

**INFLUENCE OF SEXUALITY EDUCATION ON STUDENTS'
BEHAVIOUR AND ATTITUDE TOWARDS SEXUALITY ISSUES IN
SECONDARY SCHOOLS IN KOSIRAI DIVISION, NANDI COUNTY,
KENYA**

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UNIVERSITY**

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DECLARATION

I declare that this document and the research it describes are my original work and that they have not been presented in any other university for academic work

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This research was conducted under our supervision and is submitted with our approval as University supervisors

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DEDICATION

This thesis is dedicated to my husband Reuben Too and children Brian Kimutai, Bradley Kipchirchir and Beverline Jelagat for giving me time and encouragement to study.

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TABLE OF CONTENTS

DECLARATION.....	ii
DEDICATION.....	iii
ACKNOWLEDGEMENT.....	iv
TABLE OF CONTENTS	v
LIST OF TABLES	ix
LIST OF FIGURES	x
ABSTRACT.....	xi
ABBREVIATIONS AND ACRONYMS.....	xii
OPERATIONAL DEFINITION OF TERMS.....	xiii
CHAPTER ONE	1
INTRODUCTION AND BACKGROUND OF THE STUDY.....	1
1.1 Introduction.....	1
1.2 Background of the Study	1
1.3 Statement of the Problem.....	6
1.4 Purpose of the Study	7
1.5 Objectives of the Study	7
1.6 Null Hypotheses of the Study	7
1.7 Significance of the Study	8
1.8 Scope of the Study	8
1.9 Delimitations of the Study	9
1.10 Limitations of the Study.....	9
1.11 Assumptions of the Study	9
1.12 Theoretical Framework.....	10
1.13 Conceptual Framework.....	11
CHAPTER TWO	13

LITERATURE REVIEW	13
2.1 Introduction.....	13
2.2 Concept of Human Sexuality Education.....	13
2.3 Human Sexuality Education and Students’ Perception of Premarital Sex	17
2.4 Human Sexuality Education and Students Management of their body Changes at Adolescence	20
2.5 Human Sexuality Education and Students ‘Attitude towards Aberrant Sexual Practices	27
2.6 Summary of Literature Review and knowledge Gap.....	30
CHAPTER THREE	32
RESEARCH DESIGN AND METHODOLOGY	32
3.1 Introduction.....	32
3.2 Research Design.....	32
3.3 Research Site.....	32
3.4 Target Population.....	33
3.5 Sample Size and Sampling Techniques	34
3.6 Data Collection Measures	34
3.6.1 Students’ Questionnaire	35
3.7 Validity and Reliability of Data Collection Instruments	36
3.7.1 Validity	36
3.7.2 Reliability.....	37
3.8 Data Processing and Analysis.....	37
3.9 Legal and Ethical Considerations	38
CHAPTER FOUR.....	39
RESULTS AND ANALYSIS	39
4.1 Introduction.....	39
4.2 Response Rate.....	39
4.3 Demographic Information.....	39

4.3.1 Gender of Respondents	40
4.3.2 Age Bracket of Students	40
4.4.1 Testing of Null Hypothesis One	47
4.5 Human Sexuality Education and Students' Management of Body Hormonal Changes	50
4.5.1 Testing of Null Hypothesis Two.....	55
4.6 Teaching of Human Sexuality and Students' Attitude towards Aberrant Sexual Practices	57
4.6.1 Testing of Null Hypothesis Three.....	61
4.7 Aspects of Human Sexuality Education	64
4.7.1 Sources of Human Sexuality Education	64
CHAPTER FIVE	69
DISCUSSION, SUMMARY, CONCLUSION AND RECOMMENDATIONS	69
5.1 Introduction.....	69
5.2 Discussion.....	69
5.2.1 Influence of Human Sexuality Education on Students' Perception on Premarital Sexual Relationships.....	69
5.2.2 Influence of Human Sexuality Education on Students' Management of Body Changes at Adolescence	73
5.2.3 Influence of Human Sexuality Education on Students' attitude towards Aberrant Sexual Practices	76
5.3 Summary of Major Findings.....	80
5.4 Conclusion	82
5.5 Recommendations of the Study	82
5.5 Suggestions for Further Research	83
REFERENCES.....	84
APPENDIX I: LETTER OF TRANSMITTAL	93
APPENDIX II: STUDENTS' QUESTIONNAIRE	94
APPENDIX III: GUIDANCE AND COUNSELING TEACHERS' INTERVIEW SCHEDULE.....	100

APPENDIX IV: INTRODUCTION LETTER FROM AFRICA NAZARENE UNIVERSITY	101
APPENDIX V: RESEARCH PERMIT FROM NACOSTI.....	102
APPENDIX VI: MAP OF KENYA SHOWING NANDI COUNTY.....	103

LIST OF TABLES

Table 3.1: The Study Sample Frame.....	34
Table 4.1: Gender Distribution of Respondents.....	40
Table 4.2: Students' Age Bracket Distribution.....	41
Table 4.3: Students' Perceptions on Premarital Sexual Relationships	43
Table 4.4: Model Summary	48
Table 4.5: Model Significance (ANOVA).....	49
Table 4.6: Model Coefficient.....	49
Table 4.7: Students' Response on Management of Body Changes at Adolescence.....	51
Table 4.8: Model Summary	55
Table 4.9: Model Significance (ANOVA).....	56
Table 4.10: Model Coefficient.....	57
Table 4.11: Students' attitude toward Aberrant Sexual Practices.....	58
Table 4.12: Model Summary	62
Table 4.13: Model Significance (ANOVA).....	63
Table 4.14: Model Coefficient.....	63
Table 4.15: Students' Responses on Aspects of Human Sexuality Education	67

LIST OF FIGURES

Figure 1.1: Conceptual Framework showing the envisaged relationship between Sexuality Education and the Students' Attitude and Behaviour	11
Figure 4.1: Students' Religion	42
Figure 4.2: Frequency of Students' Participation in sex for the Past One Year	45

ABSTRACT

Despite the consistent offering of human sexuality education in secondary schools in Kosirai division, Nandi County, student pregnancies, sexual violence and reports of unusual sexual behaviours have been on the rise. In light of this, the current study purpose was to examine the influence of sexuality education on students' behavior and attitude towards sexuality issues in Secondary Schools in Kosirai Division, Nandi County. Specifically, the study embarked to establish the influence of sexuality education on students' perception of premarital sexual relationships, to examine the influence of sexuality education on students' management of body changes at adolescence, and to establish the influence of sexuality education on students' attitude towards aberrant sexual practices in secondary schools in Kosirai Division. The study was anchored on Albert Bandura's Social Cognitive Theory. The study adopted cross-sectional survey research design. The study targeted 2400 form three students and 24 guidance and counseling teachers. Students' questionnaire and guidance and counseling teachers' interview schedule were used for data collection. Content and construct validity of the data collection instruments were ascertained through scrutiny by two university supervisors while reliability was estimated by use of test retest technique. Quantitative data were analyzed by use of descriptive statistics such as percentages frequencies, means and standard deviations. Qualitative data were put into themes and analyzed according to objectives. The three formulated null hypotheses were tested through simple linear regression analysis. It was found that sexuality education had a statistically significant influence on students' perception of premarital sex relationships ($\beta = 0.382$, $t(239) = 5.284$, $p < 0.05$), as well as students' management of body changes at adolescence ($\beta = 0.529$, $t(239) = 5.284$, $p < 0.05$). However, sexuality education had no statistically significant influence on students' attitude towards aberrant sexual practices ($\beta = 0.278$, $t(239) = 3.728$, $p = 0.163$). The study concluded that most of the students in secondary schools in Kosirai division have inadequate information on homosexuality, dangers of premarital sex, as well as safety measures. It was recommended that to enable students to acquire realistic perceptions towards premarital sex they need more comprehensive information in regard to their sexuality.

ABBREVIATIONS AND ACRONYMS

AE	Abstinence Education
AIDS	Acquired Immune Deficiency Syndrome
ANOVA	Analysis of Variance
AOE	Abstinence-Only Education
AOUM	Abstinence-Only Until Marriage
CRE	Christian Religious Education
CSE	Comprehensive Sexuality Education
G&C	Guidance and Counseling
HIV	Human Immunodeficiency Virus
KICD	Kenya Institute of Curriculum Development
LGBT	Lesbian, Gay, Bisexual and Transgender
MOE	Ministry of Education
NGOs	Non-Government Organizations
SD	Standard Deviation
STD	Sexually Transmitted Disease
STI	Sexually Transmitted Infections
TV	Television
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNFPA	United Nations Population Fund
UNICEF	United Nations Children’s Fund
USA	United States of America
WHO	World Health Organization

OPERATIONAL DEFINITION OF TERMS

Aberrant Sexual Practices: refers to unusual sexual practices such as sex and intimacy between people of same gender

Abstinence: refers to voluntarily staying away from sexual practices until when one is ready or willing to do it.

Adolescence: refers to the period of psychological and social transition between puberty and adulthood.

Attitude: refers to an opinion or general feeling about something.

Comprehensive Sex Education: refers to an age-appropriate, culturally relevant approach to teaching about sex and relationships by providing scientifically accurate, realistic, non-judgmental information.

Human Sexuality: refers to the sexual knowledge, beliefs, attitudes, values, and behaviors of individuals. Its various dimensions include the anatomy, physiology, and biochemistry of the sexual response system; identity, orientation, roles, and personality; and thoughts, feelings, and relationships.

Masturbation: refers to self-stimulation that arouses a person, one can reach orgasm or not.

Premarital sex: refers to the act of sexual activity before marriage

Puberty: refers to the process of physical changes through which a child's body matures into an adult body capable of sexual reproduction. It is initiated by hormonal signals from the brain to the gonads: the ovaries in a girl, the testes in a boy.

CHAPTER ONE

INTRODUCTION AND BACKGROUND OF THE STUDY

1.1 Introduction

This chapter provides the background of the study. The chapter also contains statement of the problem, purpose of the study, objectives, hypotheses, significance, scope, delimitations, limitations and assumptions of the study. The chapter closes with a focus on the study's theoretical framework and conceptual framework.

1.2 Background of the Study

Children and youth grow up in a rapidly changing world where globalization and technological advancements expose them to a wide range of influences from around the world (Woog, Singh, Brown & Philbin, 2015). They need to acquire the knowledge, skills, values and attitudes which will allow them to develop healthy and responsible relationships and make informed and responsible decisions. While parents play the primary role, schools have a complementary role in providing sexuality education as part of a holistic education (Haberland, 2015). Haberland and Rogow (2015) posit that with accurate, current and age-appropriate knowledge, and social and emotional skills, our children and youth will be equipped to protect themselves from sexual advances and abuse, and avoid sexual experimentation and activities that lead to problems related to teenage pregnancies, sexually transmitted infections (STIs) and HIV.

Comprehensive sexuality education is a human right issue anchored on several United Nations conventions such as the International Covenant on Economic, Social and Cultural Rights; Convention on the Rights of the Child; the Convention on the Elimination of All Forms of Discrimination against Women; the Convention on the Rights of Persons with Disabilities and the International Covenant on Civil and Political Rights (Shek & Leung.,

2019). These and other documents establish the right to education and information about sexuality, sexual and reproductive health and HIV. They assert that sexuality education is essential for the realization of other human rights. Furthermore, many of these documents argue that sexuality education programmes should actively promote the principles of equality, equity and non-discrimination. Indeed, the achievement of gender equality and non-discrimination are themselves global mandates, established in multiple human rights documents (UNFPA, 2014).

School-based Comprehensive Sexuality Education (CSE) provides a structured opportunity for students to gain practical skills and knowledge to explore their values and attitudes and to practice the skills necessary for making healthy informed choices about their sexual lives and relationships in school and beyond (Kirby 2007; UNFPA 2014; UNESCO 2018). According to Nations Population Fund (2016), several research studies have confirmed that CSE delay sexual debut, reduce the number of sexual partners and increase condom or contraceptive use. As such many countries have embarked on implementation of CSE. As noted by Leung, Shek, Leung and Shek (2019), youths worldwide are still bearing the brunt in HIV infections and other sex related calamities. For instance, In the United States of America (U.S.A), young people (aged 15–24 years old) account for 50% of all new STDs. Furthermore, 25% of sexually active adolescent females have an STD such as chlamydia or HPV (Centers for Disease Control & Prevention, 2017).

Hall, McDermott, Komro, and Santelli (2016) observe that in USA, sex education is often included as part of health or physical education (PE) curriculum for high school students, which is delivered by health and PE teachers. Hall et al., (2016), however, regret that there remains a lack of evidence-based conceptual models on comprehensive sex

education for adolescents in the U.S. In United Kingdom, relationship education is compulsory in all primary schools. Whereas, sex and relationship education (SRE) must be a part of the secondary school curricula (Pound, Langford & Campbell, 2016).

A review of implementation of CSE in Thailand in 2016, indicated that nearly all vocational institutions and secondary schools provide CSE instruction, either as an integrated or standalone subject or both (Thailand MOE, 2006). The review revealed that, although diverse topics are covered in the CSE curriculum, most of the CSE teachers taught about sexuality from a point of view that emphasizes the negative consequences of sex, neglecting the positive aspects or promote students' analytic and critical-thinking skills related to sexuality. It was also found that, teachers spent more time on topics related to sexual anatomy and development, prevention of teenage pregnancy, sexually transmitted infections and HIV. Topics related to gender, citizenship and sexual rights; gender inequality; sexual and gender diversity; safe abortion; bullying and safe sex for same-sex couples are less often taught. The findings further indicated there were many students who lacked clear information in regard to contraception and communication and negotiation skills vital in their sexual lives. Only a minority of teachers use activity-based pedagogy as recommended in CSE. Majority of teachers rely on lectures as their CSE teaching method, thus, denying students opportunities to ask questions or develop their analytic thinking skills. Other countries that have adopted comprehensive sexuality education and have the lowest teen pregnancy rates in the world include Switzerland, the Netherlands and Denmark (WHO, 2018).

Kenya is a signatory to various international and regional conventions which champion human rights including right to education and information about sexuality, sexual and reproductive health and HIV. For instance, in December 2013, ministers of Education and

Health from 20 Eastern and Southern African (ESA) countries, including Kenya, signed the Ministerial Commitment on Comprehensive Sexuality Education and Sexual and Reproductive Health Services for Adolescents and Young People in Eastern and Southern Africa (Ministries of Education & Health, 2013), which set specific targets for school-based CSE to be achieved in 2015 and 2020.

Wanzala (2019), in an article “ Kenya dilly-dallies on sex education as other countries reap the benefits” notes that although the Kenyan government signed a declaration in 2013 in which it committed to scale up comprehensive rights-based sexuality education beginning in primary school, it is yet to fulfil the commitment. Panchaud et al., (2019) attributes the set back to the great opposition from lobby groups and conservative churches such as the Catholic Church, which want the government to review CSE, terming it destructive and un-African. Human rights activists under the umbrella group CitizenGo called on the Ministry of Education to ensure the comprehensive sex education programme is stopped in schools (Nyamai, 2019). They termed the content CSE curriculum as chilling, embarked on teaching children on masturbation, homosexuality, abortions, and access to contraceptives, sex as a right, transgender, erosion of parental roles and promiscuity at a tender age.

Panchaud, Keogh, Stillman, Awusabo-Asare, Motta, Sidze & Monzón, (2019) note that, in Kenya, there has been lack of collaboration between government and civil society in regard to implementation of CSE until recently when the advocacy consortium ‘Right Here Right Now’ came on board. Further, although the National School Health Policy (2009) provides a framework for a multi-sectoral approach, this approach has not yet been defined between the education and the health sectors. The Ministry of Health manages the Adolescent Sexual and Reproductive Health Policy (on which CSE relies) and the

Ministry of Education is in charge of curriculum development. However, lack of coordination and collaboration between the two ministries in regard to development of CSE policy and curricula has been apparent as demonstrated by Kenya NGO consortium comment:

There is a wide gap between the policy at Ministry of Education level and at Ministry of Health level because the ASRH policy is more owned by the Ministry of Health [. . .] For instance, the Ministry of Health, under that policy says that any young people, I think from fourteen years, have a right to access condoms, but when you go to schools, condoms are not allowed to be supplied in schools (p 32).

Nonetheless, Kenya Institute of Curriculum Development (KICD), reiterates that the curriculum has had sex education that tackles all the stages of growth from tender age to adolescence, and any teaching materials that are not approved by KICD are illegal and schools must reject them (Nyamai, 2019). At secondary level, most of sex education topics are taught in Christian religious education (CRE) and Biology. Additional teachings are done through life skills lessons and guidance and counseling sessions. This implies that if a student fails to take CRE and Biology, much of information on human sexuality is missed out.

Most of secondary schools in Kosirai division, which are the focus of this study, are sponsored by the local churches and CRE as a subject is highly emphasized right from form one to four (MOE, 2017). As such, by the time students are in form 4, they have covered most of the topics on sexuality and it is assumed that the content must have influenced their behavior and outlook towards human sexuality issues. However, the relatively high prevalence of teenage pregnancies, abortion and incidences of sexual violence report as contained in the Nandi County schools census report of 2017 (MOE, 2017), warrants an investigation. The current study embarked on examining the extent to which sexuality education influenced students' perception of premarital sex, management of body changes at puberty and attitude towards aberrant sexual practices.

1.3 Statement of the Problem

In Kenya, sexuality education is aimed at helping students understand the physiological, social and emotional changes they experience as they mature, develop healthy and rewarding relationships, and make wise, informed and responsible decisions on sexuality matters (Sidze, 2017). It is also hoped to delay sexual debut, forestall teenage pregnancies and reduce STI and HIV infections. However, in the recent past, several studies have been published showing that Kenyan youth are making their sexual debut while they are still very young (Panchaud, 2019; UNESCO, 2018).

The Kenya Demographic and Health Survey 2014, reveals that many Kenyans aged between 15 – 18 years are having sex and too many of them do not have sufficient knowledge about HIV transmission and prevention (Republic of Kenya, 2014). The survey further revealed that about 2 out of 10 boys and girls have their first sexual encounter by age 15, which rises to about 5 out of 10 by age 18. By age 15, three per cent of girls are already child bearing and this rises to 40% by age 19. A World Bank report on the teen fertility rates, countries such as Switzerland, the Netherlands and Denmark are among the top 10 with the lowest rates while Kenya is at number 158 out of the 194 countries on the list (Nyamai, 2019).

In light of the aforementioned report, the effectiveness of the sexuality education provided to Kenyan learners is brought to doubt. In Nandi County, the school census report of 2017, shows that Kosirai division secondary school had a high girls' dropout rate of about 10% due to teenage pregnancy (MOE, 2017). Further, there were isolated reports of incidences of aberrant sexual behaviors and sexual harassment. To that end, the researcher embarked on a study to investigate the influence of sexuality education on

students' behavioral change with a view of coming up with recommendations to arrest the situation.

1.4 Purpose of the Study

The purpose of the study was to examine the influence of sexuality education on students' behavior and attitude towards sexuality issues in secondary schools in Kosirai Division, Nandi County. The study aimed at making recommendations on the current abstinence-only sexuality education among other recommendations.

1.5 Objectives of the Study

The study was guided by the following objectives;

- (i). To establish the influence of sexuality education on students' perception of premarital sexual relationships in secondary schools in Kosirai Division, Nandi County.
- (ii). To examine the influence of sexuality education on students' management of body changes at adolescence in secondary schools in Kosirai Division, Nandi County
- (iii). To establish the influence of sexuality education on students' attitude towards aberrant sexual practices in secondary schools in Kosirai Division, Nandi County.

1.6 Null Hypotheses of the Study

The research formulated and tested the following hypotheses at 95% confidence level

- (i). Sexuality education has no statistically significant influence on students' perceptions of premarital sexual relationships in secondary schools in Kosirai Division, Nandi County
- (ii). Ssexuality has no statistically significant influence on students' management of body changes at adolescence in secondary schools in Kosirai Division Nandi County

- (iii). Sexuality has no statistically significant influence on students' attitudes towards aberrant sexual practices in secondary schools in Kosirai Division, Nandi County.

1.7 Significance of the Study

Oso and Onen (2009) aver that significance of the study refers to the relevance of the study in terms of academic contributions and practical use that might be made of the findings. It shows how the research benefits or impacts others in part or whole. It also highlights the contributions of the research to other researchers, practitioners and policy makers.

This study sought to examine the influence of sexuality education on students' behavior change in secondary schools in Kosirai division, Nandi County. The findings of this study might be useful to the Ministry of Education especially in guiding policy that involves the teaching of sex education in our schools. The study would also help the schools, teachers and administrators to provide proper guidelines on how the teaching of sex education should be conducted in order to bear a greater influence on students' behaviour and attitude. The study might also provoke a debate among parents, religious leaders, conservative human rights activists, MOE and pro comprehensive sexuality education activists in order to find a middle position on sex education curriculum in Kenya. Lastly, the study findings may provide reference material for other researchers in regard to human sexuality education in schools in Kenya.

1.8 Scope of the Study

Marylin and Goes (2013) proffer that the scope of the study delineates the geographical and methodology boundaries. The study was conducted in Kosirai division, Nandi County and involved both private and public secondary schools pupils and teachers. The study

adopted non experimental research design and as such there was no manipulation of variables and the causal and effect could not be ascertained.

1.9 Delimitations of the Study

Simon and Goes (2013) point out that study delimitations are those features which arise from limitations of the study as well as the sensible exclusionary and inclusionary choices made during the development of the research plan. Delimitations are within the researcher's control. Though there were other factors that might have been influenced by human sexuality education, the current study was delimited to students' perception of premarital sexual relationships, management of body changes at puberty and attitude towards aberrant sexual practices in secondary schools in Kosirai division.

1.10 Limitations of the Study

Simion and Goes (2013) define limitation as issues and incidences that occur in a study which are out of the researcher's power. This study investigated sexuality issues that most people in Kenya consider to be a taboo (Nyamai, 2019). Thus, the investigation was considered as an intrusion into the individuals' privacy prompting some respondents to shy away from answering some questions. To deal with this problem, the researcher assured the respondents confidentiality and privacy of their identities and information revealed. Some shy and conservative teachers may not have mentioned or instructed students in regard to some unusual sexual behaviours such as same gender sex and sex with animals. As such, the knowledge possessed by some students on aberrant practices could not be attributed to sexuality education at school.

1.11 Assumptions of the Study

Simon (2011) explicates that assumptions are underlying ideologies that the researcher trusts or admits but that are difficult to attest in any actual way. In other words,

assumptions are realistic expectations believed to be true facts necessary for the relevance of the study as they provide the basis of the development and implementation of the research. It was assumed that all the students' respondents had received substantial sex education at school since their primary education through various subjects and also through life skills and guidance and counseling sessions. It was also assumed that although the Kenya constitution legalizes only the opposite sex unions, teachers who teach human sexuality give sufficient information on same gender sexual relationships and the view of the society towards these unusual practices.

1.12 Theoretical Framework

Glanz (2008) infers that a theory is a set of interrelated concepts, propositions and definitions which explain or try to predict situations or events by specifying the relations among variables. The theoretical framework of this research study is based on the perception of teachers and students' attitudes as well as the social learning process. Psychologists define social learning as the learning that occurs as a result of social interaction (LeFrancois, 2012). Students in a classroom situation imitate the knowledge, attitudes, and behaviors of their teachers when matters of sexuality arise. Teachers on the other hand may have their behaviors influenced by personal experiences during the time they were with students (Klein & Breck, 2010). Given the importance of sexual behavior change as a result of social learning, Albert Bandura's Social Cognitive Theory provides a framework for situating this study. The theory argues that behavior is occasioned by specific drives. These drives are stimulated by particular stimuli. The social learning theory discusses the process of sharing and gathering knowledge as a result of direct observation in the social context. According to Bandura, observational learning is an important source of development (Berk, 2009). Observational learning can be expressed in the form of imitation. Young people imitate sexually suggestive behaviours from the

social media, friends and significant others. The social theory also demonstrates how knowledge can be gained through sharing of ideas among people. The behavior modification that arises as a result of sexuality education is a consequence of social awareness which in this study is related with perception and learning. These two attributes form the major concern of the recent revisions of Bandura's social cognitive theory (Berk, 2009).

1.13 Conceptual Framework

A conceptual framework is a hypothetical model identifying the phenomenon under study and their relationship (Padgelt, 2007). Figure 1.1 depicts the study conceptual framework.

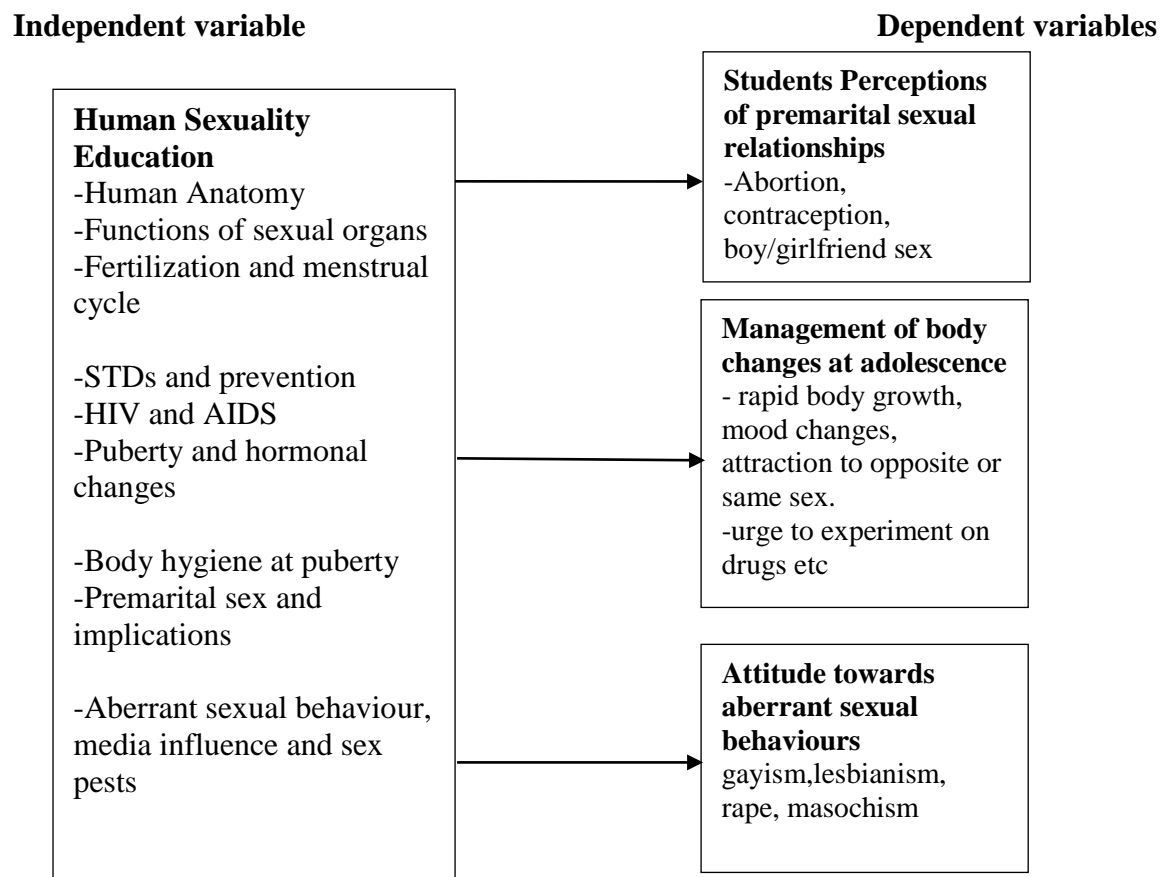


Figure 1.1: Conceptual Framework showing the envisaged relationship between Sexuality Education and the Students' Attitude and Behaviour

As shown in Figure 1.1, sexuality education was envisaged to influence the students' perception of premarital sex, management of body changes at adolescence and attitude towards aberrant sexual practices. Sexuality education includes all what the students have been taught in subjects such as biology classes, Christian religion education (CRE), and guidance and counselling sessions.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter explores the related literature on the influence of teaching human sexuality on students' behavior change. The chapter opens with a treatise of the 'concept of human sexuality education' as taught in schools. The review literature proceeds as per the study objectives in the following order: the influence of teaching human sexuality on students' perception of premarital sexual relationships; the influence of teaching human sexuality on students' management of body hormonal changes at adolescence; the influence of teaching human sexuality on students' openness about sexuality issues and the influence of teaching human sexuality on students' attitudes towards aberrant sexual practices. The chapter closes with a brief summary of literature review and research gaps.

2.2 Concept of Human Sexuality Education

Sexuality education refers to an education process that entails culturally relevant approach to teaching on relationships and sex by providing non-judgmental, scientifically accurate and realistic information while considering the age of the audience (UNESCO, 2018). This definition acknowledges that the aim of sex education extends beyond the transfer of knowledge on human physiology, reproductive system, or the prevention of sexually transmitted infections (STIs). Rather, sex education is conceptualized holistically with the goal of empowering youths to better understand their sexuality and relationships, which will ultimately improve adolescents' sexual health and overall quality of life (WHO, 2018). This is in line with WHO (2018) assertion that sexual health is not merely the absence of disease, dysfunction or infirmity, but should be considered as a state of physical, mental, emotional and social well-being in relation to sexuality. Therefore, sexual health calls for a positive and respectful approach to sexuality and sexual

relationships with a possibility of having voluntary and responsible sexual experiences. Furthermore, for the maintenance of sexual health, sexual rights of all persons must be respected, protected, and fulfilled (Leung, Shek, Leung & Shek, 2019).

Sex education programs may be school-based led by teachers, health professionals, social workers, or peers; community-based; or family-based. Leung et al. (2019) explicates that there are various approaches to sex education such as abstinence-only education (AOE), abstinence-only-until-marriage (AOUM), abstinence education (AE), and comprehensive sex education (CSE). Leung et al. (2019) further observes that Abstinence-only education or abstinence-only-until-marriage programs, have religious origins and advocate the complete refraining of sex outside of wedlock, including masturbation. Abstinence is perceived moralistically, where notions of chastity and virginity and chastity are emphasized and a mutually faithful monogamous relationship in the context of marriage is the promoted (Pound, Langford & Campbell, 2016). Under this approach, students' character and morality are core issues. Policies prohibit or limit the mention of contraception in sex education, and biased findings of contraceptive methods such as condoms and birth control pills, as failures are often presented. Advocates believe that abstinence-only message will be compromised by providing students with information on where to obtain and how to use contraception and encourage immoral and health-compromising sexual behaviors which will, in turn, increase the rates of unwanted pregnancy and sexually transmitted diseases (Kirby, 2007).

As such, the advocates of abstinence-only believe that the sole unfailing way to prevent STDs and unwanted pregnancies is through abstinence. Thus sexual activity is discouraged through fear, shame and guilt instilling in relation to sexual activity. Moreover, it has been criticized that AOE programs present scientifically inaccurate

information, use stereotypical gender roles that discriminate against female students such as portraying women as the “gatekeepers” of men’s virginity, blaming women for men’s sexual indiscretions. In addition they overemphasize religious messages (LeClair, 2016). Nonetheless, these approaches are popular with mostly conservative and religious groups (Santelli & Kantor, 2016).

Proponents of abstinence (AE) approach conceptualize it as a behavioral and public health issue as opposed to AOE and AOUM approaches which perceive abstinence under a moral issue. Abstinence approach advocates behaviors such as delaying sex, avoidance of vaginal sex, or refraining from engaging in further sexual intercourse even if one has already had sexual experience. Abstinence, however, does not prohibit other sex-related behaviors such as kissing petting, masturbation, anal or oral sex (Kohler, Manhart & Lafferty, 2008).

Under comprehensive sex education (CSE), abstinence is just a part of a range of prevention strategies on contraception to prevent STDs and unwanted pregnancy (Kohler, et al. 2008). That is, CSE is broader and it covers the same topics as sex education but also includes issues such as relationships, sexual roles, and attitudes towards sexuality, gender relations and the social pressures to be sexually active. It also provides information about sexual and reproductive health services. While sexuality education content may be adapted to reflect specific cultural and linguistic contexts, certain core topics that must be included to maintain quality and meet international standards regarding what constitutes comprehensive sexuality education. The International Technical Guidance on Sexuality Education divides these core topics into six content areas, namely: relationships; values, attitudes and skills; culture, society and human rights; human development; sexual behavior; and sexual and reproductive health

(UNESCO, 2009). Moreover, according to United Nations Population Fund (UNPF) (2016), CSE is curriculum-based and rights-based participatory approach that integrates focus on gender.

In order to provide both teachers and students with opportunities to review and adjust their sexual attitudes and values, teachers should receive appropriate training on how to use learner-centered teaching processes. Diverse learning activities, such as practical demonstrations, discussions and debates, individual and group assignments, role-playing, as well as homework, facilitate learning (Haberland, 2015)

Implementation of CSE has been found to be more effective than abstinence-based sexuality education in reducing risky sexual practices, delaying sexual debut, and increasing responsible behaviors (Haberland, 2015; Haberland & Rogow, 2015; UNESCO, 2015). Despite the positive results as result of CSE implementation, there are many countries including Kenya, whose implementation has been slowed down by opposition from conservative groups such as religion and NGOs (Baswony, 2016). Their main argument has been that providing such information to school going youth will be like giving them a licence to engage in sexual activity. Furthermore, some topics in CSE curriculum touch on controversial issues such as safe sex for same-sex couples or rights of lesbian, gay, bisexual, transgender (LGBT) students and use of contraceptives to control pregnancies and STIs (Baswony, 2016). However, the Kenyan curriculum has been having age appropriate sexuality education taught over several years through subjects such as CRE, Biology and Home Science. Additionally, sexuality education has is taught during guidance and counseling and life skill lessons (Kamau, 2016). The curriculum gradually introducing age-appropriate information consistent with the changing capacities of students. The Kenya Ministry of Health, in its National Adolescent

Sexual and Reproductive Health Policy (2015) as noted by Panchaud et al., (2019) advocates comprehensive sex education for 10 to 19-year-olds, including access to contraceptives, which is yet to be implemented.

2.3 Human Sexuality Education and Students' Perception of Premarital Sex

According to UNAIDS (2010), Recent research studies have shown that an estimate of about 50% of the millions of people affected with HIV/AIDS and STIs acquired them in their early age (below 25 years). Moyse (2009) brings out the long and short term effects of premarital and unprotected sex as a threat to the society. Unwanted pregnancies, STIs, HIV/AIDS as some of the effects cause great loss to the society. Akibu, Gebresellasie, Zekarias and Tsegaye (2017) outline the evidence from previous reports that students engage in premarital sex worldwide. Therefore students perceive premarital sex as a good thing due to the frequent cases of unusual sexual behaviours among them and their effects. It is therefore important to look into the effects of sexuality education in altering the perception of the students on pre-marital sex.

According to World Health Organization (2017), more than 2 million young people live with HIV/AIDS worldwide. The World Health Organization also reported that a third of the new HIV infections worldwide were estimated to occur among the youth to. A study by Ghaffary, Gharghani, Mehrabi, Ramezankhani and Movahed (2016) showed that religious-spiritual beliefs, character and health beliefs are the main categories that shape premarital sexual intercourse in adolescents. This brings the difference in the prevalence of the premarital sex incidences across the globe. This confirms a study by Muhammad, Shamssudin, Amin, Omar and Thurasamy (2016) that showed that although the Asian countries were conservative on the issues on premarital sex, globalization and the issue on technology will soon make the prevalence of the premarital sex go higher in the near

future. Technology, religion and culture therefore are seen as agents shaping human sexuality more as compared to sexual education among students.

A study conducted in USA by Silva (2012) that sought to establish the effectiveness of school-based sex education programs in the promotion of abstinent behaviour found out that there is a very minimal sex education intervention on abstinent behaviour among the students. Bocar and Perez (2013) conducted a study in Philippines USA that sought to identify the youth insights on premarital sex. The study showed that due to the modern technologies that are in the society, there are several incidents that challenge permissive attitudes to prosper. Technology transports changes in human sexuality. The youth in the modern society change their sexual perceptions due to what is presented to them by the technologies mostly by media. Both the studies claims that students perceive premarital sex as an act that is not wrong. The study therefore establishes that students get their sexual insights from media and peer in most cases. Sexual education is not perceived as an active role player in shaping the students perception on pre-marital sex in USA.

A study by Ofori and Dodoo (2017), shows that in Ghana, most unmarried people had have sex in their lives. The study further found that very few people had used condoms at their last sexual intercourse. The report also claimed that the use of condoms was propelled by sexual education. The study also states that teaching on the use of condoms and contraceptives works as compared to teaching on abstinence. This shows that sexual education is an issue that needs to be checked in the society. In a study by Ofori and Dodoo (2017) that sought to expound on Young People's Perceptions about Premarital Sex, Perceived Parent Values about Sex and Premarital Sexual Behaviour in Ghana had results that showed that nearly three out of every five young in the participants had engaged in sex. Further studies by Somers & Anagurthi (2014) confirmed that the youth

initiation into sex was highly affected by their social place, their own perception on premarital sex and most importantly their parent's perception on the same.

Linah, Kamuren, Kamara and Ntabo (2017) argue that an estimate of 23% of girls in secondary schools in Kenya drop out of schools due to unwanted pregnancies. Karman, Zulkiff, & Low (2007) claims that in Kenya, most young people engage in premarital sex and the behaviour is on increase. According to Nkereuwem and Alfred (2016) in a study to rule out the Perceived Factors Influencing Premarital Sexual Practice among University Students, Kenya as compared to other countries in Africa where their citizens still embrace culture e.g. Nigeria is the most affected with the pre-marital sex issues and their effects. The study further shows that this difference is brought forth by the perception of the youth on Pre-marital sex in the countries. This study confirms the study by Gharghani, Mehrabi, Ramezankhani and Movahed (2016) that ruled out the religious-spiritual beliefs, character and health beliefs as the main categories of causes of premarital sex. Therefore in Kenya, more is to be done in terms of administering sexual education to the school students.

More previous studies have confirmed that sexuality education is still very poor in Kenya. Wanyonyi (2014) confirms a study by Karanja (2004) outlining that there is no specific set up in the curriculum that addresses sex education in Kenya. The students only learn about sex education in the biology and SSE subjects and therefore sex education is not addressed exhaustively in schools. The studies further found out that peer and media are the most sources of sexual education among the youth in Kenya as compared to teachers, parents and churches. Due to this, the incidents of pre-marital sex are on rise among the Kenyan Students. Wanyonyi (2014) further present the situation of sex education in Kenyan schools as confusing and therefore there is no clear suggestion as to whether the

sexual education can be strengthened to change the perspective of pre-marital sexual act by students. Therefore from these studies, there is no clear connection between sexuality education and the pre-marital sex perspective by the students. In some other global studies, minimum impact of sexual education in changing the perspective of students on pre-marital sex is reported. Therefore there is dire need to strengthen the sexuality education in schools in Kenya. This study seeks to establish clear connection between sexual education and student perspective on pre-marital sex.

2.4 Human Sexuality Education and Students Management of their body Changes at Adolescence

Adolescence has been described as the transition period in life when an individual is no longer a child, but not yet an adult (Lebow, Sim & Kransdorf, 2015). It is a period in which an individual undergoes enormous physical and psychological changes. In addition, the adolescent experiences changes in social expectations and perceptions. Physical growth and development are accompanied by sexual maturation, often leading to intimate relationships (Okyay & Ergin, 2012). The individual's capacity for abstract and critical thought also develops, along with a sense of self-awareness when social expectations require emotional maturity. Adolescents have to cope, not only with changes in their physical appearance, but also with associated emotional changes and emerging and compelling sex urges. Bodily changes cause emotional stress and strain as well as abrupt and rapid mood swings. Getting emotionally disturbed by seemingly small and inconsequential matters is a common characteristic of this age group (Derman, 2013)

Although they do not exactly coincide with each other, adolescence and 'puberty' are used interchangeably (Yilmazer, 2013). Puberty is a part of the adolescence period, in which biological variation associated with genetic features and individual differences are the most obvious and reproductive capability is obtained. This reproductive capability is

observed with menarche in females and with sperm ejaculation in males. In fact, while puberty involves child's physical and sexual development, adolescence involves child's psychosocial development in addition to physical and sexual development. Therefore, adolescence may last longer than puberty (Aysel, Nevin & Aylin, 2016).

According to Greenleaf, Reel and Voelker (2015), Adolescent stage is characterised by both negative and positive body changes. These changes include body shape, weight status and appearance. Yager, Diedrichs, Ricciardelli & Halliwell (2013) argue that major psychological and biological changes takes place in the adolescent stage. The development of sexuality that takes place in this stage is very important since the body parts of the adolescent takes the adult shape. The study further argues that puberty is an important landmark of sexuality development. The body development during this stage can put the adolescent into stress. This call for the need to train the students on how to cope with these body changes: how to handle the changes and most importantly how to appreciate the changes that each other go through so as to minimize stress incidences. It is therefore important to include the aspect of coping with body changes in the school sexuality education.

Halliwell and Diedrichs (2014) observe that media plays a major role in influencing adolescents body image as it helps shape belief about the perceived ideal body. Internalization of and pressures to conform to these socially prescribed body ideals brings about the association between weight status and body image. Students normally experience weight-related bullying during adolescence and which can develop to negative body perceptions and dissatisfaction surrounding specific body parts (Halliwell & Diedrichs, 2014).

Importantly, the influence of body ideals interacts with a critical period of physical change during adolescence as well (Webb & Zimmer Gembek, 2014). Specifically, during puberty, the changes that occur are among the most rapid and diverse in human development. Changes occur in height, weight, body composition, body shape, as well as primary and secondary sex characteristics. Coincidentally, these changes happen when the youth is experiencing heightened exposure and subsequent comparisons to cultural ideals of beauty (Schaefer & Salafia, 2014). In the western world, cultural expectations emphasize girls to be thin and lean with large breasts as seen in television, print media, and online. Thus, changes associated with puberty, such as increases in adiposity and widening of the hips, may be perceived negatively and seen as incongruent with the prototypical and societally valued “thin ideal.” Conversely, in most African cultures, girls take pride when they develop noticeable hips and big bottoms (Caccavale, Farhat & Lamnotti, 2012).

Thus, early maturing girls are prone to developing a negative body image when they perceive their changing bodies to be misaligned with cultural ideals (Voelker, Reel & Greenleaf, 2015). Due to pressure to appear to acquire the preferred body, some girls use health hazard or life threatening measures. Appropriate guidance through sexuality education is vital at this particular stage. Although evidence indicates that adolescent boys report greater weight and appearance esteem than girls, they are not immune to body image concerns during adolescent development. Specifically, boys appreciate increase in height and muscle mass in line with cultural expectations to be tall and muscular (Okyay & Ergin, 2012). However, Late-maturing boys specifically, report greater body dissatisfaction as they envy their counterparts. The boys’ craze to acquire enormous muscles has, however, driven some boys to use dangerous drugs such as steroids (Lebow, Sim & Kransdorf, 2015). Such drugs can have adverse effects such as high blood

pressure, liver damage and testicular atrophy. Thus, the perception of physical changes in a sociocultural context plays a critical role in shaping body image throughout adolescence. A well-structured sexuality education can allay fears and anxiety as students try to acquire the perceived best body (Voelker et al. 2015).

According to Bezold, Konty, Day, Berger, Harr, Larkin, Napier, Nonas, Saha, Harris and Stark (2014) in a study that sought to show the effects of changes in physical fitness on academic performance among New York City Youth, increase in weight results to better performance. Also the effects of weight on academic performance were stronger in high poverty students than in the low-poverty. During the adolescence stage, the students start growing. Their bodies grow physically and they start to see major body changes in terms of growth. The growth of the body can be influenced by the lifestyle that a student lives. Therefore it is very important for the kids to learn how to cope with these rapid body changes. Another study by Kim and Cho (2017) that sought to analyse the changes in physical fitness and body composition according to the physical activities of Korean adolescents came up with a conclusion that the use of physical fitness exercises in schools will reduce the obesity cases among the students and hence help in the shaping of the body of the adolescents hence the incidences of body changes discrimination in schools will be reduced and this will result into high performance among the students. Therefore, since the puberty stage is the stage at which the body is most likely to change in terms of size, it is important for schools to train students on how to cope with their body growth.

Wang, Li, Stanton, Kamali, Naar-King, Shah and Thomas (2007) in a study conducted in China that sought to explain the patterns of communication, sexual attitude and sexual behaviour among the youth who had dropped out of school found out that the men find it hard to discuss about their sexual experience with either of their parents. They prefer to

discuss the sexual topics with their friends than to do so with the parents or counsellors. Women on the other hand recorded that they felt comfortable to discuss their sexual matters with their mothers. The study further outlines that most of the youth who were presented by 60% of the respondents had favourable attitude towards premarital sex. Due to the attitude of discussing the sexuality topics with parents by students, it is therefore important to note that little can be covered by parents and teachers. Also this attitude will hinder student understanding of their body parts.

Muhwezi, Katahoire, Banura, Mugoda, Kwesiga, Bastien and Klepp (2015) in a study conducted in Uganda that sought to show the experiences and perceptions of parents, students and school administrators on the communications between parents and their adolescent children on both reproductive and sexual health issues indicates that most of the communications was perceived to focus on body changes and sexually transmitted infections. The study further argues that most parents do not discuss sexual related issues with their children due to lack of appropriate vocabulary and skills. The study also shows that the male adolescent children rarely discussed the issues with their parents as compared to the female. This shows that the use of sexuality education to assist in the adolescent management of their body changes is therefore not that helpful.

Bello, Fatusi, Adepoju, Maina, Kabiru, Sommer and Mmari (2017) in a study that shows the adolescent and their parents reaction to puberty in Kenya and Nigeria argues that adolescent reaction to body changes varied from pride to anxiety. The study further showed that most females attributed breast development to pubertal stage initiation as compared to menstruation periods while most male attributed voice changes to the same. In both the countries, the findings were the same and also the perception of the adolescent changes and sexual education was the same. Parents reported response to puberty by

counselling and educating the children on some aspects e.g. body changes and sexual relations. The study also outlines that the adolescent preferred privacy of their body changes. Most of the children demand for privacy during their adolescent body transition phases. With the negative attitude that the students possess towards the counsellors and parent discussion, it is possible that the use of sexual education in addressing the issues of body changes in students might not be of much assistance as compared to the use of media and other forms of communication like peer groups.

From these studies, the aspect of body changes during the adolescent period is very important to be addressed by both the teachers and parents. This aspect is useful in the social lives of the students and also in their academic lives. Most of these studies addressed the effects of body changes on the academic performance of the students. The use of sexuality education to assist in the student management of their body changes therefore is an important issue to be addressed in the society. On the contrary, masturbation, rapid growth and mood changes that arise from the adolescent changes are not addressed to. Therefore, influence of teaching human sexuality on students' behavioural change in secondary schools in Kenya is a study that will expound more on the issue of body changes among the adolescent students and will establish how effective is the use of sexuality education in the shaping of the students' management of body changes.

Recent studies reveal that several factors such as religion, mass media, family and friends influence a person's attitude towards sexuality (Riaz, 2006; Calzo & Ward, 2009). The way these factors interact to form a student's attitude towards sexuality is not fully clear. However, relationships between religion, family and teaching of human sexuality been identified. Gender role socialization is a major contributor to gender differences in sexual

attitudes and behaviours (Medina, n.d.). According to the study, males have a more permissive attitude towards sex than females. This makes them have less feelings of guilt for sexual behavior. As a result, they engage in more open attitude about sex. They feel that sex is a natural social evolutionary process.

It is important to have a better understanding of the process through which attitudes towards sexuality are formed. Attitudes towards sexuality determine how people interact with others. Researchers concur that there are numerous factors that determine a person's attitude. Calzo and Ward (2009) reported on the effects of media on an individual's attitude towards sexuality. The type of information communicated in the media influenced a person's attitude. However, frequent exposure to media does not imply that one would become more or less supporting of sexuality. Exposure to media appeared to reduce the differences between male and female attitudes regarding sexuality as opposed to traditional gender role beliefs. Calzo and Ward (2009) further revealed that media information will often influence a person's preexisting attitudes.

Olson et al., (2006) examination of religious practices and people's attitude toward sexuality revealed that a person's religious association had a significant influence on the way they view sexuality. Traditionally, the church leaders are clear in their message against bad sexual behavior. Scotti, Slack, Bowman, and Morris (1996) found that college students did not approve of behaviours such as open displays of affection and vaginal intercourse.

2.5 Human Sexuality Education and Students ‘Attitude towards Aberrant Sexual Practices

Aberrant or unusual sexual behavior or practices are considered as sexual activities that are unnatural such as homosexuality, man-animal sex, and male-female sodomy (Cantor, 2012). Of the three unusual practices, homosexuality is the most common and the most vilified to varying degrees worldwide. Cantor (2012) defines homosexuality as predominantly sex interest in persons of the same sex. Lewis (2009) observes that homosexuality is regarded as either biological or something that is learnt. People who attribute homosexuality to biological causes are more sympathetic perceptions than those who consider it as a choice (Mtemeri, 2015). Thus, homosexuality remains a controversial issue as proponents of nature and nurture lack consensus. This implies that people will judge those who practice homosexuality differently.

Research has shown that in Africa, condemnation of homosexuality is more pronounced than any other parts of the world (Mtemeri, 2015). Most African nations define homosexuality as “acts against the order of nature and God, a scandalous act, violations of morality, indecent act, gross indecency, and lewd acts (Mucherah, Owino & McCoy, 2016). This definition tends to mirror people’s perceptions and attitudes of homosexuality. Under Kenya’s Penal Code, engaging in same-sex sexual activity, termed “carnal knowledge of a person against the order of nature,” is characterized as an “unnatural offense” and is a felony punishable by up to fourteen years in prison. Although the laws are rarely enforced, LGBT Kenyans are still prosecuted and imprisoned under these laws (Mucherah et al., 2016).

World Health Organization defines risky sexual behaviour as one that affects human sexual health. These risks can include unsafe abortion, STIs, including HIV/AIDS and

unwanted pregnancies. Risky sexual behaviours can include sexual intercourse with the same sex or even commercial sex workers. According to Ena, Hurissa and Aliyu (2015), unusual sexual behaviours are on increase in schools worldwide. The study further outlines that the students are exposed to consequences of unusual sexual behaviours like unwanted pregnancies, HIV/AIDS and STIs among more other. The study establishes that there is high practice of pre-marital sex among the students, low utilization of contraceptives and the most of the students considered that condoms do not assist at all in the prevention of STIs, HIV and even pregnancies.

Melinda, Laurel and Todd (2009) in a study that sought to outline the Higher education students' attitude towards the Lesbian, Gay, Bisexual and Transgender (LGBT) community in USA found out that condemnation tolerance rate of the LGBT community lowers as the students go through the college course. Those students in the upper level of study had positive attitude towards LGBT than those in lower level. The study also outlined that the students in lower level of study that had friends in upper levels and participated in the aberrant sexual behaviours, showed more tolerance towards the LGBT community. This shows that the source of sexual education among the students is mainly learning from their peers. Wang, Li, Stanton, Kamali, Naar-King, Shah and Thomas (2007) establishes that a substantial proportion of youth engage in sexual behaviour in China. The study further outlines that there is a dire need to implement programs that will train the youth on the life skills and most importantly sexual education.

In a study by Hawk and Chi (2016) that was conducted in China and sought to outline the students' attitude towards LGBT looked into the correlates, tendencies and the gender differences of the LGBT community. This study found out different results from that of the USA. In this study, the student's registered negative attitudes towards LGBT

community. In all the levels in the school, the students were not tolerant to the aberrant sexual behaviours. This study confirms results from O'Higgins-Norman (2009) that outlined some of the influence of negative attitudes towards aberrant sexual behaviours as lack of exposure to diversity, religious beliefs and socio-cultural beliefs. In this study there was no connection between human sexuality education and the attitudes towards the unusual sexual behaviour by students.

In African culture, unusual sexual behaviours and practices such homosexuality, sexual intercourse with animals, masturbation and others were not acceptable. Such practices are attributed to the western imports believed to have invaded the continent during the pre-colonial period (Murray & Viljoen, 2007). Mathews, Clemons and Avery (2017) conducted an exploratory study to establish the social work students' attitudes towards gay men and lesbians in Namibia. Using pre-existing Attitudes towards Gays and Lesbians Scale (ATLG), the study collected data from 193 individuals enrolled in a social work degree programme in Namibia. The study found that many social work students in Namibia have low rates of acceptance of gay men and lesbians. It was, however, found that women had more tolerance and acceptance of LGBT persons than men. Knowledge of someone who is LGBT was found to be statistically significant variable that increases acceptance of LGBT. It was also found that students who were more committed to their religion in terms of attendance, were less tolerant to gay men and lesbians. Further, the findings showed that participants' attitudes were similarly disapproving of both gay men and lesbians. This finding was found to differ from most previous research, which has shown negativity regarding gay men to be much higher (Herek 2002; Schellenberg, Hirt, & Sears, 1999).

Mathews et al., (2017) study was however, not comprehensive since it did not capture some of the pertinent correlates that would influence participants' attitudes towards members of the LGBT community, such as access to media images or education surrounding safer sex, sexuality, and HIV. The current study aims at examining the influence of sexuality education on students' attitudes to aberrant sexual practices.

In a study to examine high school students' perceptions of homosexuality in Kenya, Mucherah et al., (2016) came up with several pertinent findings. The study involved 1,250 high school students in which 41% claimed homosexuality is practiced in schools, 61% believed homosexuality is practiced mostly in single-sex boarding schools while 52% believed sexual starvation to be the main cause of homosexuality. Also, 95% believed homosexuality is abnormal, 60% believed students who engage in homosexuality will not change to heterosexuality after school. However, 64% believed prayers can stop homosexuality, and 86% believed counseling can change students' sexual orientation. Mucherah et al. (2016) concluded that the study findings revealed to some extent a lack of understanding of homosexuality among Kenyan high school students. The study, however, did not use open ended questions to collect data from students and which could have enabled them to capture a nuanced understanding of students' responses to the quantitative questions. The current study sought views from guidance and counseling teachers through interview in addition to information collected from students through a structured questionnaire.

2.6 Summary of Literature Review and knowledge Gap

The literature review is chockfull with studies done globally, regionally and locally on human sexuality in students. Most of the studies have found that Human sexuality education is an important aspect to be included in the school curriculum since most of the

youth worldwide are affected with the sexual issues. The studies have also found out that the adolescent stage is critical as the students undergo some physical and psychological changes. Infact a recent report claims that most same-sex behaviours in secondary schools in Kenya were reported to have their roots back in primary schools (Wanzala, 2017). These studies outline the most issues affecting the students in their sexual lives, how they handle them and their perspective on unusual sexual behaviours among them. However, these studies do not show the connection between the influence of sexuality education and the control of these issues as far as the student`s behavioural change is concerned.

The Students acquisition of knowledge on sexuality is important in schools in controlling their attitude towards sexual issues. The study on influence of teaching human sexuality on students' behavioural change in secondary schools in kosirai division, Nandi County, kenya therefore this study fills the gaps in human sexuality studies. Abortion, contraception, boy/girlfriend sex, masturbation, rapid growth, mood changes, seeking of information from teachers, G&C counsellor, peers, gayism, lesbianism, rape, masochism will be discussed fully to bring out the influence of human sexuality in behavioural change among the students. The study will therefore focus on the influence of sexual education in schools so as to achieve positive behavioural change in schools as far as human sexuality is concerned.

CHAPTER THREE

RESEARCH DESIGN AND METHODOLOGY

3.1 Introduction

This chapter presents the research methodology adapted in order to achieve the research objectives. The chapter contains research design, location of the study, target population, sample size and sampling techniques, data collection instruments, pilot study, validity and reliability of research instruments. The chapter closes by explicating data processing and analysis and logistical and ethical considerations for the study.

3.2 Research Design

A research design can be thought of as the structure of research. It is the 'glue' that holds all of the elements in a research project together (Kombo & Tromp, 2006). Creswell (2012) defines a research design as the scheme, outline or plan that is used to generate answers to a research problem. It constitutes the blue print for the collection of measurement and analysis of data (Kothari, 2014). This study adopted descriptive survey of cross-sectional type research design. In a cross sectional survey, data are collected at one time from a sample selected to describe some large population at that time. Such survey can be used not only for purposes of description, but also for the determination of relationship between variables at that time of study (Babbie, 2014). This design was found appropriate for this study since the study aimed at gathering information from G&C teachers and students on the influence of teaching human sexuality on several learners' sexuality issues at that time.

3.3 Research Site

The research site is the actual geographical location of the study (Creswell, 2012). The study will involve students and teachers from secondary schools within Kosirai Division

in Chesumei Constituency, Nandi County. The area is occupied by Nandi speaking people. The division has an approximate population of 25,741 people with the main economic activities being Tea, Maize and livestock farming. The division covers approximately 92.50 square kilometers and sub-divided into 12 sub-locations. It borders Lelmokwo Division to the north and Chemundu division to the south. According to Nandi County schools census report of 2017, Kosirai division had a large number of secondary schools with high prevalence of girls dropping out due to teenage pregnancies and indiscipline cases inclined to sexuality (MOE, 2017).

3.4 Target Population

Orodho (2012) considers population as all individuals or items with the characteristics that a researcher wishes to study. According to Nandi County Education office, Kosirai division had 24 private and public secondary schools who had presented students for KCSE in 2017. Further, it was noted that the division had 2400 students in form 3. Thus, the study targeted 2400 form 3 students and 24 heads of guidance and counselling departments from the 24 secondary schools in the division. The guidance and counseling teachers were targeted since they were part of teachers who handled students' issues in regard to sexuality. Students also encountered information on sexuality in subjects such as Christian Religion Education (CRE), Biology and Home science. Form 3 students were targeted because they had presumably learnt more content on sexuality since form one. Further, most of sexuality topics were between forms one to three. Furthermore, having been in secondary education longer, they may also have attended more guidance and counselling sessions on sexuality. Students are also furnished with information on sexuality from the school invited motivational speakers.

3.5 Sample Size and Sampling Techniques

A sample is a small proportion of the population that is selected for observation and analysis (Babbie, 2014). By observing the characteristics of the sample, one can make certain inferences about the characteristics of the population from which it was drawn (Simon & Goes, 2013). Orodho (2012) aver that when the target population is small, the researcher can sample the entire population. Scheaffer, Mendenhall, Ott and Gerow (2011) postulate that census survey is the approach where the population is equal to the sample. Thus, the study sampled all 24 heads of guidance and counseling departments. Since the students' number was more than 30, the researcher sampled 10% in accordance to Gay, Mills & Airasian (2009) who maintain that 10% to 30% of the population is sufficient for reliable findings in a survey research. Therefore, 240 students were sampled in which 10 form four students were drawn from each of the 24 schools through simple random sampling. Table 3.1 shows the study sample frame.

Table 3.1: The Study Sample Frame

Category	Population	Sample	Percentage	Sampling Technique
Guidance and Counseling Teachers	24	24	100.0 %	Census
Students	2400	240	10.0 %	Stratified/simple random
Total	2424	264	10.9 %	

3.6 Data Collection Measures

The researcher employed the students' questionnaire and guidance and counseling teachers' interview schedule for data collection.

3.6.1 Students' Questionnaire

The students' questionnaire was semi-structured in which respondents were allowed to express their views in their own words in the open ended items while closed ended items captured factual responses. It was divided into sections A, B, C, D, E and F (refer to Appendix II). Section A captured demographic information, section B gathered information on students' perception of premarital sexual relationships, section C solicited information in regard to management of body changes at puberty while section D collected information on students' openness on sexuality issues. Further, section E gathered information on students' attitude towards aberrant sexual behaviours. The dependent variable was measured through responses gathered in Section F. Section F captured information in regard to the information acquired by the students from human sexuality education.

3.6.2 Guidance and Counseling Teachers' Interview Schedule

Orodho (2012) considers interview as a method of collecting information in the form of oral-verbal responses and answers regarding oral-verbal questions. The advantage of the interview method is that it allows an in-depth response from the respondent and enables the interviewer to probe the respondents. Scheaffer, Mendenhall III, Ott & Gerow (2011) proffer that interview method of collecting data is often seen as superior than other instruments in that it creates rapport between the respondent and the researcher.

The G&C teachers' interview schedule was constructed in such a way that it gathered information in accordance to the four objectives of the study. Each question could lead to some probing questions on the same subject. However, the G&C teachers' were free to furnish any other information deemed important but related to the study.

3.7 Pilot Testing of Data Collection Instruments

Creswell (2012) reiterates that, it is vital for a researcher to test tools before using them to ensure their validity, reliability and practicability. Therefore, piloting was done in order to ascertain the credibility of the tools by testing clarity of language, time taken to respond, procedure of administering, length and layout of tools. In addition validity and reliability of data collection instruments were ascertained through piloting testing. Piloting involved 10% of each category of the sampled responds as recommended by Fraenkel, Wallen and Hyun (2012). Thus, two G&C teachers and 24 students were took part in pilot testing from the neighboring Lelmokwo division. The participants were encouraged to comment and make suggestions in order to improve the data collection instruments.

3.7 Validity and Reliability of Data Collection Instruments

Fraenkel et al. (2012) posit that validity and reliability are critical concepts in research which helps the researcher to be confident of the instruments used in the study since validity ensures that the instruments are appropriate for the study while reliability tests whether they are consistent.

3.7.1 Validity

According to Patton (2002) validity is quality attributed to proposition or measures to the degree to which they conform to establish knowledge or truth. Validity therefore refers to the extent to which an instrument can measure what it ought to measure (Creswell, 2014). The researcher sought the expert opinion on content and construct validity from two university supervisors. Comments solicited from them were used to enhance the data collection instruments before commencing data collection. The results from the piloting together with the comments from the supervisors before and after piloting were incorporated in the final instruments revision to ensure their validity.

3.7.2 Reliability

Reliability refers to the extent to which a research instrument gives measures that are consistent each time it is used to the same individuals (Creswell, 2014). Test and re-test method was used to gauge the consistency of the students' questionnaires. During the pilot study, questionnaires were administered twice to the same group of students with a duration gap of two weeks. Test-retest reliability was measured by correlating the two sets of data and a Pearson coefficient of 0.84 was obtained. According to Creswell (2012), in social sciences, a reliability coefficient of 0.6 and above is satisfactory for any research instrument. Thus, the students' questionnaire was found to be appropriate for this study.

3.8 Data Processing and Analysis

Saunders, Lewis and Thornhill (2009) define data analysis as the processing of data to make meaningful information. The collected data were thoroughly edited and checked for completeness and comprehensiveness. The edited data were summarized and coded for easy classification in order to facilitate interpretation. The data was analysed using the international business machine statistical package for social sciences (IBM SPSS) version 22. Both descriptive and inferential statistics were used to analyse the data. Descriptive statistics such as frequency, percentages and mean were be used together with tables, pie charts and bar graphs to describe the meaning of the analysed data. The study hypotheses were tested by use of simple linear regression analysis. The regression equation was in the form: $Y = \beta_0 + \beta_i X_i + \epsilon$, where Y = Human sexuality education, X_i represents any of the four dependent variables, β_0 = constant, β_i = the simple regression coefficient, while ϵ was the error term.

Analysis of the interview data was done in accordance with the study four objectives. Identification labels such as G&C 1, G&C 2, and G&C 3, were used to denote the verbal quotations from different guidance and counseling teachers.

3.9 Legal and Ethical Considerations

Kombo and Tromp (2006) argue that researchers whose subjects are people or animals must consider the conduct of their research and give attention to the ethical issues associated with carrying out their research. Ethical issues such as confidentiality, responsibility, informed consent, honesty and openness in dealing with other researchers and research subjects, physical and psychological protection, and explanation of the purpose of the study and 'de-briefing' subjects afterwards should therefore be considered. The rights of informants or participants in this study was protected by all means. The principle of voluntary participation was encouraged and participants were in no way coerced into participating in the study. The researcher guaranteed the informants of confidentiality. Anonymity of the participants was maintained by asking them not to disclose their names in any of the research instruments. They were also assured that the information provided would not be made available to anyone who was not be directly involved in the study. In regard to legal measures, the researcher got a letter of introduction from Africa Nazarene University. The introduction letter enabled the researcher to secure a research permit from the National Commission for Science, Technology and Innovation (NACOSTI).

CHAPTER FOUR

RESULTS AND ANALYSIS

4.1 Introduction

This chapter presents the results and analysis of the data collected in this study. The purpose of the study was to examine the influence of sexuality education on students' behavior and attitude towards sexuality issues in secondary schools in Kosirai Division, Nandi County. The study objectives were: to establish the influence of sexuality education on students' perception of premarital sexual relationships, to examine the influence of sexuality education on students' management of body changes at adolescence, and to establish the influence of sexuality education on students' attitude towards aberrant sexual practices in secondary schools in Kosirai Division, Nandi County. Data were collected through the students' questionnaire and G&C teachers' interview schedule. The chapter contains the response rate, analysis of demographic data, and analysis of teachers' and students' responses in accordance to research objectives. The three null hypotheses of the study were tested using simple linear regression.

4.2 Response Rate

The study sampled 24 guidance and counseling teachers and 240 students. All the 240 students filled the questionnaires while 18 G&C teachers were available for interviews. Thus, the return rate was 100.0 % for students and 75.0% for CSOs. This rate was considered adequate for data analysis since according to Fraenkel et al., (2012), return rates of more than 60% are considered to be good.

4.3 Demographic Information

The study found it necessary to analyze the demographic information of respondents, which formed the basis under which some of the interpretations and discussions were

made. The demographic information sought included: gender, students' age bracket, and religion.

4.3.1 Gender of Respondents

The researcher sought to establish the gender distribution of the respondents. Table 4.1 depicts the finding.

Table 4.1: Gender Distribution of Respondents

	Gender	Frequency	Percentage (%)
Students	Male	138	57.5
	Female	102	42.5
	Total	240	100.0
G&C Teachers	Male	7	38.9
	Female	11	61.1
	Total	18	100.0

Table 4.1 shows that 57.5 % of students were male while female students constituted 42.5%. Female students are more affected by premarital/teenage sexual relationship due to unplanned pregnancy, abortions and social stigma after during and after pregnancy. There were more female G&C teachers constituting 55.0 % as compared to 45.0% of females. However, as noted in section 3.4, sexuality education is not a preserve of G&C teachers but involves CRE, Biology and life skills instructors.

4.3.2 Age Bracket of Students

The researcher sought to establish the students' age bracket distribution. Table 4.2 depicts the finding.

Table 4.2: Students' Age Bracket Distribution

Age in years	Category		Total	%
	Boys	Girls		
	Frequency	Frequency		
< 15	5	6	11	4.6
15-16	92	44	136	56.7
17-18	31	23	54	22.5
>18	10	29	39	16.2
Total	138	102	240	100.0

As shown in Table 4.2, only a few students (4.6%) were below 15 years of age. The appropriate age for a student in form 3 in accordance to the Kenyan system of education is 16 years. It was no surprise then that 56.7% of the students were found to be 15 to 16 years. However, it was notable that 51% of girls were 17 years and above. These girls were overage in form three and there was a possibility that some had issues that made them fail to progress with their age groups. Conversely, only about 30% of boys were 17 years and above, implying that most of the boys were able to progress with their age groups.

4.3.3 Students' Religion

The researcher found it necessary to establish the students' religion since most of the topics in sexuality education were incorporated into religion syllabus and in particular CRE. Figure 4.1 depicts the finding.

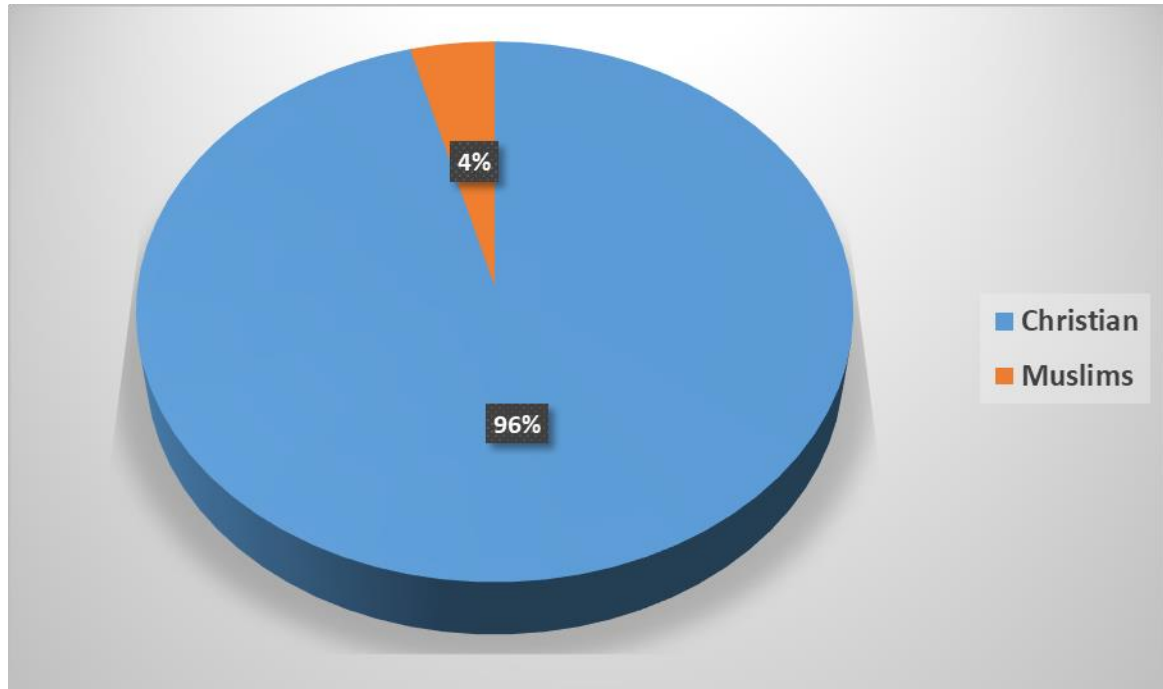


Figure 4.1: Students' Religion

It was evident from Figure 4.1 that 96% of students were Christians, while only 4% were Muslims. Nonetheless, both Christians and Muslims learnt CRE as a subject in secondary schools in Kosirai division, Nandi County. This meant that all students undertook sexuality education as contained in CRE syllabus from form one and could be considered to have been influenced in different ways in regard to sexuality.

4.4 Human Sexuality Education and Students' Perception of Premarital Sexual Relationship

The first objective of the study was to establish the influence of sexuality education on students' perception of premarital sexual relationships in secondary schools in Kosirai division, Nandi County. To achieve the objective, students were requested to respond to rate their level of agreement or disagreement to statements in regard to their perceptions of premarital sex. The statements were in form of a Likert scale in which strongly agree was had a value of 5, strongly disagree had a value of 1 while neutral had a value of 3. Table 4.3 shows the analyzed data in means and standard deviations (SD).

Table 4.3: Students' Perceptions on Premarital Sexual Relationships

Statement	Mean	SD
Boy/girl intimacy should be discouraged until after marriage	3.8	0.8
Sex abstinence until marriage is not practical	4.0	1.0
Sexual intercourse using protection such as condom is good for students	3.0	0.9
Any mature (body) young person should have a boy or girl friend	2.8	1.3
Apart from HIV/AIDS, multiple sexual partners can lead to cervical cancer	2.7	0.7
If a girl students gets pregnant, it is wrong to opt for abortion	3.5	1.1
Students should know the various family planning methods and which they can use if one is involved in a sexual relationship	3.4	1.4

n = 240

As evident from Table 4.3, most students were of the opinion that boy/girl intimacy should be discouraged until after marriage (Mean = 3.8, SD = 0.8). Majority of the students, however, contradicted this opinion by indicating that sex abstinence until marriage was impractical (Mean = 4.0, SD = 1.0). This implied that, though most of the students found it appropriate to discourage sexual intimacy before marriage in accordance to religion and traditional norms, they were not opposed to sexual encounters before marriage. Students were somehow not definite on the issue of condom use, implying that as much as some felt that sexual intercourse using protection such as condom is good for students others did not agree (Mean = 3.0, SD = 0.9).

Most of the students disagreed that any mature (body) young person should have a boy or girl friend (Mean = 2.8, SD = 1.3). However, the relatively high standard deviation shows that students had varied opinion on this issue. Most students disagreed that Apart from

HIV/AIDS, multiple sexual partners can lead to cervical cancer (Mean = 2.7, SD = 0.7). This demonstrated that most students lack adequate information on the many dangers of having multiple sexual partners, in which human papilloma virus (HPV) infection is one of them and which can lead to cancer. Most students supported the opinion that when a girl students gets pregnant, it is wrong to opt for abortion (Mean = 3.5, SD = 1.1). This implies that most students might have been influenced by the various sexuality education topics that enumerate the various dangers arising from abortion and being against God's command of thou shall not kill. Finally, most students agreed that they should know the various family planning methods and which they can use if one is involved in a sexual relationship (Mean =3.4, SD = 1.4). The human sexuality education as taught in Kenyan schools is categorized as abstinence only, and does not emphasize on contraceptives and safe sex. Thus the issue of use of contraceptives remains controversial hence a relatively large standard deviation of 1.4.

In a bid to gather more substantive information on each respondent in regard to their sexual activities the researcher requested them to indicate the number of times one was engaged in sexual intercourse for the past one year. Figure 4.2 depicts the students varied responses.

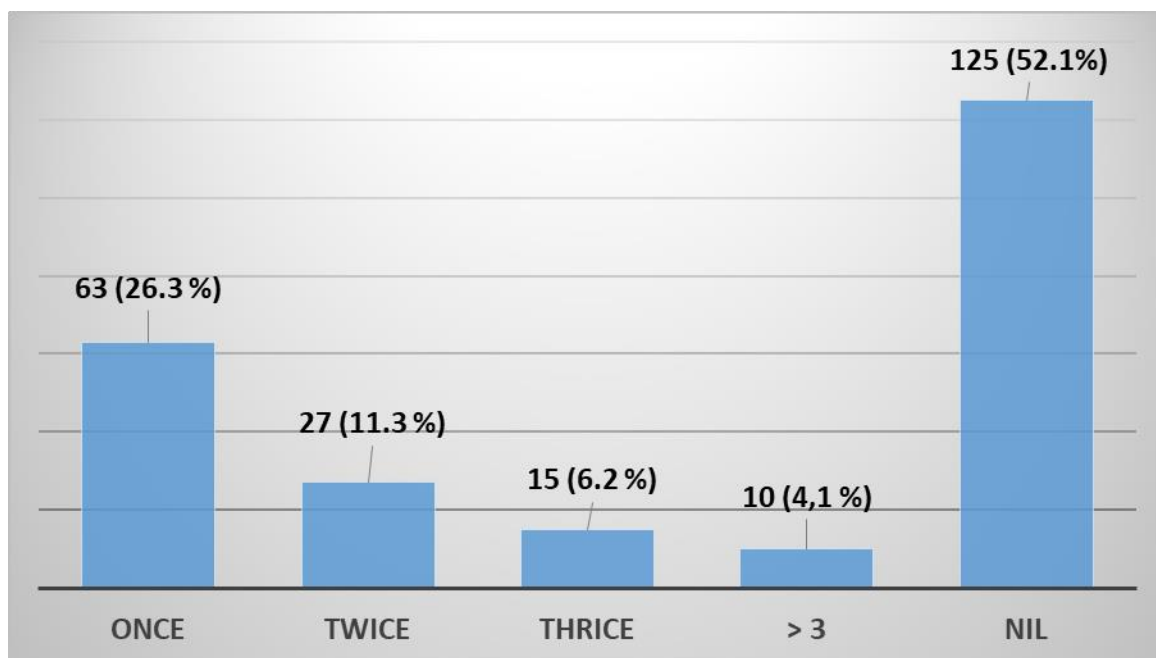


Figure 4.2: Frequency of Students' Participation in sex for the Past One Year

It was evident from Figure 4.2 that slightly over half of the students (52.1%) indicated that they did not have any sexual intercourse for the past one year. However, 63(26.3%) students had done once, 27(11.3%) had done twice, 15(6.2%) thrice while only 10 had more than 3 encounters. Being a self-assessment item on a sensitive moral issue, the accuracy of the students' response could not be ascertained. Nevertheless, the finding was an indicator that despite the abstinence only approach sexuality education offered in Kenyan primary and secondary schools, premarital sexual relationships were rife among students. Most of the interviewed guidance and counselling teachers disputed the number of students who gave a frequency of nil in regard to sexual intercourse as exemplified by the following comments:

My school being a day school, I get to know what our students are involved in after school, over the weekend and during the school closure...I can say with certainty that almost all students in form three have engaged in sexual relationship...you may be surprised to find the some of our girls who are back to school after giving birth are talking about virginity... (G&C Teacher 12).

Our students can give the truth on many issues that you are investigating...but I really doubt whether they give the correct responses in regard to their involvement in sexual intercourse....they would like to appear good, innocent and holy before

the researcher since they know she is a principal and advocates abstinence. (G&C Teacher 3).

Nowadays students' have seen and learnt everything from internet about sex, sex styles and other dirty things...they do also try what they see and its better we become candid and educate them on how to prevent pregnancy and infections through various methods. Almost all of them are engaged in premarital sex and to think otherwise is to bury our heads in the sand...the number of girls who drop out from school due to pregnancy and the ones who have been readmitted is a clear testimony of what is going on. (G&C Teacher7)

The study went further and solicited reasons why some students did not have any sexual encounter. Most of the students were categorical that they regarded sex before marriage as a sin to God and secondly, they were avoiding STIs, HIV-AIDS and pregnancy. This meant that most of the students were well informed of the possible outcomes of premarital sex as well as being against their faith. Thus, it could be said that sexuality education from different settings and sources such as parents, teachers, religious leaders and peers have influenced students' perception on premarital sex. About 10% of respondents, however, indicated that they were keen to retain their virginity in order to retain their dignity and boost the chances of getting the best suitor in marriage. The small percentage is a testimony that the age old traditional virtue of maintaining virginity until marriage is no longer a major motivator to remain chaste for most girls.

The research further probed the students who had sexual intercourse in the past one year to explain the safety methods they put in place in regard to unwanted pregnancy and risks of infections. About 90% of these category of respondents indicated that they used condoms and after sex pills. This implied that though abstinence sexuality education was not explicit on methods of prevention of pregnancy and use of condoms, students have learnt the prevention methods from other sources. Above 80% of the students indicated that, there are no negative effects on the body if one suppress a sexual urge until

marriage. This showed that most of them had gathered information of the pros and cons of indulging in sex while in school or before marriage.

However, 20% of students' gave varied reasons why thought suppressing sexual urge could harm their health or jeopardize success in their future marriages. Some students asserted that they were taught that sex is a basic need that comes naturally, just like hunger, thirst and need for elimination. Some male students argued that suppressing the urge can lead to prostate cancer and severe backache citing the medical programmes through radios that broad cast in vernacular. About 30 students felt that one needs to experiment at least once in order to rule out any kind of abnormality. Although some beliefs were based on some perpetuated fallacies and stereotypes over the years, it was imperative to consider the various students sentiments, allay their fears and through wisdom offer appropriate guidance and counseling. Admittedly, some of the issues required a medical practitioner to explain and reassure the students.

In order to ascertain the strength and magnitude of the influence of sexuality education on students' perception of premarital sexual relationships, the researcher conducted a linear regression analysis. The students' mean responses on aspects of human sexuality (section 4.7) were regressed onto the students' mean responses on their perceptions of premarital sexual relationships as done in the following section 4.4.1.

4.4.1 Testing of Null Hypothesis One

The first null hypothesis of the study stated that: 'human sexuality had no statistically significant influence on students' premarital sexual relationships in secondary schools in Kosirai division, Nandi County'. In order to test the hypothesis, a simple regression analysis was carried out at the .05 level of significance. The regression model capturing the hypothesized relationship was given as: $Y = \beta_0 + \beta X + \epsilon$, where;

Y = Students' perception of premarital sexual relationship

X= Human sexuality education (students' knowledge in sexuality)

β_0 = Constant

β = Coefficient of X_1

ϵ = Error

Tables 4.4, 4.5 and 4.6 depict the findings.

Table 4.4: Model Summary

Model	R	R Square	Adjusted R Square	Standard error of the estimate
1	0.740	0.548	0.512	0.2142

Predictors: (constant), Teaching of Human sexuality

As evident from Table 4.4, that there was a strong correlation between the observed values of dependent variable and the values of dependent variable predicted by the simple linear regression model ($R = 0.740$). In other words, there was a strong correlation between the predicted and observed values of students' perception of premarital sexual relationship. It can also be deduced from Table 4.4, that human sexuality education accounted for 54.8% of students' perception of premarital sexual relationship ($R^2 = 0.548$). Further, to ascertain whether the model was a significant predictor of the outcome, the result in Table 4.5 was considered.

Table 4.5: Model Significance (ANOVA)

Model	Sum of Squares	df*	Mean Square	F	Sig.
1 Regression	6.427	1	6.427	25.40	0.003
Residual	60.253	238	0.253		
Total	66.680	239			

df*- degrees of freedom.

Dependent Variable: Students' perception of premarital sexual relationship

Predictors: (constant), Human sexuality education

In reference to Table 4.5, the *F*-ratio in the ANOVA table, has a value of 25.40 and a *p* value of 0.003. Since *p* was less than 0.05, it was deduced that the overall regression model was a good fit for the data. That is, the model, overall, resulted in a significantly good degree of prediction of the outcome variable. In other words, the regression model significantly predicts the students' perception of premarital sexual relationship, $F(1, 238) = 25.40, p < 0.05$. In order to get the linear regression equation for the data, the unstandardized beta coefficient as shown in Table 4.6 was considered.

Table 4.6: Model Coefficient

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig. value
	Beta	Std. Error	Beta		
1 (Constant)	20.383	0.175		9.547	0.000
Human Sexuality Education	0.382	0.182	0.321	5.284	0.013

Dependent variable: Students' perception of premarital sexual relationship

Table 4.6 reveals the relative contribution of teaching of human sexuality expressed as beta weight. Assuming the error term ε to be zero and substituting the unstandardized coefficients β value, the estimated simple linear regression equation becomes: $Y = 20.383 + 0.382 X$. Thus, when human offering of human sexuality education increases by one unit, students' perception of premarital sexual relationship increased positively by 0.382 units. The null hypothesis, was tested by considering the t statistic (Table 4.6) that tests whether a β value is significantly different from zero ($H_0: \beta = 0$). In reference to Table 4.6, the unstandardized beta value for teaching of human sexuality was found to be significantly greater than zero ($\beta = 0.382$, $t(239) = 5.284$, $p < 0.05$). Thus, the first null hypothesis was rejected, implying that human sexuality education had a statistically significant influence on students' perception of premarital sexual relationship.

4.5 Human Sexuality Education and Students' Management of Body Hormonal Changes

The second objective of the study was to examine the influence of sexuality education on students' management of body changes at adolescence, in secondary schools in Kosirai division, Nandi County. To achieve the objective, students were requested to respond to rate their level of agreement or disagreement to statements in regard to management of their body changes as they transition from childhood to teenage and some to adulthood. The statements were in form of a Likert scale in which strongly agree was had a value of 5, strongly disagree had a value of 1 while neutral had a value of 3. Table 4.7 shows the analyzed data in means and standard deviations (SD).

Table 4.7: Students' Response on Management of Body Changes at Adolescence

Statement	Mean	SD
I was not taken by surprise by my body changes since I had an idea what to expect through sexuality education in school	3.8	0.8
Through proper body hygiene as recommended in sexuality education, I have managed my body changes	4.0	1.0
Through appropriate nutrition as recommended in sexuality education, I have managed my body changes	2.6	0.9
I have been able to control the my sexual urges in accordance with what we were taught in sexuality education	3.8	1.3
I am able to handle my peers who appreciate and get attracted my youthful body	3.7	0.7
I am able to advice my peers who complain of get disturbed by the body changes such as pimples, acne, lumps and in the breast for both boys and girls	2.5	1.1
Despite the peer pressure to try new things, I consult before I indulge in them	3.4	1.4
I can give advice on female menstrual cycle	2.7	1.3
When I feel low, I normally share with my student or teacher mentor	2.9	0.9
I appreciate my body physique	3.2	1.0
I appreciate my face	3.5	0.7
I engage in sports and other activities to distract myself from concentrating on sexual urges	2.9	0.8

n = 240

In reference to Table 4.7, most students agreed that they were not taken by surprise not by their body changes since they had an idea of what to expect through sexuality education (Mean = 3.8, SD = 0.8). It was, however, revealed by some of the interviewed G&C teachers that they occasionally counseled some students got completely disoriented as they came to terms with their body changes. One of them commented, thus:

Despite the fact that students learn through Biology, life skills and guidance and counseling about the human body changes that happen from puberty through adolescence stage, some seems to have no clue of their body changes and it is through intensive guidance and counseling that they are able to manage themselves. Many a times, I handle cases of starving students who struggle to retain the smaller stature, after finding their bodies growing big rapidly. In a starving and dehydrated condition the students often deteriorate in their school participation. (G&C Teacher 7).

Similarly, most students indicated that through proper body hygiene as recommended in sexuality education, they were able to manage their body changes (Mean = 4.0, SD = 1.0). Proper body hygiene is crucial during adolescence as students undergo various hormonal changes. For some students, improper hygiene lead to rejection by the peers and become a source of frustration and depression. Most of the interviewed G&C expressed displeasure on how most students managed themselves as their bodies change. The following comments from G&C illustrate what they normally grapple with:

Some girls seem ignorant of how to handle their menstrual and they cause mess in their beds, are careless in how they disposal the sanitary waste material. Due to poor management of their hygiene, they often get infected and spend time and money seeking for treatment. I am occasionally invited by the matron to instruct students on how to observe appropriate body hygiene. (G&C Teacher 4).

I have witnessed some students whose body rapid growth went for a long span of time. Some of them sweat profusely regardless of the task they are engaged on. Some develop very smelly feet. For such students, adjusting their bath times and frequency is highly recommended. Unfortunately, some students stick to their usual schedules and this becomes the onset of conflicts with their peers who are offended by their body conditions. These students' are alienated by their peers and get stressed resulting to dismal performance. (G&C Teacher 11).

Majority of students disagreed that they had managed their body changes through appropriate nutrition as recommended in sexuality education (Mean = 2.6, SD =0.9). The fact that many students are in boarding schools, they are not in a position to control their diet and this could explain why majority disagreed.

The statement that 'I have been able to control the sexual urges in accordance with what we were taught in sexuality education' was affirmed by most students (Mean = 3.8, SD = 1.3). However, the relatively large standard deviation signified that, students' reaction was varied. Most students also indicated that they were able to handle peers who appreciated and got attracted my youthful body (Mean = 3.7, SD =0.7). Being able to handle admirers was a great achievement to students and which could enable them avoid getting involved in teenage sex.

Most students refuted that they were able to advice their peers who complain of get disturbed by the body changes such as pimples, acne, lumps in the breast and menstrual crumps (Mean = 2.5, SD = 1.1). Through sexuality education, both boys and girls are equipped with knowledge on the body changes and the expected management. It therefore, meant that there were some gaps in the content that most students went through. Most students indicated that despite the peer pressure to try new things, they consulted before indulging in them (Mean = 3.4, SD =1.4). Consultation from teachers, parents and role models was a virtue advocated through sexuality education. However, the relatively large standard deviation implied that some students did not consult. There was also a risk of consulting peer role models and who might lead them to more dangers instead of getting solutions.

In regard to menstrual cycle, majority of students felt that they were not able to offer proper advice (Mean = 2.7, SD = 1.3). Through sexuality education, both girls and boys students were expected to know the biology involved. The acquired knowledge was also important in assisting them in planning their families and sexual life in future. Most students disagreed that they normally shared with their mentors in school when feeling low (Mean = 2.9, SD = 0.9). This was a dangerous trend, since due to hormonal changes,

students at this stage are prone to moments of high and low feelings. These changes could sometimes lead students to destructive behavior and thus, it is prudent for a student to be in close consultation with their preferred mentors.

Most students appreciated their body physique (Mean = 3.2, SD = 1.0). However, the relatively high standard deviation and moderate mean response implied that there was a significant number of students who were not contented with their physique. Through sexuality education, students were expected to understand that each individual is genetically unique and as such one can be short, tall, gain weight fast or slow depending on the inherited genes make up. In a similar statement, most students indicated that they appreciate their faces (Mean = 3.5, SD = 0.7). Appreciation of oneself is critical in determination of self-esteem and self-efficacy in learning. Students with high self-esteem are less likely to be influenced into unplanned sexual relationship. Most students disagreed that they engage in sports and other activities to distract myself from concentrating on sexual urges. This was unfortunate since when students are engaged with some activities to expend their enormous energy, they spend less time and energy in self-destructive activities.

In order to ascertain the strength and magnitude of the influence of sexuality education on students' management of their body changes at adolescence stage and also test the second null hypothesis of the study, linear regression analysis was conducted. The students' mean responses on aspects of human sexuality (section 4.7) were regressed against the students' mean responses on their management of body changes in adolescence stage as shown in following section 4.5.1.

4.5.1 Testing of Null Hypothesis Two

The second null hypothesis of the study stated that ‘human sexuality education has no statistically significant influence on students’ management of the changes in their bodies during adolescence in secondary schools in Kosirai division, Nandi County. In order to test the hypothesis, simple regression analysis was carried out at the .05 level of significance. The regression model capturing the hypothesized relationship was given as:

$$Y = \beta_0 + \beta X + \varepsilon, \text{ where;}$$

Y = Students’ management of their body changes during adolescence

X = Human sexuality education (students’ knowledge in sexuality)

β_0 = Constant

β = Coefficient of X

ε = Error

Tables 4.8, 4.9 and 4.10 depicts the findings.

Table 4.8: Model Summary

Model	R	R Square	Adjusted R Square	Standard error of the estimate
1	0.860	0.740	0.689	0.1972

Predictors: (constant), Human sexuality education

As evident from Table 4.8, that there was a very strong correlation between the observed values of dependent variable and the values of dependent variable predicted by the simple linear regression model ($R = 0.860$). In other words, there was a very strong correlation between the predicted and observed values of students’ management of body changes during adolescence. It can also be deduced from Table 4.8, that teaching of human sexuality accounted for 74.0 % of students’ management of body changes during

adolescence ($R^2 = 0.740$). Further, to ascertain whether the model was a significant predictor of the outcome, the result in Table 4.9 was considered.

Table 4.9: Model Significance (ANOVA)

Model	Sum of Squares	df*	Mean Square	F	Sig.
1 Regression	16.458	1	16.458	78.00	0.000
Residual	50.222	238	0.211		
Total	66.680	239			

df*- degrees of freedom.

Dependent Variable: Students' management of body changes during adolescence
Predictors: (constant), Teaching of Human sexuality

In reference to Table 4.9, the F -ratio in the ANOVA table, has a value of 78.00 and a p value of 0.000. Since p was less than 0.05, it was deduced that the overall regression model was a good fit for the data. That is, the model, overall, resulted in a significantly good degree of prediction of the outcome variable. In other words, the regression model significantly predicts the students' management of body changes during adolescence, $F(1, 238) = 78.00, p < 0.05$. In order to get the linear regression equation for the data, the unstandardized beta coefficient as shown in Table 4.10 was considered.

Table 4.10: Model Coefficient

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig. value
	Beta	Std. Error	Beta		
1 (Constant)	17.264	0.166		8.423	0.000
Human sexuality education	0.529	0.153	0.511	5.392	0.009

Dependent variable: Students' management of body changes in adolescence

Table 4.10 reveals the contribution of teaching of human sexuality expressed as beta weight. Assuming the error term ε to be zero and substituting the unstandardized coefficients β value, the estimated simple linear regression equation becomes: $Y = 17.264 + 0.529 X$. It therefore, implied that a unit change in sexuality education would cause 0.529 positive increase in students' management of body changes. The null hypothesis, was tested by considering the t statistic (Table 4.10) that tests whether a β value is significantly different from zero ($H_0: \beta = 0$). In reference to Table 4.10, the unstandardized beta value for teaching of human sexuality was found to be significantly greater than zero ($\beta = 0.529$, $t(239) = 5.284$, $p < 0.05$). Thus, the second null hypothesis was rejected, implying that human sexuality education had a statistically significant influence on students' management of body changes during adolescent. That implied that students who went through all the topics offered on sexuality had better management of the body changes during adolescence in Kosirai division in Nandi County.

4.6 Teaching of Human Sexuality and Students' Attitude towards Aberrant Sexual Practices

The third objective of the study was to examine the influence of sexuality education on students' attitude towards aberrant sexual practices in secondary schools in Kosirai

division, Nandi County. To achieve the objective, students were requested to rate their level of agreement or disagreement to statements in regard to how they view the unusual sexual practices. The statements were in form of a Likert scale in which strongly agree was had a value of 5, strongly disagree had a value of 1 while neutral had a value of 3. Table 4.11 shows the analyzed data in means and standard deviations (SD).

Table 4.11: Students' attitude toward Aberrant Sexual Practices

Statement	Mean	SD
Sexual relationship should be between members of opposite sex as indicated in the bible/Quran	4.2	0.8
In our culture it is an abomination for members of same gender to have sexual relationship	4.3	0.5
It is an abomination to have sexual activity with an animal such as a cow	4.0	1.0
A student should not entertain intimate touches from either boys or girls	3.8	0.9
One should report immediately to the school authority if subjected to sexual harassment from same or opposite gender	3.8	1.3
Each student should sleep on their own bed to discourage incidences of homosexuality in boarding schools	3.5	0.7
One can contract HIV/AIDS and other STIs through homosexuality	3.0	1.4
Homosexuals should be allowed live the way they want in the society	2.5	0.8
Watching pornography can lead one to immorality	3.4	1.4
Masturbation is a wrong way of dealing with sexual excitement	2.7	0.9
n = 240		

In reference to Table 4.11, most students affirmed that Sexual relationship should be between members of opposite sex as indicated in the bible/Quran (Mean = 4.2, SD = 0.8). Sexuality education as delivered in Kenyan schools is based on abstinence only and religious based and it was no surprise that considered heterosexual as the norm. Similarly,

an overwhelming majority of students affirmed that it is an abomination for members of same gender to have sexual relationship in their cultures (Mean = 4.3, SD = 0.5). The response was in line with most African cultures where homosexuality was considered as aberrant and evil sexual practice which could not bring forth any offspring. People who tried such practice were ostracized and sent away from community if not killed. In a similar issue most students indicated that it is an abomination to have sexual activity with an animal such as a cow (Mean = 4.0, SD = 0.5). It is a fact that students acquired sexuality education from school, religious gatherings and community teachings and as such most must have known that sexual relationship between man and animal was considered a taboo, abnormal and unacceptable.

Some of the interviewed G&C teachers were, however, of the opinion that though some students knew the traditional and biblical teachings in regard to same sex relationships, the practice was on in some boarding schools. One of the G&C teacher commented:

We should not be fooled by some students...they do practice gayism and lesbianism...last term we suspended some girls who were found with sex artificial organs and that was used by multiple students to gratify their sexual feelings. Further probe revealed that most of the affected girls used the organs to masturbate at night. Furthermore, they get demonstrations online and since they can even identify with other Kenyans who have uploaded their videos online, the religious and cultural narrative do not persuade them enough to stop. (G&C Teacher 11).

The statement that 'a student should not entertain intimate touches from either boys or girls' was affirmed by most students (Mean = 3.8, SD =1.3). However, some did not agree with statement as evident from the relatively large standard deviation. Through sexuality education, teachers are expected to emphasize and physically identify to the learners from the early age that, they have private parts which should not be touched or seen any other person apart from self. This is aimed at equipping the students with

information that could protect them from sex pests who mostly start by touching their victims intimately.

The statement that ‘one should report immediately to the school authority if subjected to sexual harassment from same or opposite gender’ was affirmed by most students (Mean = 3.8, SD = 0.7). Reporting an intended or a committed crime could increase the chances of apprehending the culprit, besides getting timely evidence. Most students agreed that each student should sleep on their own bed to discourage incidences of homosexuality in boarding schools (Mean = 3.5, SD = 0.7). The statement that ‘one can contract HIV/AIDS and other STIs through homosexuality’ elicited varied response from students. While some agreed to the statement, others disagreed and the mean response was 3.0 signifying a neutral response (Mean = 3.0, SD = 1.4). It seemed that some of the students were not well informed about homosexuality though they knew it was an abhorred practice and hence varied responses. In a similar issue, students overwhelmingly agreed that homosexuals should not be allowed live the way they want in the society (Mean = 2.5, SD = 0.8).

The statement that ‘watching pornography can lead one to immorality’ elicited varied reaction (Mean = 3.4, SD = 1.4). According to some of the interviewed G&C teachers, some students were so used in watching pornography from cell phones to the point that it was not anything unusual to them. One of the G&C teacher commented:

Although we do not allow students to have a cell phone in school, we know that most of the students own a cell phone, hidden somewhere. We teach them about the dangers of watching explicit materials and it is up to decide because they can readily access pornography with modern technology. Some students attempt to imitate the offensive language used in such sites while some confess to be addicted. As a counselor I try my best to reason with such students and some reform. (G&C Teacher 8).

Another G&C teacher expressed frustrations in regard to the issue of abundance of pornographic material to the students and cast aspersions on the current sexuality education approach:

I wish the government could get a way of blocking all the internet sites on pornographic and other explicit materials for the sake of our youth...The sexuality education we give is such that we do not give details on homosexuality and other aberrant sexual practices and yet get so much unguided information from the internet. When the unusual practice is introduced and glorified without informing the recipients of the flip side, the recipients will most likely adapt and fill the void left by lack of some information... (G&C Teacher 5).

Most students disagreed that masturbation is a wrong way of dealing with sexual excitement (Mean = 2.7, SD = 0.9). Masturbation is a topic that is hardly tackled in sexuality education, implying that either many students were practicing and like it or they had inadequate information about it. According to some interviewed G&C teachers, masturbation was regarded as one of unusual and abhorred ways of sexual gratification in that the process could not help bring forth any child.

In order to ascertain the strength and magnitude of the influence of sexuality education on students' attitude towards aberrant sexual practices and also test the third null hypothesis of the study, linear regression analysis was conducted. The students' mean responses on aspects of human sexuality (section 4.7) were regressed onto the students' mean responses on attitudes on aberrant sexual practices. The following section 4.6.1 contains the output of the simple linear regression analysis.

4.6.1 Testing of Null Hypothesis Three

The third null hypothesis of the study stated that: 'Human sexuality education has no statistically significant influence on students' attitude towards aberrant sexual practices'.

In order to test the hypothesis, a simple linear regression analysis was carried out at the

0.05 level of significance. The regression model capturing the hypothesized relationship was given as: $Y = \beta_0 + \beta X + \varepsilon$, where;

Y = Students' attitude towards aberrant sexual practices

X = Human sexuality education (students' knowledge in sexuality)

β_0 = Constant

β = Coefficient of X

ε = Error

Tables 4.12, 4.13 and 4.14 depicts the simple linear regression output.

Table 4.12: Model Summary

Model	R	R Square	Adjusted R Square	Standard error of the estimate
1	0.687	0.472	0.423	0.2392

Predictors: (constant), Human sexuality education

As evident from Table 4.12, that there was a moderately strong correlation between the observed values of dependent variable and the values of dependent variable predicted by the simple linear regression model ($R = 0.687$). In other words, there was a moderately strong correlation between the predicted and observed values of students' attitude towards aberrant sexual practices. It can also be inferred from Table 4.12, that teaching of human sexuality accounted for 47.2 % of students' attitude towards aberrant sexual practices ($R^2 = 0.472$). Further, to ascertain whether the model was a significant predictor of the outcome, the result in Table 4.13 was considered.

Table 4.13: Model Significance (ANOVA)

	Model	Sum of Squares	df*	Mean Square	F	Sig.
1	Regression	10.461	1	10.461	44.326	0.033
	Residual	56.219	238	0.236		
	Total	66.680	239			

df*- degrees of freedom.

Dependent Variable: Students' attitude towards aberrant sexual practices

Predictors: (constant), Human sexuality education

In reference to Table 4.13, the *F*-ratio in the ANOVA table, has a value of 44.326 and a *p* value of 0.033. Since *p* was less than 0.05, it was deduced that the overall regression model was a good fit for the data. That is, the model, overall, resulted in a significantly good degree of prediction of the outcome variable. In other words, the regression model significantly predicts the students' attitude towards aberrant sexual practices, $F(1, 238) = 44.326$, $p < 0.05$. In order to get the linear regression equation for the data, the unstandardized beta coefficient as shown in Table 4.14 was considered.

Table 4.14: Model Coefficient

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig. value
	Beta	Std. Error	Beta		
1 (Constant)	23.472	0.183		7.424	0.047
Teaching of human sexuality	0.278	0.146	0.223	3.728	0.163

Dependent variable: Students' attitude towards aberrant sexual practices

Table 4.14 reveals the relative contribution of teaching of human sexuality expressed as beta weight. Assuming the error term ε to be zero and substituting the unstandardized coefficients β value, the estimated simple linear regression equation becomes: $Y = 23.472 + 0.278 X$. This implied that a unit increase in sexuality education, the students' attitude increases in the positive direction increases by 0.278 units. The third null hypothesis, was tested by considering the t statistic (Table 4.14) that tests whether a β value is significantly different from zero ($H_0: \beta = 0$). In reference to Table 4.14, the unstandardized beta value for teaching of human sexuality was found to be insignificantly greater than zero ($\beta = 0.278, t(239) = 3.728, p = 0.163$). Thus, the third null hypothesis was retained, implying that sexuality education had no statistically significant influence on students' attitude towards aberrant sexual practices. This implied that, though the current sexuality education has a moderate influence on students' attitude towards aberrant practices, the influence was not significant. It meant that students' did not get sufficient information through sexuality education but rather got information from other various sources.

4.7 Aspects of Human Sexuality Education

The independent variable in this study was human sexuality education and in order to capture the extent to which students have acquired knowledge in regard to human sexuality, students' responses on several items was sought.

4.7.1 Sources of Human Sexuality Education

Students' acquire sexuality information from the teacher through different for a such as Biology lessons, religious education lessons, life skills lessons, guidance and counseling sessions, guidance during school assemblies and during church services. However, the extent to which students understand and internalize the given information depends on several factors such as the competency of the teacher, the mode of delivery, the teachers'

preparation, and the teachers' conviction. In a bid to establish the impact of different sources of sexuality education to students, learners were required to rank some given sources, assigning number one to the source which had furnished them with the most pertinent information. Figure 4.3 shows the frequency of students' choice of rank 1 and 2.

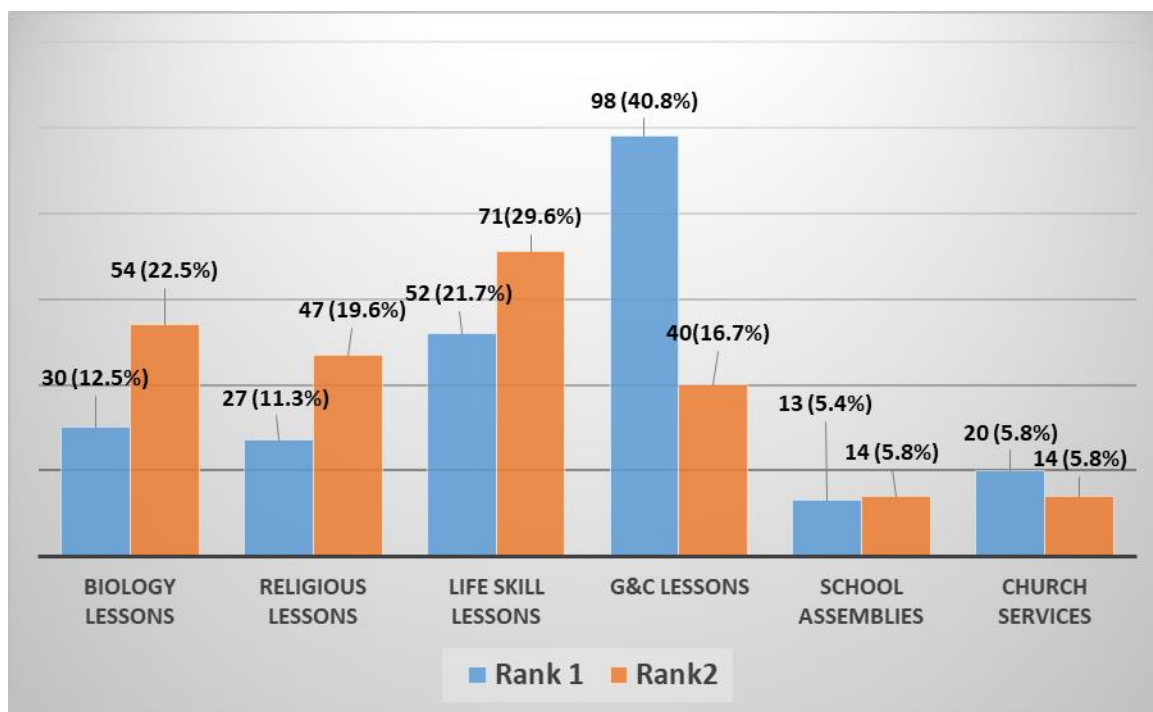


Figure 4.3: Students' Ranking of the Most Enriching Lessons in Sexuality Education

Figure 4.3, shows that G&C lessons were ranked number one by the highest number of students (40.8 %). This implied that it was through G&C lessons that students are instructed most of what they know in regard to their sexuality. Life skill lessons were also ranked number one by 29.6% of students, Biology lessons by 12.5% while Religious studies such as CRE and Islamic were ranked number one by 19.6% of students. Sexuality education through school assembly time and church services were ranked number one by the least number of respondents.

According to some of the interviewed G&C teachers, though limited by time, school assemblies were crucial in addressing pertinent emerging issues and which could not wait for scheduled lessons. It also emerged that the lessons that were ranked number one also

featured prominently in rank number 2. In regard to the popularity of life skills and G&C lessons, a G&C teacher commented:

I think students are more receptive and well-conditioned to receive and ask questions during life skill and guidance and counselling sessions since there is normally no rigid time limit and no examinations to worry about. Furthermore students are encouraged to be free and ask questions they may feel shy to ask their parents or other people at home. We also enhance our teachings through videos and well-illustrated charts. Some students may sometimes skip lessons but G&C sessions are normally packed. (G&C Teacher 10).

Apart from the teacher conducted sexuality education lessons, students gather other solicited and unsolicited information from media, peers, society within and outside the school, parents and relatives. Of these, information from media (radio, television, internet and others) was ranked number one by over 90% of students, followed by peers and parents.

In order to quantify the extent to which students' acquired information through sexuality education, the study required students to rate the extent to which information of various aspects or components of sexuality education was offered in school. The rating of different aspects was in form of a Likert scale such that None-1, Little-2, Moderate-3, large extent-4, Very large extent-5. Table 4.15 shows the analyzed data in means and standard deviations (SD).

Table 4.15: Students' Responses on Aspects of Human Sexuality Education

Statement	Mean	SD
Human reproduction system	3.8	0.8
Boy/girl relationship	2.6	1.0
HIV/AIDS (transmission, prevention and treatment)	3.5	0.9
STIs transmission and prevention	3.8	1.3
Aberrant sexual behaviours (Gay, lesbianism)	2.3	0.7
Sexuality education as a human right	2.4	0.7
Different sex orientation and human rights	2.5	0.8
Masturbation and its effects	2.6	1.0
Family planning methods	2.4	0.9
Puberty hormonal changes and management	3.8	0.8
Pornography and its effects	2.7	1.1
Body hygiene	4.2	0.7
Menstrual cycle and fertilization	3.4	0.9
Media influence on sexual behaviour	2.8	1.0
Sexual abuse-sex pests, rape	2.8	0.7
Religion/tradition view on sex and marriage	3.9	0.8

n = 240

As evident from Table 4.15, the extent to which information of some aspects of sexuality education was offered in school was rated as either 'moderate', to a 'large extent' or to a 'very large extent'. These aspects included: human reproductive system; HIV/AIDS transmission, prevention and treatment; STIs transmission and prevention; puberty hormonal changes and management; body hygiene; menstrual cycle and religion/tradition view on sex content coverage. They all had a mean response of 3.0 and above.

The other aspects such as boy/girl relationship; sexual aberrant practices, human rights associated with human sexuality, sex orientations, Pornography and its effects, masturbation and effects, family planning and others were rated as having been

accomplished to a little extent (mean response between 2.0 to 3.0). The lowly rated aspects or components of sexuality were found to be the contentious issues that religious leaders and other conservative lobby groups felt should not be part of sexuality education curriculum. In support of the conservative approach, one of the interviewed teacher commented:

Being a strong believer in Christian teachings, my view is that God did not hesitate to wipe inhabitants of Sodom and Gomorrah that are mentioned in the bible because they were the majority. So as the world slowly turns to a large Sodom and Gomorrah, staunch religious people should not compromise their faith in such excuses as 'homosexuals are driven by inborn hormones and people should be sympathetic and accommodate them'. There some people also who claim that they just find themselves in prostitution and stealing not because they plan but its rather compulsive...why do we not also understand and accept such people? (G&C Teacher 13).

Such comments demonstrate the strong feelings and convictions that may not ease the divide between the human rights sexuality education approach and the conservative. Perhaps since students are still bombarded by unsolicited and distorted information mainly through media, the conservative group can endeavour to furnish students with the information about existence of homosexuality just like prostitution and other vices and make their view clear. Students would then make their choice knowing the practices are unacceptable in some faith, outlawed by the government but without becoming homophobic.

CHAPTER FIVE

DISCUSSION, SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This chapter presents the discussion of the findings as per research objectives, summary of the findings, and conclusions derived from the findings and discussion. The chapter closes with the recommendations as per the objectives and suggestions of areas of further study. The purpose of the study was to examine the influence of sexuality education on students' behavior and attitude towards sexuality issues in Secondary Schools in Kosirai Division, Nandi County.

5.2 Discussion

This section discusses the study findings as per the three objectives of the study

5.2.1 Influence of Human Sexuality Education on Students' Perception on Premarital Sexual Relationships

The first objective of the study was to establish the influence of sexuality education on students' perception of premarital sexual relationships in secondary schools in Kosirai division, Nandi County. In reference to section 4.4, most students were of the opinion that boy/girl intimacy should be discouraged until after marriage (Mean = 3.8, SD = 0.8). The finding was consistent with Bonjour and Vlugt (2018) finding that students who undergo sexuality education based on an 'abstinence only approach' that aims primarily or exclusively at abstaining from sexual intercourse before marriage are inclined to view and profess against sex before marriage. Similarly, Leung et al., (2019) and Santelli (2019) observe that the focus in 'abstinence only' programs is particularly on self-discipline and restraint to abstain from all sexual activities. They consider this approach as strongly

normative in which sexuality among youth/adolescents is unacceptable or tolerated and should be repressed.

On a related issue, majority of the students indicated that sex abstinence until marriage was impractical (Mean = 4.0, SD = 1.0). This implied that although most students had internalized that sex before marriage was prohibited, they were unable to put that into practice. The finding was in line with Panchaud et al. (2019) and Sidze et al., (2017) who opine that the abstinence only approach neglect the realities of adolescent lives. The approach is not effective but rather harmful to young people who are already sexually active, who are lesbian, gay, bisexual and transgender (LGBT), or have experienced sexual abuse. The current study further found that most students were not definite on the use of condom ((Mean = 3.0, SD = 0.9). Their varied reaction could be attributed to the fact that while some believed in abstinence and where the use of condom was irrelevant, the other group had room for condom use.

Most of the students disagreed that any mature (body) young person should have a boy or girl friend (Mean = 2.8, SD = 1.3). However, the relatively high standard deviation shows that students had varied opinion on this issue. Nyamai (2019) and Wanzala (2019) terms such an opinion as hypocritical since young seem to take part in sexual activity uninhibited and more so the school children. They cited a case where close to 14,000 school girls aged between 15 and 19 were reported pregnant by the children's affairs department in Kilifi County in 2018.

Most students disagreed that apart from HIV/AIDS, multiple sexual partners can lead to cervical cancer (Mean = 2.7, SD = 0.7). The finding was consistent with Kirby (2008), Leung (2019) and Rutgers (2018) who posit that most students lack adequate information on the many dangers of having multiple sexual partners, in which human papilloma virus

(HPV) infection is one of them and which can lead to cancer. They further argue that the implementers of abstinence-only programs discourage sexual activity by employing tactics to instill fear, shame, and guilt in relation to sexual activity and presenting scientifically inaccurate information. In addition, they use stereotypical gender roles that discriminate against female students such as blaming women for men's sexual indiscretions. On a similar vein, Woog et al. (2015) observes that in low- and middle-income countries, young people aged 10–24 years account for just over one quarter of the population. As this high population of youth transition to adulthood, much information on sexuality is needed to enable them to lead healthy and safe sexual and reproductive lives. Yet many young people lack access to reliable information on sex, gender, relationships and sexuality, manifesting in poor knowledge and inadequate skills to protect their sexual and reproductive health and rights (Woog et al. 2015).

In a similar study Sidze et al., (2017), argues that the solution to the ignorance displayed by the Kenyan student and youth in general entails comprehensive sexuality education. They further opine that comprehensive sexuality education needs to be scientifically accurate, age-appropriate, nonjudgmental and gender-sensitive. The lessons should extend to prevention of HIV and other sexually transmitted infections (STIs), as well as contraception and unintended pregnancy. The students should also learn about values and interpersonal skills, gender, and sexual and reproductive rights. This is in line with the 2013 ministerial declaration, a comprehensive and rights-based focus to sexuality education and which Kenya is a signatory. The declaration had a focus on primary school level to ensure that students receive essential age-appropriate information and skills prior to initiating sexual activity (Wanzala, 2019).

Most students were found to be of the opinion that when a girl students gets pregnant, it is wrong to opt for abortion (Mean = 3.5, SD = 1.1). This implies that most students might have been influenced by the various sexuality education topics that enumerate the various dangers arising from abortion and being against God's command of thou shall not kill. In a similar study, Panchaud et al., (2019) asserts that CSE is grounded in young people's right to be informed and is based on the United Nations Convention on the Rights of the Child. They further insist that sexual rights have to be seen as human rights related to sexuality, which encompasses the right for everybody to be informed and to have universal access to comprehensive sexuality education. Further, CSE empowers students to make informed decisions about pregnancy and safe abortion. However, Wanzala (2019) notes that, conservative groups such as the National Council of Churches of Kenya (NCCCK), the Kenya Conference of Catholic Bishops (KCCB) and other lobby groups remain categorical that they do not condone the push for sex education that alienates parents from their primary role, or use of contraceptives that promotes sexual freedom without responsibility and focuses on the physical pleasure of sexuality but ignores the importance of context and morality, values and dignity of the human person. Guttmacher Institute (2018), a research organisation that advocates for sexual and reproductive health and rights considers the challenge to be the failure to reconcile rights-based methods of providing information and services to adolescents with conservative approaches.

Finally, most students agreed that they should know the various family planning methods and which they can use if one is involved in a sexual relationship (Mean =3.4, SD = 1.4). The relatively high standard deviation signifies that the response was varied. The human sexuality education as taught in Kenyan schools is does not emphasize the use of contraceptives and safe sex. Nyamai (2019) observes that conservative religious groups

increasingly support and encourage abstinence. Yet, Kenya has a high incidence of STDs and teenage pregnancy. Githinji (2019) discloses that about half a million abortions happen in Kenya every year mostly affecting teenage girls. In was on cognizance of these alarming figures that the Ministry of Health, in its National Adolescent Sexual and Reproductive Health Policy (2015), advocates comprehensive sex education for 10 to 19-year-olds, including access to contraceptives (Panchaud, 2019). Githinji (2019) notes that in Holland, children learn about relationships from as young as four years old. The results are impeccable since Holland has one of the lowest teenage pregnancy, abortion, and STDs rates in Europe. Therefore, a consensus among teachers, parents, policymakers and all other stakeholders is overdue. The consensus could modify the current CSE slightly to remove what they might consider as very extreme without losing the focus of viewing of treating sex education in Kenya as a human right. Every child should have the right to information about human sexuality.

5.2.2 Influence of Human Sexuality Education on Students' Management of Body Changes at Adolescence

The second objective of the study was to examine the influence of sexuality education on students' management of body changes at adolescence in secondary schools in Kosirai division, Nandi County. In reference to section 4.5, most students agreed that they were not taken by surprise not by their body changes since they had an idea of what to expect through sexuality education (Mean = 3.8, SD = 0.8). The finding was in line with Caskey, and Anfar, (2007) who found that teachers and guidance counselors can mitigate young adolescents 'concerns about physical development by explaining that why they happen, what to expect and that the changes are natural and normal. In a similar study, Aysel et al, (2016) emphasize that changes during adolescence stage give people, a new body, a new personality and a new identity. A healthy way of passing this period will positively

affect individuals' perspectives on life. Therefore, in this period knowing what the changes taking place are and a right approach will provide the successful shaping adolescents who already live a difficult period.

Similarly, most students indicated that through proper body hygiene as recommended in sexuality education, they were able to manage their body changes (Mean = 4.0, SD = 1.0). The finding was consistent with Yager et al. (2013) that with proper guidance adolescents can manage their skin and avoid unnecessary infections through proper hygiene. Proper body hygiene is crucial during adolescence as students undergo various hormonal changes. For some students, improper hygiene lead to rejection by the peers and become a source of frustration and depression. Scales (2010) maintains that acceptance by the peer group is essential for social-emotional development. Thus, such sexuality education should in cooperate information targeting the crucial hygiene measures especially at adolescence stage.

Most of the interviewed G&C teachers, however, expressed displeasure on how most students managed themselves as their bodies change. The finding corroborates Derman (2013) who found most students at adolescence fail to meet the required hygiene standards as they struggle with suddenly oily skin, unsuspected discharge and sweating. Derman observed that some youth needed to seek medical advice in order to apply the recommended oils for specific body.

Majority of students disagreed that they had managed their body changes through appropriate nutrition as recommended in sexuality education (Mean = 2.6, SD =0.9). In a similar study, Voelker et al. (2015) found that students at adolescents were at cross roads as they struggled to maintain the media and peer constructed ideal body shape while on the other hand the rapid body development demanded relatively large amount and

nutritious food. They further found that factors such as social comparison, fat talk, and weight-related bullying drove students to adapt eating habits that proved dangerous to their health. Similarly, results from Lampard et al. (2014) study indicated that higher levels of girls' body dissatisfaction were related to higher prevalence of school level teasing. Adolescents who experience weight-related bullying report negative affect, such as sadness and depressed mood, as a result. Voelker et al. (2015) cautions that negative body image among adolescents, which includes dissatisfaction with one's body shape, size, or specific body part and body distortion can directly impact eating behaviors in an attempt to sculpt one's body into a perceived ideal and gain a sense of control. It is therefore, important that teachers guide and counsel students on proper nutrition and the competing and conflicting needs and information that student's experience.

The statement that 'I have been able to control the sexual urges in accordance with what we were taught in sexuality education' was affirmed by most students (Mean = 3.8, SD = 1.3). However, the relatively large standard deviation signified that, students' reaction was varied. The finding was contrary to Kalinga (2010) who found that most students in Thika Sub County secondary schools were hardly benefiting from information they gathered through sexuality education. This could be attributed to over-reliance on peers for information about sex, consequently, most of the sexually active students indicated that they hardly used any form of protection during sexual intercourse, exposing them to the risk of contracting HIV/AIDS, sexually transmitted diseases, or getting unwanted pregnancies.

Most students refuted that they were able to advice their peers who complain of get disturbed by the body changes such as pimples, acne, lumps in the breast and menstrual crumps (Mean = 2.5, SD = 1.1). Most students also indicated that despite the peer pressure to try new things, they consulted before indulging in them (Mean = 3.4, SD =1.4). Consultation from teachers, parents and role models was a virtue advocated

through sexuality education. However, the relatively large standard deviation implied that some students did not consult. There was also a risk of consulting peer role models and who might lead them to more dangers instead of getting solutions.

In regard to menstrual cycle, majority of students felt that they were not able to offer proper advice (Mean = 2.7, SD = 1.3). Through sexuality education, both girls and boys students were expected to know the biology involved. The finding was similar to UNESCO (2015) finding that many students in Thailand still lack a correct understanding of a range of sexuality-related issues. The study found that only majority of students could not give correct answers to multiple-choice questions about menstruation or the menstrual cycle. Majority of the sexually active girls could only mention emergency contraceptive pills as their main method of contraception, whereas many boys viewed the use of condoms with suspicion. Many students appeared to lack understanding and awareness about contraception. They also lacked communication and negotiation skills that they need in their sexual lives, albeit having been receiving comprehensive sexuality education.

5.2.3 Influence of Human Sexuality Education on Students' attitude towards Aberrant Sexual Practices

The third objective of the study was to establish the influence of sexuality education on students' attitude towards aberrant sexual practices in secondary schools in Kosirai Division, Nandi County. In reference to section 4.6, most students affirmed that Sexual relationship should be between members of opposite sex as indicated in the bible/Quran (Mean = 4.2, SD = 0.8). The finding was consistent with other studies done by Mathews et al., (2017), Mtemeri (2015), and Muchera et al., (2016) which found that students judged aberrant practices from religious point of view and thus had no room for

homosexuality. Sexuality education as delivered in Kenyan schools is based on abstinence only and religious based and it was no surprise that considered heterosexual as the norm. Similarly, an overwhelming majority of students affirmed that it is an abomination for members of same gender to have sexual relationship in their cultures (Mean = 4.3, SD = 0.5). The finding was consistent with Mucherah et al. (2016) and Kodero et al. (2011) who noted that in most African societies same gender sexual relationships and other aberrant practices were and are still abominable acts. The finding was also in line with Mtemeri (2015) observation that in African cultures, homosexuality was considered as aberrant and evil sexual practice which could not bring forth any offspring. People who tried such practice were ostracized and sent away from community if not killed.

In a similar issue most students indicated that it is an abomination to have sexual activity with an animal such as a cow (Mean = 4.0, SD = 0.5). The finding corroborates Kalinga (2010) and Kodero et al. (2011) who found that most of the students in Kenya perceive sexuality issues from the teachings received from religious gatherings and their community norms and values and as such most must have known that sexual relationship between man and animal was considered a taboo, abnormal and unacceptable.

The statement that 'a student should not entertain intimate touches from either boys or girls' was affirmed by most students (Mean = 3.8, SD =1.3). However, some did not agree with statement as evident from the relatively large standard deviation. Through sexuality education, teachers are expected to emphasize and physically identify to the learners from the early age that, they have private parts which should not be touched or seen any other person apart from self. This is aimed at equipping the students with information that could protect them from sex pests who mostly start by touching their

victims intimately. However, as Cao et al. (2010) notes, students tend to be more faithful to what they view through media and especially pornographic material. Thus if other are explicit and exposing themselves to all, why should they hesitate to do the same. Cao et al. observes that, the parents, the religion and the teachers are all gradually losing out to the media and new strategies such as intensive sexuality education and others must be created in order to maintain sanity in morality among the youth.

The statement that 'one should report immediately to the school authority if subjected to sexual harassment from same or opposite gender' was affirmed by most students (Mean = 3.8, SD = 0.7). Reporting an intended or a committed crime could increase the chances of apprehending the culprit, besides getting timely evidence. Panchaud et al., (2019) and Sidze et al., (2017) maintains that comprehensive sexuality education equips learners with communication and negotiation skills in regard to sex issues in a non-threatening environment.

Most students agreed that each student should sleep on their own bed to discourage incidences of homosexuality in boarding schools (Mean = 3.5, SD = 0.7). The finding was consistent with Mucherah et al. (2016) whose finding showed that most students believed homosexuality is practiced mostly in single-sex boarding schools due sex starvation. Most of the interviewed G&C teachers pointed the fact that the issue of students sleeping in one bed has been prioritized by many head teachers and students are now aware of the salient reasons why it is discouraged.

The statement that 'one can contract HIV/AIDS and other STIs through homosexuality' elicited varied response from students. While some agreed to the statement, others disagreed and the mean response was 3.0 signifying a neutral response (Mean = 3.0, SD = 1.4). It seemed that some of the students were not well informed about homosexuality

though they knew it was an abhorred practice and hence varied responses. The finding was consistent with Kohler (2008) who noted that abstinence only approach to sexuality education does not include other sex-related behaviors such as petting, kissing, mutual masturbation, oral, and anal sex and as such students are given inadequate information.

In a similar issue, students overwhelmingly disagreed that homosexuals should be allowed live the way they want in the society (Mean = 2.5, SD = 0.8). This finding confirms and demonstrates the influence of the sexuality education have been receiving that has no place for homosexuality. As Santelli et al., (2017) noted, as long as students are not exposed to comprehensive sexuality education and homosexuality remains a criminal offense, homophobic tendencies will persist.

The statement that 'watching pornography can lead one to immorality' elicited varied reaction (Mean = 3.4, SD = 1.4). According to some of the interviewed G&C teachers, some students were so used in watching pornography from cell phones to the point that it was not anything unusual to them. In a similar finding Leung et al. (2017) and Hall et al. (2016) admits that the influence pornography on children behavior in regard to sex has been a challenge even to countries where CSE has been in place. Thus, though students may be cautioned of the negative effects of watching pornography, they tend to be receptive to online instructions.

Finally, most students disagreed that masturbation is a wrong way of dealing with sexual excitement (Mean = 2.7, SD = 0.9). Masturbation is a topic that is hardly tackled in sexuality education, implying that either many students were practicing and like it or they had inadequate information about it. According to some interviewed G&C teachers, masturbation was regarded as one of unusual and abhorred ways of sexual gratification in that the process could not help bring forth any child. Gowen et al. (2014) posit that just

like other aberrant practices, pornography that gratifies the practices is assuming the upper hand and in addition to sexuality education, teachers in collaboration with other education stakeholders need to be more proactive in order to arrest the vice.

5.3 Summary of Major Findings

This section presents the summary of the study findings in accordance to the objectives of the study.

The study found that most students perceived premarital sexual relationship as wrong since it was against religion teachings as well as their culture. According to both culture and religion, a girl ought to be a virgin before marriage. It implied that abstinence only sexuality education as done in Kenya had influence students to some extent. However, most students contradicted their first response since they indicated that sex abstinence until marriage was impractical. This implied that although most students had internalized that sex before marriage was prohibited, they were unable to put that into practice. Similarly, most students were indecisive on condom use. The indecision in regard to condom use can be attributed to fact that sexuality education most often discourage any sexual activity and thus do not emphasize on use of condoms. Information from the interviewed G&C teachers showed that while the general perception towards premarital sex was to abstain until marriage, a section of students were unable to adhere and a number of girls were back to school after giving birth. Nonetheless, human sexuality education was found to have a statistically significant influence on students' perception of premarital sexual relationship ($\beta = 0.382$, $t(239) = 5.284$, $p < 0.05$).

In regard to influence of sexuality education on management of body changes, most students agreed that they were not taken by surprise not by their body changes since they had an idea of what to expect through sexuality education. However students did not get

adequate information on body hygiene and nutrition. This led to psychosocial problems among the students as some got alienated due to their inability to maintain proper hygiene. Both girls and boys indicated that they did not have sufficient information in regard to menstrual cycle. In addition, most students knew little in regard to contraceptives except the emergency pill to prevent pregnancy. Some G&C teachers were of the attributed students' lack of the necessary information to lack of specific sexuality education curriculum. Lack of proper information in this area could have contributed to relatively high incidences of pregnancy in Kosirai division secondary schools. Nevertheless, human sexuality education was found to have a statistically significant influence on students' management of body changes during adolescent ($\beta = 0.529$, $t(239) = 5.284$, $p < 0.05$). That implied that students' management of the body changes during adolescence could be attributed to sexuality education.

Most students affirmed that Sexual relationship should be between members of opposite sex as indicated in the bible/Quran. They also indicated that homosexuality was among aberrant sexual behaviors that are abhorred by the society and an abomination in their cultures. Most students, however, were found to have inadequate knowledge in regard to health hazards associated with homosexuality, the advocacy of their rights, and the their tribulations. They only knew the act is illegal, condemned in bible and Koran and the culprits should be punished. They however acknowledged that they exist among them. The interviewed G&C teachers indicated that they were not permitted to teacher anything on homosexuality apart from mentioning that it is one of the sexual deviations and is punishable by Kenyan laws. The study found that human sexuality education as taught in Kenyan had no statistically significant influence on students' attitude towards aberrant sexual practices ($\beta = 0.278$, $t(239) = 3.728$, $p = 0.163$) in secondary schools in Kosirai division. This implied that, though the current sexuality education has a moderate

influence on students' attitude towards aberrant practices, the influence was not significant. It meant that students' did not get sufficient information through sexuality education but rather got information from other various sources.

5.4 Conclusion

From the study findings and discussions the following conclusions were made:

Most of the students in secondary schools in Kosirai division have inadequate information on the dangers of premarital sex, as well as safety measures. They, however, know that it is immoral, a sin and they should abstain until marriage. Thus, due to ignorance some girls have given birth and dropped out of school.

The Knowledge and skills imparted through sexuality education have enabled many students to manage their body changes at adolescence. However, most teachers were not competent to help in some areas such as the appropriate nutrition, skin problems and hormonal imbalances and other issue that trouble students during this period.

Students get scanty information in regard to aberrant sexual behaviours in secondary schools in Kosirai division, Nandi County. Through 'abstinence only' sexuality education they are cautioned of the immorality associated with homosexuality and that the act is outlawed in Kenya. Thus they can be considered as homophobic.

5.5 Recommendations of the Study

The following recommendations were made based on the findings and conclusions made.

In order to enable students to acquire realistic perceptions towards premarital sex in which they can take charge of their actions, they need more comprehensive information in regard to their sexuality. Besides abstinence, students should know the other precautions they can take in order to avoid unplanned pregnancies. The government through the

ministry of education should harmonize the abstinence only approach and the controversial CSE and come out with an agreeable curriculum.

Body changes during adolescence cause a lot of turbulence in a student's physical, emotional and psychological well-being. These changes can lead to depression, suicidal tendencies, anger out bursts and violence. In addition, some students adapt sexual risky behaviours as a defense mechanism from the body hormonal instability. It is therefore prudent for schools to the government to come up with stand-alone lessons specifically on sexuality education and where teachers can give comprehensive information on the body changes and array unfounded fears that torment adolescents.

As pro comprehensive sexuality education groups and the conservative abstinence only groups retain their hard stance, the student is continuously fed with information through media in regard to LGBTI (lesbian, gay, bisexual, transgender and intersex). Since such unsolicited and misguided information will do greater damage to the mind and behavior of students, it is imperative for these two groups to combine synergies and agree on the right curriculum content to deliver to the students.

5.5 Suggestions for Further Research

The following areas have been suggested for further research:

- i. A more detailed research in which segregated data on the response of male and female can be carried to shed more light on attitudes, behaviours and perceptions possessed by each gender
- ii. A study can be carried out to explore on how to come up with a curriculum which can be embraced by conservative and religious groups and the human rights approach groups
- iii. A national wide replica study but incorporating more stakeholders can be carried

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APPENDIX I: LETTER OF TRANSMITTAL

Dear Respondent,

I am a post graduate student in Africa Nazarene University, pursuing a master's degree in education. I am currently carrying out a research titled: **INFLUENCE OF SEXUALITY EDUCATION ON STUDENTS' BEHAVIOUR AND ATTITUDE TOWARDS SEXUALITY ISSUES IN SECONDARY SCHOOLS IN KOSIRAI DIVISION, NANDI COUNTY, KENYA**, as part of the course requirement. For this reason therefore, your school has been sampled for the study and you have been selected as a respondent.

Kindly respond to the questionnaire various items as candidly as possible. There is no right or wrong answer. Do not write your name anywhere in the questionnaire. The results of this study will be used for academic purposes only.

Yours Faithfully,

JOAN JEBET TOO

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No	Statement	SD	D	N	A	SA
i	Boy/girl intimacy should be discouraged until after marriage					
ii	Sex abstinence until marriage is not practical					
iii	Sexual intercourse using protection such as condom is good for students					
iv	Any mature (body) young person should have a boy or girl friend					
v	Apart from HIV/AIDS, multiple sexual partners can lead to other diseases such as cancer					
vi	If a girl students gets pregnant, it is wrong to opt for abortion					
vii	Students should know the various family planning methods and which they can use if one is involved in a sexual relationship					

5. How many times have you engaged in sexual intercourse for the past one year?
(Remember your honesty counts in this study)

- a) Once []
 b) Twice []
 c) Thrice []
 d) More than thrice []
 e) Nil []

If Nil, give reasons,

6. If you engaged in sex which protection method do you apply (protection against diseases, pregnancy and others)? Explain

7. As a student, there are no negative effects on your body if you suppress a sexual urge until marriage

Yes []

No []

Support your answer

SECTION C: Management of Body Changes at adolescence

8. The following are statements in regard to body changes experienced at puberty. Please indicate your level of agreement or disagreement in regard to how sexuality education enabled you to cope or to manage the changes.

Key: SA=Strongly Disagree (1) D= Disagree (2) N = Not sure (3) A= Agree (4)
SA = Strongly Agree (5)

No	Statement	SD	D	N	A	SA
i	I was not taken by surprise by my body changes since I had an idea what to expect through sexuality education in school					
ii	Through proper body hygiene as recommended in sexuality education, I have managed my body changes					
iii	Through appropriate nutrition as recommended in sexuality education, I have managed my body changes					
iv	I have been able to control the my sexual urges in accordance with what we were taught in sexuality education					
v	I am able to handle my peers who appreciate my youthful body					
vi	I am able to advice my peers who complain of getting disturbed by the body changes such as pimples, acne, lumps in the breast and menstrual crumps					
vii	Despite the peer pressure to try new things, I consult before I indulge in them					
viii	I can give advice on the female menstrual cycle					
ix	When I feel low, I normally share with my student or teacher mentor					
x	I appreciate my body physique					
xi	I appreciate my face					
xii	I engage in sports and other activities to distract myself from concentrating on sexual urges					

SECTION D: Attitude towards Aberrant (unusual) Sexual Orientation

9. As a student, you may have encountered information from your peers, media and other sources about some unusual sexual orientation such as boy/boy or girl/girl sexual relationship. Please give your opinion in regard to the following statements.

Key: SA=Strongly Disagree (1) D= Disagree (2) N = Not sure (3) A= Agree (4)
SA = Strongly Agree (5)

No	Statement	SD	D	U	A	SA
i	Sexual relationship should be between members of opposite sex as indicated in the bible/Quran					
ii	In our culture it is an abomination for members of same gender to have sexual relationship					
iii	It is an abomination to have sexual activity with an animal such as a cow					
iv	A student should not entertain intimate touches from other boys or girls					
v	One should report to the school authority if subjected to sexual harassment from same or opposite gender					
vi	Each student should sleep on their own bed to discourage incidences of homosexuality in boarding schools					
vii	One can contract HIV/AIDS and other STIs through homosexuality					
viii	Homosexuals should be allowed live the way they want in the society					
ix	Watching pornography can lead one to immorality					
x	To me, it is wrong for people of same gender to have sexual relationship					
xi	Masturbation is the wrong way of dealing with sexual excitement					

10. List down three major sources of information in regard to what you know about homosexuality, starting with the main source to the least'

SECTION E: Human Sexuality Education

11. Human sexuality education in school is mainly taught during biology lessons, Religious education (CRE and IRE), life skills lessons, guidance and counselling sessions, a brief talk during school assemblies and during church service. Rate these sources, assigning number one to the source which has furnished you with pertinent information as a young person.

Biology lessons	[]
Religious education lessons	[]
Life skills lessons	[]
Guidance and Counselling sessions	[]
Guidance during school assemblies	[]
Church service	[]

12. Explain two most benefits you have gained from human sexuality education in your school _____

13. Other sources of sexuality information that you may have encountered include media (radio, TV, Internet and others), peer (fellow students and other young people), society outside school community, parents, and relatives.

Please rank them assigning number one to the source you consider to have the most influence on your outlook on sexuality issues

Peer Information	[]
Society outside school community	[]
Human sexuality education in school	[]
Media	[]
Parents	[]
Relatives	[]

14. Please rate the extent to which you think you have acquired knowledge and skills in the following areas.

Key: None-1, Little-2, Moderate-3, large extent-4, Very large extent-5

No	Topic	1	2	3	4	5
i	Human reproduction system					
ii	Boy/girl relationship					
iii	HIV/AIDS (transmission, prevention and treatment)					
iv	STDs transmission and prevention					
v	Aberrant sexual behaviours (Gayism, lesbianism)					
vi	Puberty and hormonal changes					
vii	Pornography and its effects					
viii	Body hygiene					
ix	Menstrual cycle and fertilization					
x	Media influence on sexual behaviour					
xi	Sexual abuse-sex pests, rape					
xii	Religion/tradition view on sex and marriage					

Thank you for your cooperation

APPENDIX III: GUIDANCE AND COUNSELING TEACHERS' INTERVIEW**SCHEDULE**

1. What are the channels of teaching human sexuality in your school?
2. While teaching human sexuality, what is the main message in regard to pupils' premarital sex?
3. How do you prepare students in order to cope with rapid body and hormonal changes experienced during puberty?
4. How has human sexuality been able to assist students in seeking solution from teachers or other elder people in regard to sexuality matters?
5. What message do you pass to the students in regard to aberrant (unnatural) sexual behaviours?
6. What influence do you think human sexuality has had on your students' behavioural change?
7. To what has human sexuality been able to correct the incorrect information your students get through media, peers and the surrounding environment?

**APPENDIX IV: INTRODUCTION LETTER FROM AFRICA NAZARENE
UNIVERSITY**



AFRICA NAZARENE
UNIVERSITY

July, 5th 2018

Re: To whom it may concern

Joan Jebet Too (12M06CMED006) is a bonafide student at Africa Nazarene University. She has finished her course work and has defended her thesis proposal "**Influence of Teaching Human Sexuality on Students' Behavioural Change in Secondary Schools0076 in Kosirai Division, Nandi County, Kenya**"

Any assistance accorded to her to facilitate data collection and finish her thesis is highly welcomed.

A handwritten signature in black ink, appearing to read 'Rodney Reed', is written above the typed name.

Prof. Rodney Reed
DVC, Academic Affairs


APPENDIX V: RESEARCH PERMIT FROM NACOSTI

THIS IS TO CERTIFY THAT:
MS. JOAN JEBET TOO
of AFRICAN NAZARENE UNIVERSITY,
3018-30100 ELDORET, has been
permitted to conduct research in Nandi
County


on the topic: INFLUENCE OF TEACHING
HUMAN SEXUALITY ON STUDENTS
BEHAVIOUR CHANGE.

for the period ending:
23rd July, 2019

Permit No : NACOSTI/P/18/82678/24080
Date Of Issue : 23rd July, 2018
Fee Received :Ksh 1000




.....
Applicant's
Signature




Director General
National Commission for Science,
Technology & Innovation

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REPUBLIC OF KENYA



National Commission for Science,
Technology and Innovation

RESEARCH CLEARANCE
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Serial No.A 19633

CONDITIONS: see back page

APPENDIX VI: MAP OF KENYA SHOWING NANDI COUNTY

