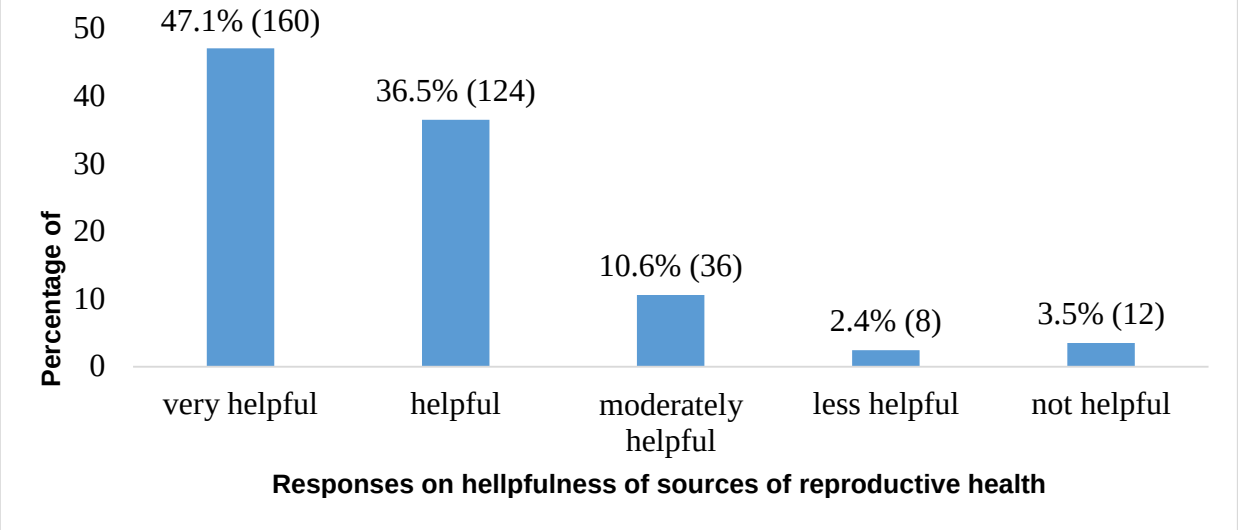

Figure 4.2: Responses on helpfulness of sources of reproductive health information

The respondents also indicated other sources of reproductive health information. Majority of the respondents indicated "*the internet*" as an alternative source of reproductive health information.

Further to where they received the reproductive health information from*," majority from the groups had this to say; we mostly share with our peers or check the internet because we have phones."*

About their most preferred source of reproductive health information, the respondents had the following to say*;" I usually find it better if am taught issues about sexuality by my parents at home but none of my parents tells me anything about what I go through. In fact my parents avoid to discuss anything sexual related even when I ask questions related to that".*

The guidance and counselling teachers indicated how the sources that play a great role in providing reproductive health information. Their responses are as follows:

Informant 1 "*Peers internet and social media since it is easily accessible*"

Informant 2 "*internet and peers as most of them have mobile phones*"

Informant 3 "*Through counsellors in school, religious education and biology as a subject*"

In addition, the guidance and counselling teachers described how adolescents perceive reproductive health information from different sources. The following were their responses:

Informant 1 "*According to individual students' background in relation to values and beliefs*"

Informant 2 "*Depends with individual perception and attitudes towards the information*"

Informant 3 "*Hard to rate but they are observed to have misleading information because today is not like our days where we depended on relatives to give us relevant information and we were monitored properly*"

4.5.5 Relationship between sources of reproductive health information and risky sexual behaviours

The results indicated that there is a less likelihood of risky sexual behaviour (by 0.571 times) for those students who received information from teachers and school counsellors more than 3 times compared to those who received information from teachers and school counsellors less than three times. The relationship was found to be significant represented by a chi square value of 13.754 and a p value of 0.001.

There is less probability of risky sexual behaviour (by 0.349 times) for those students who received information from parents more than 3 times compared to those who received information from parents less than three times. The relationship was found to be significant represented by a chi square value of 28.171 and a p value of 0.004.

Table 4.10: Relationship between sources of reproductive health information and risky sexual behaviours

Receipt of information from:		Risky sexual behaviour				
		Low	High	Chi Square (χ^2)	P value	OR(95% CI)
Teachers and School Counsellors	less than 3 times	24(12.8%)	44(28.9%)			1
	more than three times	164(87.2%)	108(71.1%)	13.754	0.001	0.571
Parents	less than 3 times	44(23.4%)	76(51.4%)			1
	more than three times	144(76.6%)	72(48.6%)	28.171	0.004	0.349

*The first category was used as a reference category

4.6 Perception of reproductive health information among secondary school adolescents in Thika West Sub-County, Kiambu County

4.6.1 Perception on availability of reproductive health information among secondary school adolescents

The results in Table 4.11 showed that 67.1% of the students considered the availability of reproductive health information less easy while 16.5% of the students considered the availability of reproductive health information very easy.

Table 4.11: Percentages of respondents indicating various degrees of ease on availability of reproductive health.

Indicator	Frequency	Percentage
less easy	228	67.0
Easy	56	16.5
very easy	56	16.5
Total	**340**	**100**

4.6.2 Perception on helpfulness

When asked on assessed on their perception on helpfulness of reproductive health information 37% (124) of the students said it was helpful, 29% (100) less helpful, 26% (88) not helpful with only 8% (28) who reported it was very helpful.

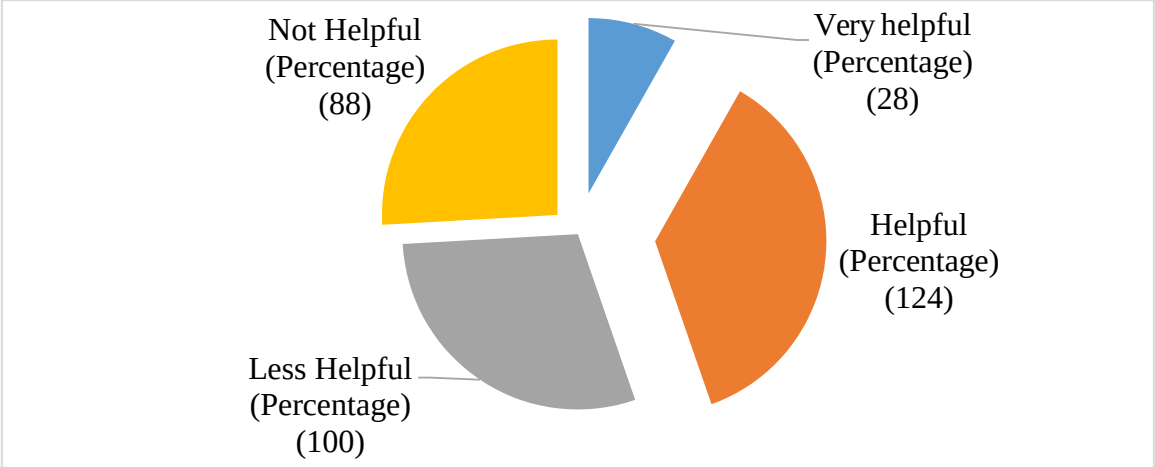

Figure 4.3: Responses on helpfulness of reproductive health information among secondary school

During focused group discussion on whether the reproductive health information was helpful, the respondents stated the following; *"it is very helpful when you know what is right and you can be able to decide what to do, but sometimes we do not have the correct information to rely on."*

4.6.3 Perception on complexity of reproductive health information among secondary school

On perception of complexity on reproductive health information 57.6% of the students reported the information easy to understand, 27.1% found it very easy to understand, while only 15.3% of the students found the information difficult to understand (Table 4.12).

Table 4.12: Results on Complexity of reproductive health information among secondary school

Indicator	Frequency	Percentage
Difficult to understand	52	15.3
Easy to understand	196	57.6
Very easy to understand	92	27.1
Total	**340**	**100**

During FGD on perception, on whether it was easy to understand the reproductive health information. Majority expressed that; *"it is easy to understand, when you have someone experienced to advice you and then make personal decision on whether to use the information or not"*.

4.6.4 Perception on applicability of reproductive health information among secondary school

The responses on applicability of reproductive health information revealed that majority of the students 43.5% (148) found it difficult to apply, 34.1% (116) found it easy to apply while 22.4% (76) reported was very easy to apply (Fig. 4.4).

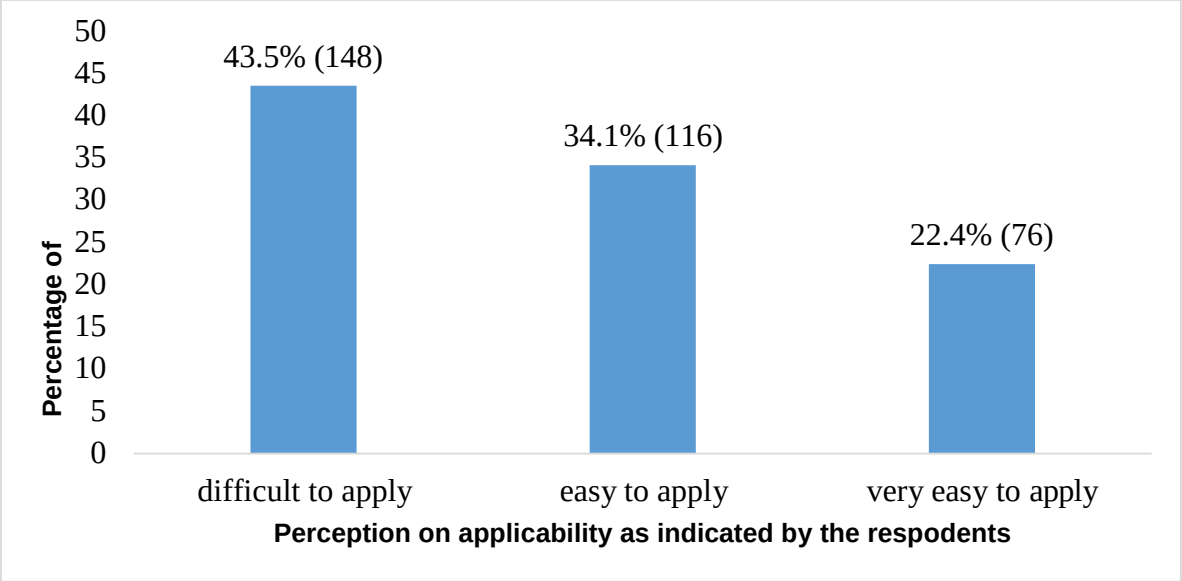

Figure 4.4 Responses on application of reproductive health information

The guidance and counselling teachers were asked to rate how adolescents utilize reproductive health information. Their ratings are as follows:

Informant 1 "*It seems most of them do not utilize, have early sexual debut*"

Informant 2 "*It seems utilization is low*"

Informant 3 "*Low utilization if any*"

4.6.5 Perception on reproductive health information and risky sexual behaviours

Among the respondents, 70.59% agreed with the statement that the information they get on reproductive health is very helpful while 64.70% reported the information was readily available, to adolescents. The results also indicates that 67.06% chose what to do with the information, 55.29% made decisions based on the information received, 56.47% were

eager to learn more about reproductive health but 44.70% disagreed with the statement that they do volunteer and teach their friends and age mates on their reproductive health (Table 4.13).

Table 4.13: Perception on reproductive health information

Reproductive health information	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
Very helpful	3.53%	10.59%	15.29%	32.94%	37.65%
Readily available to adolescents	4.71%	12.94%	17.65%	35.29%	29.41%
Freedom of choice	9.41%	7.06%	16.47%	24.71%	42.35%
Eases decision making	12.94%	14.12%	17.65%	22.35%	32.94%
Eager to learn	5.88%	10.59%	27.06%	22.35%	34.12%
Easy to share	32.94%	11.76%	11.76%	18.82%	24.71%

4.6.6 Level of attitudes on reproductive health information

The results in Table 4.14 showed that 47.1% of the students indicated that their attitudes towards reproductive health information influenced them to risky sexual behaviour to a high extent, 41.2% had moderate extent, while 11.8% was to low extent.

Table 4.14: Extent of attitudes on reproductive health information

Extent of Attitudes	Frequency	Percent
Low extent	40	11.8
Moderate extent	140	41.2
High extent	160	47.1
Total	**340**	**100**

4.6.7 Relationship between perception on reproductive health information and risky sexual behaviours

The results indicate that there is less likelihood of risky sexual behaviour (by 0.2012 times) for those students who find reproductive health information very easy to be available compared to those who find age reproductive health information less easy. The relationship was likewise found to be significant as represented by a chi square value of 25.902 and a p value of 0.000.

There is likewise less likelihood of risky sexual behaviour (by 0.591 times) for those students who find reproductive health information very useful compared to those who find age reproductive health information less useful. The relationship was however, found to be statistically insignificant as represented by a chi square value of 0.788 and a p value of 0.375.

There is less probability of risky sexual behaviour (by 0.6211 times) for those students who find reproductive health information very easy to understand compared to those who

find reproductive health information difficult to understand. The relationship was however, found to be statistically insignificant as represented by a chi square value of 0.052 and a p value of 0.820.

There is less probability of risky sexual behaviour (by 0.359 times) for those students who find reproductive health information very easy to apply compared to those who find reproductive health information difficult to apply. The relationship was found to be significant as represented by a chi square value of 9.265 and a p value of 0.002.

Table 4.15: Relationship between perception on reproductive health information and risky sexual behaviours

		Risky sexual behaviour				
Perception on:		**Low**	**High**	**Chi Square (χ^2)**	**P value**	**OR(95% CI)**
Availability	less easy	148 (78.7%)	80(52.6%)			1
	very easy	40(21.3%)	72(47.4%)	25.902	0.000	0.2012
Usefulness	very helpful	80(42.6%)	72(47.4%)			1
	less helpful	108(57.4%)	80(52.6%)	0.788	0.375	0.591
Complexity	difficult to understand	28(14.9%)	24(15.8%)			1
	easy to understand	160(85.1%)	128(84.2%)	0.052	0.820	0.6211
Application	difficult to apply	68(36.2%)	80(52.6%)			1
	easy to apply	120(63.8%)	72(47.4%)	9.265	0.002	0.359

*The first category was used as a reference category

4.7 Influence of social- cultural factors to accessing of reproductive health information

42.4% of the students felt that culture moderately influenced their access to reproductive health information, 28.2% culture had a large influence on accessing to the information. Thirty four percent (34.1%) of the respondents' were greatly influenced by religion while 28.2% felt that religion had a low influence on access to health information (Table 4.16).

Table 4.16: Influence of social - cultural factors on access to reproductive health information

Social cultural factors	Indicator	Frequency	Percentage
Culture	low extent	100	29.4
	moderate extent	144	42.4
	large extent	96	28.2
Religion	low extent	96	28.2
	moderate extent	128	37.6
	large extent	116	34.1

In FGD on how poverty influences the utilization of reproductive health information. Majority of the respondents stated that:

"Lack of basic needs exposes the adolescents, especially girls, to give in to incentives from older men to meet their basic needs".

"Lack of parental monitoring. My mom is a casual labourer and leaves me with no care and older men take advantage of me."

On whether religion had influence on reproductive health information majority revealed that;

"My pastor always tells us to abstain from sexual activity before marriage."

"In our church, our religious leaders say that sexual issues are for adults, they do not teach us this topic because we are young but we feel bad because we face a lot of problems and we do not know what to do"

When the respondents were asked whether norms and cultural values influenced the access to reproductive health information, they reported that. "*You see we are Africans; adults don't want to discuss reproductive issues openly with their children they hid the truth from us. When I was young, I was told my young sister was bought in a supermarket when my aunt brought them home"*

The Key informants on influence of religion and cultural values in reference to in provision of reproductive health information reported that;

Informant 1 "*Some religious and cultural values have hindered sexual education amongst adolescents*"

Informant 2 "I*t influences both positively and negative.as religion teaches sexual values at the same time prohibits sex education to young people*"

Informant 3 "*Restricts a lot of information to adolescent, leaving adolescent curios to explore for themselves*"

The key informants' expression on whether religion and culture hindered access to reproductive health information. Reported that;

Informant 1*"Yes. Greatly because most religious groups think its evil to talk about sex issues openly"*

Informant 2 *"To some extent yes for religion has been rejecting sexuality education in schools yet adolescents are far ahead in sexual matters through internet*"

Informant 3 "*To a great extent and yet these adolescents are sexually active"*

4.7.1 Social cultural factors and risky sexual behaviours

The findings show that 38.82% of the respondents reported that the religious and cultural beliefs greatly dictated the kind of information they received and would hold on to their religious and cultural belief on matters of reproductive health, 40.00% agreed that the cultural and religious groups helped in dispersion of reproductive health information, 49.42% reported that even when they get information from other sources, they stick to their religion and culture teaching to less extent while 62.35% revealed that their culture and religion, to a less extent, contradicts perception of other sources about reproductive health information (Table 4.17).

Table 4.17: Social-cultural factors

Statement	No extent	Less extent	Moderate extent	Great extent	Very great extent
My religious and cultural beliefs dictates the kind of information I receive	20	17.65	23.53	11.76	27.06
Stick to religious and cultural belief	20	17.65	23.53	11.76	27.06
Cultural and religious groups disperse information	23.53	16.47	22.35	11.76	25.88
Follows what religion and culture	28.24	21.18	23.53	16.47	10.59
Culture and religion contradicts perception of other sources.	45.88	16.47	12.94	8.24	16.47

The Key informants described social cultural status in reference to adolescents' sexual risky behaviour as the following;

Informant 1 "*Greatly influencing, due to poverty and poor parental guidance*"

Informant 2 "*Sexual exploitation due to poverty, drug abuse*"

Informant 3 "*Environment dictates a lot, poverty levels and lack of parental monitoring*"

4.7.2 Government policy and risky sexual behaviours

The respondents were requested to indicate their thoughts on what the government should do to enhance the provision of reproductive health information. Majority of the

respondents indicated that "*the government should provide more education and awareness on reproductive health information through campaigns and TV programs.*

They were further asked to indicate whether the health care providers provide satisfactory information on reproductive health information. Most of the respondents indicated that *the health care providers were not ready to answer their sex-related questions but mostly ignored them.*

The respondents were also asked to indicate how effectiveness of the government policy influencing risky sexual behaviour. Majority of the respondents indicated that government policy "*provided education and awareness on reproductive health especially when educative programme are channelled through media by ministry of health or ministry of education." "Also when the government jails rapists when they rape minors".*

4.7.3 Relationship between social-cultural factors and risky sexual behaviours

The findings revealed that there is less probability of risky sexual behaviour (by 0.982 times) for those students who perceive norms and beliefs to largely influence risky sexual behaviour compared to those who perceive that culture has no influence risky sexual behaviour. The relationship was however, found to be statistically insignificant as represented by a chi square value of 0.622 and a p value of 0.430 (Table 4.18).

There is likewise less probability of risky sexual behaviour (by 0.465 times) for those students who perceive religion to largely influence risky sexual behaviour compared to those who perceive that religion has no influence risky sexual behaviour. The relationship

was found to be significant as represented by a chi square value of 10.050 and a p value of 0.002.

Table 4.18: Presentation of the results of the relationship between social cultural factors and risky sexual behaviours

Influence of:		Risky sexual behaviour				
		Low	High	Chi Square (χ^2)	P value	OR
Culture	low extent	52(27.7%)	48(31.6%)	0.622	0.430	1
	large extent	136(72.3%)	104(68.4%)			0.982
Religion	low extent	40(21.3%)	56(36.8%)	10.050	0.002	1
	large extent	148(78.7%)	96(63.2%)			0.465

*The first category was used as a reference category

4.8 Risky sexual behaviour

The results revealed that 44.7% (152) of the students had had sexual relationships while 55.3% (188) had not engaged in sexual relationship (Table 4.19).

Table 4.19: Sexual relationships

Sexual Relationships	Frequency	Percent
Did not have sexual intercourse	188	55.3
Had sexual intercourse	152	44.7
Total	**340**	**100**

4.8.1 Age at first Sexual debut

Approximately 50% (76) of the students had their first sexual experience at the age of 14 and 16 years, 47% (72) at the age of below 14 years while 3% (4) at the age of above 16 years (Table 4.20).

Table 4.20: Age at first sexual debut

Age	Frequency	Percent
Below 14 years	72	47
14 - 16 years	76	50
Above 16 years	4	3
Total	**152**	**100**

4.8.2 Pregnancy prevention

A number of respondents, 44.7% used other measures to prevent pregnancy, 53% of the students who had had sex were somewhat concerned about STIs and HIV/AIDS Infection, while 98.4% had sexual partners with n=96 (63.2%) having more than two partners (Table 4.21).

Table 4.21: Pregnancy prevention, concern on STIs and sexual partners.

Sexual Relationships	Indicator	Frequency	Percentage
Pregnancy Prevention	Used a Condom	44	28.9
	Took an After Pill	12	7.9
	Periodic Abstinence	28	18.4
	Others	68	44.7
Concern of Infection by STIS	very much concerned	40	26
	very concerned	32	21
	somewhat concerned	80	53
No of sexual Partners	None	8	5.2
	only one	48	31.6
	Two	24	15.8
	more than two	72	47.4

4.8: Relationship between gender and risky sexual behaviour

The female students 55.3% (104) had never had sex as compared to 44.7% (84) of their male counterparts. However, the study found that 18.4% (28) of the female students have had sex as compared to 81.6% (124) of their male counterparts. The relationship was found to be statistically significant χ^2 =48.18, p =0.020.

Table 4.22: Relationship between male and female students and risky sexual behaviour.

	Category	No	Yes	Chi square	P value
Gender	Female	104 (55.3%)	28(18.4%)	48.178	0.002
	Male	84(44.7%)	124(81.6%)		

CHAPTER FIVE: DISCUSSION, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

The study sought to determine if there was any relationship between reproductive health information, which are the independent variables, and risky sexual behaviours (the dependent variables) among adolescents in Thika West, Kiambu County. This chapter discusses the summary of the major findings of the study, relevant discussions, conclusions and the necessary recommendations.

5.2 Discussion

5.2.1 Level of awareness on reproductive health information and the risky sexual behaviour

The results indicated that majority of the secondary school adolescents had information on contraceptives, safe sex as well as STIs; and that the secondary school adolescents in Kiambu County considered reproductive health information helpful, easy to understand but was difficult to access. The study found that there is a high likelihood of risky sexual behaviour for those students listening to reproductive health information more times compared to those who listen to contraceptive information less times. The chi square results indicated that the relationship between reproductive health information and risky sexual behaviour is statistically significant. These findings agreed with studies that found out that it is significant to create a conducive environment that would positively influence adolescents' knowledge, attitude, perceptions, and skills on reproductive health (Svanemyr *et al*., 2015). This will reduce their sexual risky behaviour, and enable them to

increase the access and use of sexual and reproductive health services. The results also agreed to other studies that concluded that adolescents who had received comprehensive sex education were 50% less likely to experience unintended pregnancy than those who received abstinence-only-until-marriage programs (Durowade *et al*., 2017).

5.2.2 Influence of sources of reproductive health information

The results revealed that the secondary school adolescents in Kiambu County preferred reproductive health information from parents and teachers as sources they relied on, when asked their main source of reproductive health information, the results indicated that majority of the secondary school adolescents received reproductive health information from mass, social media and internet.

The findings indicated that there is a less likelihood of risky sexual behaviour for those students who receive information from teachers and school counsellors as well as from parents. The chi square relationship proved that all the selected sources of reproductive health information had significant association with risky sexual behaviours among adolescents. These findings corroborated with other studies that stated that adolescent's sexual health education is an international, regional and a national priority and integrated into school curriculums and other ministries activities.(UNESCO, 2013, Banister *et al.*, 2011). Additionally, the findings corroborated those of (Tesfaye *et al.*, 2014) who found that adolescents, who received reproductive health information from parents, practiced safer sex than those who sought information from peers.

5.2.3 Adolescents' perception on reproductive health information

The findings indicated that those students who found reproductive health information as easily available, useful, easy to understand and apply had less likelihood of risky sexual behaviour. The relationship between the perception and risky sexual behaviour was statistically significant except for the perceptions on usefulness and complexity which was found to be insignificant.

The findings corroborated that of (Houck and Brown, 2014) who deduced that perceptions would influence the adolescents' everyday experiences and determine their sexual behaviour in relation to age-appropriate reproductive health information, and Omubuwa who reported that a third (28.9%) of the subjects aged 15 years had experienced sexual intercourse, sexual experience increased with age, and more than a third of his respondents perceived pre-marital sex as normal (Omobuwa, 2012).

5.2.4 Influence of social-cultural factors in accessing reproductive health information

The results showed that culture and religion were social demographic characteristics that had a significant relationship to reproductive health information among a majority of the secondary school adolescents in Kiambu County. The findings revealed that there is less probability of risky sexual behaviour among students who perceived norms and beliefs largely influenced risky sexual behaviour compared to vies. There is less probability of risky sexual behaviour for those students who perceive religion to largely influence risky

sexual behaviour compared to those who perceive that religion has no influence risky sexual behaviour.

These findings corroborated that of (Arousell and Carbom, 2015) who found out those socio- cultural factors played a significant role, as adolescents who are not sexually active reported their connections to religious friends unlike those who were sexually active. Some religious groups like Protestants support the teaching of reproductive health information to young people and this is a protective factor to against pre- marital sex indulgence. The results also corroborated those of Vught *et al.* (2016) who found that adolescents' level of sexual exposure in public secondary schools was related to perceived parental religiosity, attitude on sexual matters and living arrangements. In Africa, the area of settlement influenced early sexual debut. Adolescents living in slums, which are normally congested, reported to have early sexual debut compared to those who lived in better and uncongested estates (Robinson & Yeh, 2011).

5.3 Conclusions

i. The awareness of reproductive information significantly reduced prevalence of risky sexual behaviour
ii. The likelihood of risky sexual behaviour decreases for Secondary school adolescents who received reproductive information from sources they relied on such as their parents, teachers and religious leaders.
iii. There was less likelihood of risky sexual behaviour for adolescents who perceived reproductive health information as easy to access, useful, easy to understand and easy to apply compared to the vies.

iv. The probability of risky sexual behaviour increases for the adolescents who perceived that culture and religion are barred them from accessing reproductive information

5.4 Recommendations

Based on the findings the study recommends the following;

i. The Ministry of Health and Ministry of Education should actively involve adolescents in reproductive information awareness campaign for ensuring positive attitudes and promoting practices that are more progressive

ii. The Government through Ministry of Education and Ministry of Health should come up with programmes that enhance full participation of all stakeholders such as parents, teachers and religious leaders in order to communicate reproductive information to adolescents effectively at different developmental stages.

iii. The Ministry of Education should provide adequate and comprehensive age appropriate reproductive information to the adolescents which is made easy to access, understand and apply at different developmental stages

iv. The Ministry of Health should come up with policies that advocate for importance of reproductive information through religious and community institutions.

5.5 Recommendation for further studies

Further studies should be conducted to:

i) Explore other sources of reproductive health information such as internet, mass media as well as friends and peers in order to capture all the aspects of sources of information.

ii) Assess access to reproductive health information by secondary school students and risky sexual behaviours in other neighbouring counties such as Nairobi, Kajiado and, Naivasha among others.

iii) Assess access to reproductive health information by primary school students and risky sexual behaviours in Kiambu County.

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APPENDICES

Appendix I: Introduction letter

Dear Respondents,

RE: Request for participation in data collection

I am a masters Student, Kenyatta University. My thesis title is "***Relationship between access to reproductive health information and risky sexual behaviours among adolescents in Thika west, Kiambu County, Kenya*".** As a part of my course requirement I am currently writing a research project in the relevant field. The information you will provide is for academic purpose only and shall be treated with utmost confidentiality.

Thank you in advance for your co-operation and active participation to this academic effort.

Yours Faithfully

Peris Murugi

Appendix VIII: Informed Consent

My name is Peris Murugi Mureithi; I am a master student from Kenyatta University. I am conducting a study on "Relationship between age-Appropriate reproductive health information and risky sexual behaviours among secondary school adolescents in Kiambu County, Kenya". The study will be of importance in providing insight onto interventional strategies required to ensure adolescent are effectively equipped with relevant reproductive health information in all stages.

Procedure to be followed

The study is being conducted at selected schools within Kiambu County and participation will require that I ask questions and even record it for later analysis and record the information given by you in a questionnaire.

Participation in this study is voluntarily therefore you have the right to refuse.

You may refuse to respond to any questions and you may stop an interview at any time. You may also stop being in the study at any time without any consequences to the services you receive from study or any other organization now or in the future**.**

Discomforts and risks

Some of the questions you will be asked are on intimate subject and may be embarrassing to you or make you somehow uncomfortable. If this happens, you may refuse to answer these questions if you so choose. You may also stop the interview at any time. The interview may last up to approximately half an hour to the time you wait before you receive your routine services.

Benefits

If you participate in this study you will help us to learn how to provide effective services on risky sexual behaviours of the adolescents in other secondary schools**.**

Reward

If you agree to participate in this study, lunch will be provided and transport expenses will be reimbursed.

Confidentiality

The interviews and examinations will be conducted in a private sitting within the county. Your name will not be recorded on the questionnaire. The questionnaires will be kept in a locked cabinet for safe keeping at Kenyatta University. Everything will be kept private**.**

Contact Information

If you have any questions you may contact Dr. Syprine Otieno, Supervisor (1). On 0723744909 or Dr. Wachuka Njoroge Supervisor (2). On 0722737669 or the Kenyatta University Ethical Review Committee Secretariat on chairman.kuerc@ku.ac.ke, secretary.kuerc@ku.ac.ke, secretariat.kuerc@ku.ac.ke

Participant's Statement

The above information regarding my participation in the study is clear to me. I have been given a chance to ask questions and my questions have been answered to my satisfaction. My participation in this study is entirely voluntary. I understand that my records will be kept private and that I can leave the study at any time. I understand that I will still get the

same care and medical treatment whether I decide to leave the study or not and my decision will not change the care that I will receive from the clinic today or that I will get from any other clinic at any other time.

Name of Participant ……..……..……

_____ _____

Signature or Thumbprint **Date**

Investigator's Statement

I, the undersigned, have explained to the volunteer in a language he/she understands, the procedures to be followed in the study and the risks and benefits involved

Name of Interviewer ……

_____ _____

Signature or Thumbprint **Date**

Appendix II: Questionnaire for adolescents

Section A: Demographical details

1) What is your gender?

   Male [ ] Female [ ]

2) What is your Age

   .....

3) Who is your guardian?

   Both parents [ ]

   Father only [ ]

   Mother only [ ]

   Grandparents [ ]

   Others specify……..

4) What is your religion?

   Muslim [ ]

   Catholic [ ]

   Protestant [ ]

   Hindu [ ]

   None [ ]

   Others.....

Section B: Appropriate age reproductive health information

I: Level of awareness on age- appropriate reproductive health information

5. Indicate the number of times that you have listened to a talk on use of contraceptives. Choose one only

    a. Zero (0) times ☐

    b. 1-3 times ☐

    c. More than 3 times ☐

6. Indicate the number of times that you have listened to a talk on safe sex. Choose one only

    a) Zero (0) times ☐

    b) 1-3 times ☐

    c) More than 3 times ☐

7. Indicate the number of times that you have listened to a information on and STIs. Choose one only

    a.Zero (0) times ☐

    b.1-3 times ☐

    c.More than 3 times ☐

8. Rate your level of awareness on reproductive health information in the given categories. Use a scale of 1-5 where 1=not aware, 2=less aware, 3=moderately aware, 4= much aware, 5=very much aware

Level of awareness	1	2	3	4	5
Information on use of contraceptives					
Information on safe sex					
Information on STIs					
Information on use of condom					
Aware of health services to teenagers					
Information on safe abortion					

9. How useful do you find the above reproductive health information in shaping risky sexual behaviour?

Very helpful [ ]

Helpful [ ]

Moderately helpful [ ]

Less helpful [ ]

Not helpful [ ]

10. What other reproductive health information are you aware of?

……

……

……

II: Sources of information on age - appropriate reproductive health information

11. How easy is it to discuss sex-related issues with either of your parent?

Very easy [ ]

Easy [ ]

Average [ ]

Difficult [ ]

Very difficult [ ]

12. How many times have you received reproductive health information from Teachers and school counsellors? Choose only one

a. Zero (0) times ☐

b. 1-3 times ☐

c. More than 3 times ☐

13. How many times have you received reproductive health information from Parents? Choose only one

a. Zero (0) times ☐

b. 1-3 times ☐

c. More than 3 times ☐

14. To what extent do you get reproductive health information from the following sources? Use a scale of 1-5 where 1= no extent. 2 = less extent, 3 = moderate extent,
    4 = great extent and 5 = very great extent

Sources of information	1	2	3	4	5
Teachers and school counsellors					
Parents					
Mass media e.g. Television, radio, newspapers					
Social media and internet					
Friends and age mates					
Religious leaders					

15. Which source of age appropriate reproductive health information do you mostly prefer? Please tick one

    From parents [ ]
    Mass media [ ]
    Social media [ ]
    Friends and age mates [ ]
    Religious leader [ ]
    None of the above [ ]

16. How helpful do you find the sources you get reproductive health information from?

    Very helpful [ ]

    Helpful [ ]

    Moderately helpful [ ]

    Less helpful [ ]

    Not helpful [ ]

17. What are the other sources do you get reproductive health information?

……
……
……

III: Perception of age-appropriate reproductive health information

18. In terms of availability, how easy is it to get age appropriate reproductive health information?

    a. Easy
    b. Very easy
    c. Very easy

19. In terms of perceived usefulness how beneficial is age appropriate reproductive health information?

    a. Not useful at all

    b. Useful

    c. Moderately useful

    d. Very useful

20. In terms of perceived complexity how easy is it to understand the reproductive health information?

    a. Difficult to understand
    b. Easy to understand
    c. Very easy to understand

21. In terms of perceived complexity how easy is it to apply the information on reproductive health?

    a. Difficult to apply
    b. Easy to apply
    c. Very easy to apply

22. To what extent do you agree with the following statements regarding your perception on reproductive health information among adolescents (15-19) years? Use a scale of 1-5 where 1= strongly disagree, 2=disagree, 3=undecided, 4=agree and 5= strongly agree.

Perception	1	2	3	4	5
The information I get on reproductive health is very helpful					
Reproductive health information are readily available to adolescents					
I choose what to do with the information I get on reproductive health					
Most of my decisions concerning reproductive health is based on the information I get					
I am always eager to learn more on reproductive health					
I do volunteer and teach my friends and age mates on their reproductive health					

23. To what extent do attitudes towards reproductive health information influence risky sexual behaviour?

    a. Low extent

    b. Moderate extent

    c. Large extent

24. What other attitudes regarding age- appropriate reproductive health information do you have?

    ……

    ……

    ……

IV: Social cultural factors influencing of age- appropriate reproductive health information

25. Rate the extent to which culture (your background) influences access to age appropriate reproductive health information

    Low extent [ ]
    Moderate extent [ ]
    Large extent [ ]

26. Rate the extent to which religion influences access to age appropriate reproductive health information

    Low extent [ ]
    Moderate extent [ ]
    Large extent [ ]

27. In your own opinion, how does poverty influence the utilization of age appropriate reproductive health information?

    ……

    ……

28. To what extent do the following factors influence your access and utilization of reproductive health information? Use a scale of 1-5 where 1= no extent. 2=less extent, 3=moderate extent, 4= great extent and 5=very great extent

Social- cultural factors	1	2	3	4	5
My religious and cultural beliefs dictates the kind of information I receive					
I stick to the my religious and cultural belief on matters of reproductive health					
The cultural and religious groups help to disperse information on sexual and reproductive health					
Even when I get information on reproductive health from other sources, I follow what religion and culture says					
Our culture and religion contradicts what other sources perceive on reproductive health					

29. What are the other social- cultural that factors, do you feel influences access and utilization of age appropriate reproductive health information.

……

……

……

Part C: Government policy

30. In your own opinion, what do you think the government should do to enhance the provision of age appropriate reproductive health information?

……

31. In your opinion, what do you think the health care providers provide satisfactory information of age appropriate reproductive health information?

……..

32. How does effectiveness of government policy influence risky behaviour?

……
……
……

Part D: Risky behaviours

33. Have you ever had a sexual relationship?

Yes [ ]

No [ ]

If yes in question 33 above:

34. At what age was the first experience?

……

35. What did you do to prevent pregnancy?

a. Used a condom
b. Took an after pill
c. Periodic abstinence
d. Others …….

36. Were you concerned that you would infected with sexually transmitted infections (STI) including HIV/AIDS?

    a. Very much concerned

    b. Very concerned

    c. Somewhat concerned

    d. Less concerned

37. How many sexual partners have you had this far?

    a. Only one

    b. At least two

    c. More than two

Appendix III: Interview guide (KII/FGD)

i. How would you rate the adolescents' awareness on appropriate age information on reproductive health?

ii. What kind of reproductive health information do you think they usually access?

iii. How do adolescents access information on reproductive health?

iv. Which sources play a great role in providing adolescents with reproductive health information?

v. How do feel they perceive the information that they receive from various sources?

vi. How would you rate their utilisation of such information?

vii. How would you describe the role of religion and culture in regard to provision of appropriate age information?

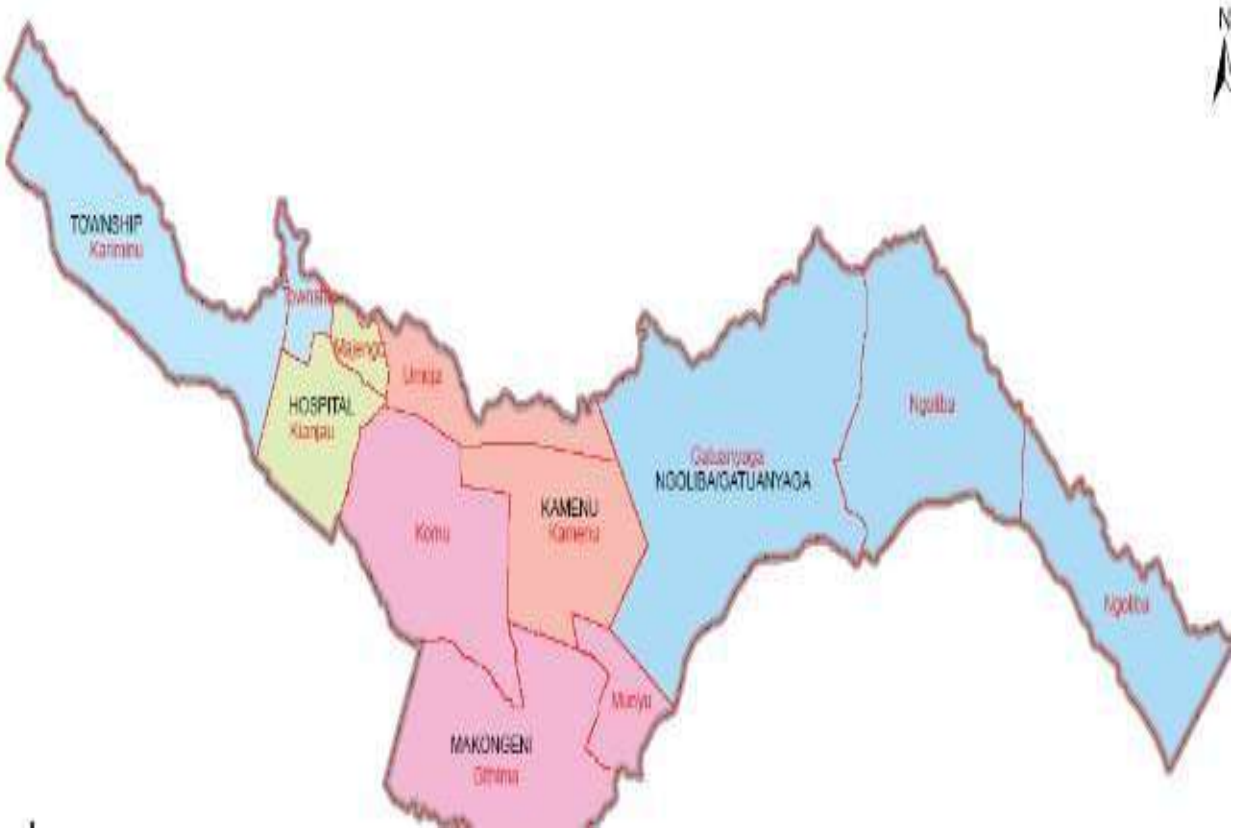
viii. Does religion and culture hinders the adolescents' from accessing reproductive health information? Please explain.

ix. How would you describe social cultural status in reference to adolescents risky behaviour

Appendix IV: Focused Group Discussion Guide

a. What are some of the reproductive health information are you aware.
b. What are some of sexual risky behaviour do you know?
c. Do you think you easily access to reproductive health information?
d. Where do you get this reproductive health information from?
e. Among the sources which is your most preferable
f. Do you think the reproductive health information you get is helpful in relation to risky sexual behaviour? Please explain
g. Is the reproductive health information easy to understand and apply?
h. In your own understanding do you feel the religion influences reproductive health information?
i. Are there norms and values in your culture that you feel are hindrances to accessing reproductive health information?

Appendix VI: A Map of Thika - West, Kiambu County, Kenya



Appendix VII: Table of all Publics Secondary Schools Population in Thika West, Kiambu County

S/N	School	FORM -1		FORM-2		FORM-3		FORM =4		SUB TOTAL		GRAND TOTAL
		M	F	M	F	M	F	M	F	M	F	
1	Joy Town Mb	40	32	37	32	31	23	24	23	132	110	242
2	Thika High School For Blind Mb	49	45	47	24	52	32	37	25	185	126	311
3	MaryHill Gb		358		347		337		324		1366	1366
4	Thika High Bs	279		224		212		201		916		916
5	Thika Garrison Md	45	44	53	47	46	33	50	26	198	150	344
6	Broad Way Md	103	60	111	60	113	56	93	69	420	245	665
7	Queen Of Rosary Md	31	26	33	27	40	14	40	31	144	98	242
8	Karibaribi Secondary Md	20	31	21	18	16	26	16	11	73	86	159
9	Chania Girls Gb		162		157		148		143		612	612
10	Kimuchu Sec Md	92	75	71	61	75	53	68	53	305	242	547
11	Kenyatta Girls Gd		101		127		140		127		495	495
12	Chania High Bb	206		199		194		171		770		770
13	Thika Girls Gd		115		112		106		0		333	333
	Totals	**865**	**1049**	**796**	**1012**	**778**	**968**	**700**	**832**	**3139**	**3863**	**7002**

KEY:

GB - Girls Boarding BB - Boys Boarding GD- Girls Day

MD - Mixed Day M.B - Mixed Boarding

Appendix VIII: Research Authorization Letters

KENYATTA UNIVERSITY
ETHICS REVIEW COMMITTEE

Fax: 8711242/8711575
Email: kuerc.chairman@ku.ac.ke
kuerc.secretary@ku.ac.ke
Website: www.ku.ac.ke

P. O. Box 43844,
Nairobi, 00100
Tel: 8710901/12

Our Ref: **KU/ERC/ APPROVAL/VOL.1** (66) Date: 24th /05/2018

Peris Murugi Mureithi
P.O Box 2715-01000
Thika

Dear Peris,

APPLICATION NUMBER: PKU/796/1863 "RELATIONSHIP BETWEEN AGE-APPROPRIATE REPRODUCTIVE INFORMATION AND PREVALENCE OF RISKY SEXUAL BEHAVIOURS AMONG SECONDARY SCHOOL ADOLESCENTS IN KIAMBU COUNTY, KENYA"

1. **IDENTIFICATION OF PROTOCOL**

The application before the committee is with a research topic "**Relationship Between Age-Appropriate Reproductive Information and Prevalence of Risky Sexual Behaviours Among Secondary School Adolescents in Kiambu County,Kenya** " received on 15th January, 2018 and discussion on 13th February, 2018

2. **APPLICANT**

Peris Murugi Mureithi

3. **SITE**

Kiambu County, Kenya

4. **DECISION**

The committee has considered the research protocol in accordance with the Kenyatta University Research Policy (section 7.2.1.3) and the Kenyatta University Ethics Review Committee Guidelines and **APPROVED that the research may proceed for a period of ONE year from**

5. **ADVICE/CONDITIONS**

i. Progress reports are submitted to the KU-ERC every six months and a full report is submitted at the end of the study.
ii. Serious and unexpected adverse events related to the conduct of the study are reported to this committee immediately they occur.
iii. Notify the Kenyatta University Ethics Committee of any amendments to the protocol.
iv. Submit an electronic copy of the protocol to KUERC.

When replying, kindly quote the application number above.
If you accept the decision reached and advice and conditions given please sign in the space provided below and return to KU-ERC a copy of the letter.

KENYATTA UNIVERSITY
P. O. BOX 43844 - 00100 NAIROBI
APPROVED
★ 24 MAY 2018 ★
OFFICE OF THE CHAIRMAN
ETHICS REVIEW COMMITTEE

DR. TITUS KAHIGA
CHAIRMAN ETHICS REVIEW COMMITTEE

I PERIS MURUGI. N ..accept the advice given and will fulfill the conditions therein.

Signature..... Dated this day of 29/5/2018 ..... 2018.

cc.
DVC-Research Innovation and Outreach

NATIONAL COMMISSION FOR SCIENCE, TECHNOLOGY AND INNOVATION

Telephone: +254-20-2213471,
2241349,3310571,2219420
Fax: +254-20-318245,318249
Email: dg@nacosti.go.ke
Website : www.nacosti.go.ke
When replying please quote

NACOSTI, Upper Kabete
Off Waiyaki Way
P.O. Box 30623-00100
NAIROBI-KENYA

Ref. No. **NACOSTI/P/18/26361/20431**

Date **5th July, 2018**

Peris Murugi Mureithi
Kenyatta University
P.O. Box 43844-00100
NAIROBI.

RE: RESEARCH AUTHORIZATION

Following your application for authority to carry out research on ***"Relationship between age-appropriate reproductive information and prevalence of risky sexual behaviours among secondary school adolescents in Kiambu County, Kenya"*** I am pleased to inform you that you have been authorized to undertake research in **Kiambu County** for the period ending **5th July, 2019.**

You are advised to report to **the County Commissioner and the County Director of Education, Kiambu County** before embarking on the research project.

Kindly note that, as an applicant who has been licensed under the Science, Technology and Innovation Act, 2013 to conduct research in Kenya, you shall deposit **a copy** of the final research report to the Commission within **one year** of completion. The soft copy of the same should be submitted through the Online Research Information System.

DR. STEPHEN K. KIBIRU, PhD.
FOR: DIRECTOR-GENERAL/CEO

Copy to:

The County Commissioner
Kiambu County.

The County Director of Education
Kiambu County.

NATIONAL COMMISSION FOR SCIENCE, TECHNOLOGY AND INNOVATION

Telephone: 254-20-2213471
2241349,3310571,2219420
Fax: +254-20-318245,318249
Email: dg@nacosti.go.ke
Website: www.nacosti.go.ke
When replying please quote

NAKURU: Upper Kabete
Off Waiyaki Way
P.O. Box 30623-00100
NAIROBI-KENYA

Ref. No. **NACOSTI/P/18/26361/20431**

Date: **5th July, 2018**

Peris Murugi Mureithi
Kenyatta University
P.O. Box 43844-00100
NAIROBI.

COUNTY DIRECTOR OF EDUCATION
KIAMBU COUNTY
P. O. Box 2300-00900
KIAMBU

RE: RESEARCH AUTHORIZATION

Following your application for authority to carry out research on ***"Relationship between age-appropriate reproductive information and prevalence of risky sexual behaviours among secondary school adolescents in Kiambu County, Kenya"*** I am pleased to inform you that you have been authorized to undertake research in **Kiambu County** for the period ending **5th July, 2019.**

You are advised to report to **the County Commissioner and the County Director of Education, Kiambu County** before embarking on the research project.

Kindly note that, as an applicant who has been licensed under the Science, Technology and Innovation Act, 2013 to conduct research in Kenya, you shall deposit **a copy** of the final research report to the Commission within **one year** of completion. The soft copy of the same should be submitted through the Online Research Information System.

DR. STEPHEN K. KIBIRU, PhD.
FOR: DIRECTOR-GENERAL/CEO

Reported on 14th January 2019 and approved to visit secondary schools for the research in Kiambu East Sub County
19/01/2019
SUB COUNTY DIRECTOR OF EDUCATION
P.O. BOX ... 01000
THIKA

Copy to:

The County Commissioner
Kiambu County.

The County Director of Education
Kiambu County.

Appendix IX: Research Permit

CONDITIONS

1. The License is valid for the proposed research, research site specified period.
2. Both the Licence and any rights thereunder are non-transferable.
3. Upon request of the Commission, the Licensee shall submit a progress report.
4. The Licensee shall report to the County Director of Education and County Governor in the area of research before commencement of the research.
5. Excavation, filming and collection of specimens are subject to further permissions from relevant Government agencies.
6. This Licence does not give authority to transfer research materials.
7. The Licensee shall submit two (2) hard copies and upload a soft copy of their final report.
8. The Commission reserves the right to modify the conditions of this Licence including its cancellation without prior notice.

REPUBLIC OF KENYA

National Commission for Science, Technology and Innovation

RESEARCH CLEARANCE PERMIT

Serial No.A 19198

CONDITIONS: see back page

THIS IS TO CERTIFY THAT:
MS. PERIS MURUGI MUREITHI
of KENYATTA UNIVERSITY, 2715-1000 thika,has been permitted to conduct research in *Kiambu County*

on the topic: *RELATIONSHIP BETWEEN AGE-APPROPRIATE REPRODUCTIVE INFORMATION AND PREVALENCE OF RISKY SEXUAL BEHAVIOURS AMONG SECONDARY SCHOOL ADOLESCENTS IN KIAMBU COUNTY, KENYA.*

for the period ending:
5th July,2019

.....
Applicant's Signature

Permit No : NACOSTI/P/18/26361/20431
Date Of Issue : 5th July,2018
Fee Recieved :Ksh 1000

.....
Director General
National Commission for Science, Technology & Innovation