

**DETERMINANTS OF STUDENTS' UPTAKE OF REPRODUCTIVE HEALTH
SERVICES TARGETING HIGH RISK SEXUAL BEHAVIOR IN KENYATTA
UNIVERSITY, NAIROBI COUNTY, KENYA**

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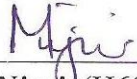
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**A THESIS SUBMITTED IN PARTIAL FULFILLMENT OF THE
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DECLARATION

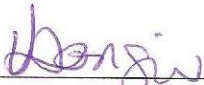
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DEDICATION

To my husband Elijah, our children Adia and Ethan

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OPERATIONAL DEFINITION OF TERMS

Abstinence: Refers to avoiding sexual contact completely

Attitude: Refers to students' thoughts about engaging in safe sexual practices with specific regard to ABC strategy for this study.

Awareness: Refers to how conversant students' were about reproductive health programs and services that exist in KU

Being Faithful: Having only one sex partner of opposite sex in a monogamous relationship.

High Risk Sexual behavior: Refers to having multiple sexual partners, inconsistent or lack of condom use, engaging in sex for favors, sex under the influence of drugs and alcohol abuse.

Knowledge: Refers to students' know how of up to date and correct information on various forms of HRSB

Practice: Students' engagement in the following high risk sexual behaviors' having multiple sexual partners, inconsistent or lack of condom use, engaging in sex for favors, sex under the influence of drugs and alcohol abuse.

Relationship status: As used in this study refers to heterogeneous relationship between students at three levels:

- (i) Committed relationship; having the same partner of the opposite sex for more than 6 months prior to the study.
- (ii) Mingling and searching; students' who are relating with partners of the opposite sex but are yet to settle with a specific partner.
- (iii) Not in a relationship; Students' who were not in a relationship or in the process of identifying a partner

Reproductive health Programme: These are special units within the university that have been set up to address high risk sexual behavior among students as part of their mandate.

Reproductive Health Services: Refers to preventive and curative services as well as services that promote safe sexual behavior to students such as counseling, HIV testing, condom distribution, seminars and workshops on reproductive health.

Students: As used in this study refers to a young adult aged between 18-25 years old, enrolled as an undergraduate and resides within Kenyatta University main campus hostels.

Uptake: Ability of undergraduate students in Kenyatta University to use the available services provided by programs within the university and also the frequency of use of services

ABBREVIATIONS AND ACRONYMS

AAU	:	Association of African Universities
ABC	:	Abstinence, Be faithful, Condom use
ACU	:	AIDS Control Unit
ADA	:	Alcohol and Drug Abuse
AIDS	:	Acquired Immune Deficiency Syndrome
BCC	:	Behavioral Change Communication
CDC	:	Centre for Disease and Control
E2A	:	Evidence to Action
FHI	:	Family Health International
HBM	:	Health Belief Model
HRSB	:	High Risk Sexual Behavior
HIV	:	Human Immuno-Deficiency Virus
HSP	:	Health Service Provider
IBP	:	Institution Based Program
ICL	:	I Choose Life
ICPD	:	International Conference on Population and Development
IPS	:	Inter Press News Service
KDHS	:	Kenya Demographic Health Survey
KII	:	Key Informant Interview
KNBS	:	Kenya National Bureau of Statistics
KUCCPS	:	Kenya Universities and Colleges Central Placement
KUFWCP	:	Kenyatta University Family Welfare and Counseling Project
KU	:	Kenyatta University

KUWEC:	Kenyatta University Wellness Centre
MoH :	Ministry of Health
NACOSTI:	National Commission for Science Technology and Innovation
NAFCI:	National Adolescent Friendly Clinic Initiative
NGO :	Non-governmental Organization
RH :	Reproductive Health
RHS :	Reproductive Health Services
SDG:	Sustainable Development Goals
SPSS :	Statistical Package for Social Sciences
SR :	Students' Response
STI :	Sexually Transmitted Infection
TOT :	Training of Trainers
YFS :	Youth Friendly Services
UNAIDS:	United Nations Program on HIV and AIDS
UoN :	University of Nairobi
USA :	United States of America
VCT :	Voluntary Counseling and Testing
WHO :	World Health Organization

ABSTRACT

High risk sexual behavior and its consequences among university students' continues to be a serious concern for learning institutions, parents, researchers and policy makers. This concern has been marked by the increased number of reproductive health interventions worldwide aimed at ensuring young adults have access to reproductive health information and services. In Kenya, a number of Universities have developed policies and set up programs to curb student high risk sexual behavior. However, this has not resulted in a decrease in high risk sexual behavior among students. In addition there is paucity of literature on studies assessing students' uptake of reproductive health interventions in Kenyan universities. The purpose of the study was to assess students' knowledge, attitude and practices relating to uptake of reproductive health services in Kenyatta University. The objectives of the study were to; establish students awareness of existing programs and services that address reproductive health issues at Kenyatta University; to determine influence of social demographic characteristics on students uptake of available reproductive health services; to determine students knowledge on high risk sexual behavior and in relation to their uptake of reproductive health services; to determine students attitude affecting their uptake of reproductive health services; to identify students high risk sexual behavior practices that influence uptake of reproductive health services and analyze relationships between students socio-demographic factors, knowledge, attitude and practices influencing uptake of reproductive health services. The study was guided by the Health belief model. The study employed a cross sectional survey research design. The sample size was comprised of 178 students who were selected using random sampling. Data was collected using a structured questionnaire for students' and interview guide for the key informants. Qualitative data was analyzed using content analysis while quantitative data was analyzed by use of SPSS using both descriptive and inferential statistics. Research findings showed that 44.4% of the students' had utilized the available reproductive health services in Kenyatta University. Chi square results revealed significant relationships between uptake of reproductive health services and students attitude to abstinence till marriage ($p=0.014$), attitude in condom use ($p=0.005$), maintenance of confidentiality ($p=0.001$), friendly service providers ($p=0.000$) students engagement in inconsistent condom use ($p=0.012$), multiple sexual partners ($p=0.028$) Sex under influence of alcohol ($p=0.002$) and sex for favor ($p=0.022$). The study concluded that students' engagement in high risk sexual behavior and their attitude towards service provision influenced uptake of reproductive health services whereas students' social demographic characteristics and their awareness of high risk sexual behavior practices did not influence uptake of reproductive health services. The study recommends reengineering of the way students are sensitized of about reproductive health services. Such strategies would include: use of social networks, increasing number of student peer counselors and provision of information on available reproductive health services during students' admission. It is envisaged that these strategies will increase students' awareness and uptake of reproductive health services.

CHAPTER ONE

INTRODUCTION

1.1 Background of the study

High risk sexual behaviors (HRSB), include multiple sexual partners, inconsistent condoms use, sex for favors, drugs and alcohol abuse that culminate in sexually transmitted infection (STI), including Human Immunodeficiency Virus (HIV), unplanned pregnancy and abortion (Johnson, 2011). Johnson further stipulates that HRSB, are established during adolescence, and often maintained into adulthood, affecting the health and wellbeing of an individual later in life. Several studies have noted that university students' engage in high risk sexual behaviors (Sinead, Maya, Lyde, and Cannady 2013; Heeren, Jemmott, Zolani, Mandeya, and Tyler 2012; Mwangi, Ngure and Thiga, 2012; Adam and Mutungi, 2007).

High risk sexual behavior of young adults has become of serious concern for institutions of higher learning because of the adverse consequences that are linked with young adults' engagement in HRSB (Moronkola and Idris, 2013). In addition, Moronkola and Idris noted that in the last two decades, this concern has been marked by the increasing number of reproductive health interventions aimed at young adults that have been established in different parts of the world.

Globally, there has been enormous effort to curb high risk sexual behavior among university students. The United States of America (USA) has a national programme known as Healthy People 2020 established in all its universities. One of its primary objectives is to reduce the number of new STIs and address HRSB among students

(Sinead *et al.*, 2013). In Chinese universities a study by Li, Hong, Gang, Yong, Fengrong and Xiuxia (2013) indicates lower levels of high risk sexual behaviors but the Chinese Ministry of Education is advocating for early behavior change programmes in schools. Li and his colleagues (2013) noted that amid rapid economic development, socio-cultural changes, and globalization, Chinese youths are becoming more sexually active and have increased access to substance use.

In Africa, Universities have also set up programmes to curb HRSB South Africa's Higher Education HIV and AIDS Programme has called for more peer-education and HIV sexual risk-reduction programmes targeting university students (Heerenet *al.*, 2012). Universities in Nigeria have a programme known as 'Empowering Youth through Young People'. The programme aims at reaching out to students and promotes safe sex through seminars and providing life skill training (Imaledo, Kio and Eme, 2012).

In Kenya many efforts have been made to curtail HRSB among the youth. For example, a study carried out by Kimiywe, Ogol, Waudo, Mwanzo and Orinda (2008) established that most universities in Kenya have institutionalized programmes to deal with high risk behavior including sexual behavior. These include; availability of AIDS Control Units (ACU) which offer support by providing condoms, STI Care and treatment, Peer Counseling and mentoring programmes. Also, according to Godia (2012) the universities offer common courses/units including HIV and AIDS, as well as critical and creative thinking; which equips students' with invaluable tools to increase their self-confidence, assertiveness, social and negotiation skills.

Despite the availability of programmes aimed at curbing high risk sexual behavior, studies continue to reveal the increase in high risk sexual behavior among university students. (Sinead *et al.*, 2013; Heeren *et al.*,2012;Mwangi *et al.*, 2012; Kimiywe *et al.*, 2008; Miller *et al.*, 2008; Adam and Mutungi, 2007). According to The Joint United Nations Program on HIV and AIDS (UNAIDS),in 2009 young people aged 15–24 years accounted for 45% of new HIV infections worldwide, out of which nearly 80% of young people live in Sub-Saharan Africa. In addition, approximately half of all new STIs occur within this group (15-24 years) and this is the age bracket with majority of the undergraduate students'. The 2008 Kenya Demographic Health Survey (KDHS) indicates there has been little change in the percentage of young women and men who engage in HRSB in comparison with results from the 2003 KDHS.

Kenya has made extensive efforts in aligning the reproductive health right agenda of youths as deliberated at the International Conference on Population and Development (ICPD) in Cairo in 1994 and the Maputo Plan of Action (Manoti, 2015). That have stressed the need of addressing the sexual and reproductive health needs of adolescents and youth as a key Sexual reproductive health component. The Kenyan the government facilitated the development of “*Adolescent Reproductive Health and Development Policy*” (Ministry of Health (MOH), 2006). The policy provides a framework for equitable, efficient and effective delivery of adolescent/youth sexual and reproductive health. Which also aims at giving guide to planning, standardization, implementation, and monitoring and evaluation of reproductive health Services provided by various stakeholders (MOH, 2006). Despite the efforts, inequity to accessibility and general

uptake of reproductive health services by the adolescents and youths remains a worrying concern (Manoti 2015).

Based on available literature so far, many of the studies conducted in universities have mainly focused on uptake of HIV and AIDS programmes especially the testing for HIV and AIDS, Voluntary Counseling and Testing (VCT) programmes. Notably, little has been done to establish the extent of uptake of programmes such as the peer counseling and mentoring services established to curb HRSB among university students. Walsh, Barnyard, Moynihan, Ward, and Cohn (2010) assert that although the implementation of such services is encouraging, creating services does not guarantee their use. As a result, the foregoing discussion provides a background that necessitated the undertaking of the study which assessed determinants of HRSB with regard to students' knowledge of HRSB, attitude on and practice of HRSB as well as students' socio-demographic characteristics that may influence uptake of Reproductive Health Services (RHS) in Kenyatta University.

1.2 Statement of the problem

Like many public Universities, Kenyatta University (KU) has in place RH programs and services that offer preventive and curative services on STIs and HIV. These services promote safe sexual behavior among students' through counseling, HIV testing, condom distribution, seminars and workshops on reproductive health in order to curb HRSB. However, several studies continue to show that HRSB among University students is on the increase despite the availability of a variety of reproductive health programmes to curb the behavior (Evidence to Action) (E2A), 2016; Manoti, 2015;

Sinead *et al.*, 2013; Mwangi *et al.*, 2012; Kenya National Bureau of Statistics (KNBS) and ICF Macro, 2010; Kimiywe *et al.*, 2008; Miller *et al.*, 2008; Adam and Mutungi, 2007).

University students' who are mainly young adults form a strong pillar of every economy. Continuously engage in HRSB affecting their health and well-being which is crucial to economic development and attainment of Sustainable Development Goals (SDG's). HRSB has been categorized as one of the health risk behaviors consistently found to correlate with increased morbidity and mortality rates among young people emanating from unplanned pregnancies, abortions, STIs, HIV and AIDS (Sinead *et al.*, 2013, Godia, 2012, Kirby *et al.*, 2010). The World Health Organization (2009b) reported that HRSB practices are estimated to be the second most important global health risk factor in the world, and is linked to the spread of HIV (WHO 2009a). According to Schmidt (2015) HRSB also poses the possibility of both emotional distress and has costly physical health outcomes.

Notably, governments and institutions of higher learning have responded to the sexual reproductive health needs of students' (Moronkola and Idris, 2013). However this has not been matched by a decrease in HRSB. Studies further reveal that there is low uptake of RHS by young adults aged between 18-24 years (Manoti, 2015). A recent study report on assessment of K.U Youth Friendly Services (YFS) revealed only 12.7% of the students' population had utilized the services (E2A, 2016). Wash *et al.*, (2010) asserts that although the implementation of RHS is encouraging, creating of services does not guarantee their use. Hence, the current study is necessitated by the need to assessing

determinants of HRSB influencing students' uptake of reproductive health services at Kenyatta University.

1.3 Purpose of the study

The purpose of this study was to assess determinants of students' uptake of reproductive health services targeting high risk sexual behavior in Kenyatta University.

1.4 Objectives of the study

This study was guided by the following specific objectives.

1. To establish students' awareness of existing programmes and services that address reproductive health services at Kenyatta University
2. To establish students' uptake of existing programmes and services that address reproductive health services at Kenyatta University
3. To determine the influence of socio-demographic characteristics on students' uptake of available reproductive health services.
4. To determine students' knowledge on forms of high risk sexual behavior influencing their uptake of reproductive health services
5. To determine students attitudes on ABC strategy that influence their uptake of reproductive health services
6. To identify students' high risk sexual behavior practices that influence uptake of reproductive health services

1.5 Null hypotheses

Ho₁ There is no significant relationship between student's socio-demographic characteristics and uptake of reproductive health services.

Ho₂ There is no significant relationship between student's knowledge on forms of high risk sexual behavior and uptake of reproductive health services

Ho₃ There is no significant relationship between students' attitude on ABC strategy and uptake of reproductive health services.

Ho₄ There is no significant relationship between students' practice of high risk sexual behavior and uptake of reproductive health services.

1.6 Significance of the study

To contribution of literature in the field of reproductive health behavior, the findings and recommendations of this study will inform institutions of higher learning, university management and RH programme coordinators on uptake of reproductive health services and their relevance to students. The study may suggest need to develop evidence based RH programmes which will be more beneficial to the students in helping curb HRSB in the university. It is also envisaged that this study may be helpful to health policy advisors concerned in making policies that enhance access to reproductive health services. The information obtained may also inform health policymakers on determinants of HRSB influencing students' uptake of reproductive health services. Thus, formulation of policies and interventions aimed at enhancing access and utilization of preventive reproductive health care.

The study is of significance to the community in that students' and young adults will be sensitized about the need (and also be aware that it their right) to access RHS. Thus contributing achievement of the indicator on ensuring universal access of RHS by 2030 under SDG three to ensure healthy lives and promoting the well-being for all at all ages.

1.7 Delimitations of the Study

The study focused on university students who were residents within KU main campus. In consideration of this, generalizations of the findings to other KU students and other universities must be done with caution.

1.8 Limitations of the study

The study was confined only to undergraduate students in the regular mode of study programme thus locking out other students' indifferent levels of their studies and other modes of study.

1.9 Theoretical framework

This study was based on the Health Belief Model (HBM) by Rosenstock *et al.*, 1988). According to Rosenstock *et al.*, (1988) HBM is a cognitive model for understanding health risk behavior including high risk sexual behavior among various age groups making it suitable for this study. The HBM predicts whether individuals undertake preventive health behaviors and is contingent on five factors: (a) an individual's perception to susceptibility to an adverse health outcome; (b) an individual's perception of the level of severity of the adverse health outcome and related consequential

outcomes; (c) an individual's perceptions of the benefits of given preventive behaviors in terms of helping them avoid the adverse health outcome; (d) an individual's perception of barriers to (or costs of) implementing given preventive behaviors. The fifth factor is the level of perceived self-efficacy which refers to the degree to which individuals believe that they are capable of implementing preventive actions (Rosenstock *et al.*, 1988).

Perceived benefits which refer to advantages of an action propose that if students are to engage in preventive behavior, they need to believe that the benefits are greater than the costs. This motivates students to seek services from the programmes in the university to obtain training on their sexuality, reproductive health matters, acquire life skill training, empowerment that enables them to be assertive and have strong negotiation skills. Thus students are knowledgeable on matters related to HRSB.

It is perceived that student may exercise self-efficacy which is the ability to successfully execute the required behavior to produce the desired outcome. When students' believe that they have the ability to execute the required behaviors, for example abstaining from sex, using of condoms, being faithful to one partner and drinking moderately, then the students may effectively secure themselves from HRSB.

Perceived barriers which indicate the perceived constraints to undertaking a specific action may influence students' attitude to utilizing services offered. This may include lack of awareness of existing services offered by the programmes, fear of seeking services from the programs or unfavorable service provision by the programmes.

Hence, influence the desired outcome of the programmes which is to mitigate high risk sexual behavior among the students.

1.10 Conceptual framework

The conceptual framework for this study was derived from the HBM theory. A conceptual framework helps to understand how specific issues fit into a broader discipline. This study sought to assess determinants of HRSB influencing students' uptake of RHS. Establishment of reproductive health services at the university was very essential to the students' fraternity and that their presence depicts the university's effort to curb high risk sexual behavior as well as provide students with reproductive health services. The study sought to investigate if students' were aware of the available reproductive health services. In order for an individual to utilize RHS they should be aware of an existing RHS. However, various factors such as socio demographic characteristics, knowledge, attitude and practices may influence an individual's decision to uptake RHS.

The main determinants for uptake of reproductive health services were hypothesized to be the students' socio-demographic factors such as their gender. It was perceived that more females than males would be more willing to uptake reproductive health services, since research has confirmed that females have high health seeking behaviors compared to males (Peterson and Hyde, 2010). Students' religion greatly impacts on sexual reproductive health as it may influence the knowledge, attitude and practices related to sexual behavior (Oladepo and Fayemi 2011; Obidoa, M'Lan and Schensul, 2012).

The study hypothesized that students' knowledge about the various forms of high risk sexual behavior, and their consequences could influence uptake of reproductive health services. It was assumed that students who were knowledgeable about HRSB and their consequences were more likely to engage in safe sexual practices and avoid in engaging in high risk sexual behavior. Research has shown that individuals with high level of knowledge about prevailing conditions that predispose an individual to a health threat influence an individual's health seeking behavior (Allen, Ridgeway and Swan 2015).

In addition, students' attitude was hypothesized to influence students' engagement in high risk sexual behaviors. It was envisaged that students' with a positive attitude to behaviours that promoted safe sexual practices. Such as the ABC strategy will not indulge in high risk sexual behavior. On the other hand, the study hypothesized that students' who had a negative attitude to adoption of the ABC strategy in their lifestyle most probably engaged in HRSB. Thus putting them at risk of encountering adverse reproductive health issues. Hence, refrain from utilizing reproductive health services on campus. Students' attitude towards service provision was also assumed to influence uptake of reproductive health services

Finally, the study hypothesized that students' engagement in HRSB practices would influence uptake of RHS. Students' who engaged more in HRSB practices would be more likely to uptake reproductive health services compared to those who refrained from high risk sexual behaviors.

In conclusion, socio- demographic characteristics could influence students' knowledge, attitude and practices of HRSB and their uptake of RHS. However, availability of RHS

that conducts seminars and workshops advocating for behavior change and providing life skill training to students. Was envisaged to intervene in the relationship between students' knowledge, attitude and practices and uptake of reproductive health services as illustrated in figure 1.1

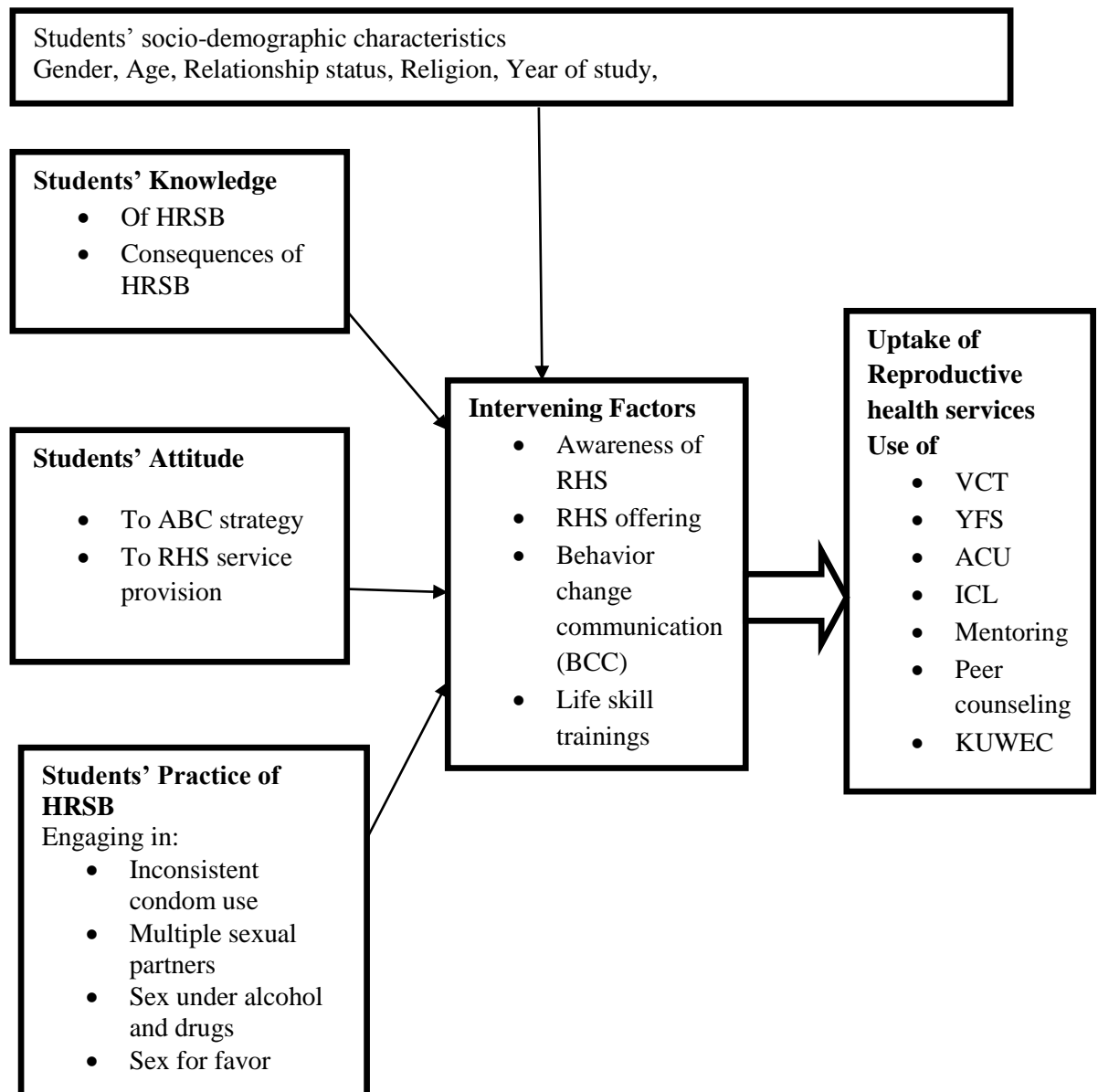


Figure 1.1: Conceptual framework: Uptake of programmes curbing High risk sexual behavior

Source: Modified from Rosenstock *et al.*, (1988)

CHAPTER TWO

LITREATURE REVIEW

2.1 Reproductive Health Services

Reproductive health has been defined as the state of physical, mental, and social well-being in all matters relating to the reproductive system, at all stages of life (WHO 2006). Thus reproductive health services (RHS) are therefore designed to offer appropriate reproductive health care services to men and women that are accessible, safe and affordable.

Reproductive health services established within universities are geared towards providing safe and accessible RHS to young men and women in the university who are termed as emerging adults (Arnett, 2010). Emerging adulthood individuals in this developmental stage are no longer adolescents; neither are they quite adults (Arnett, 2010). According to Arnett (2010) this age group is often characterized by identity exploration; focus on the self, with feelings of endless possibility. This forms the age where the students are maturing and forming relationships with opposite sex hence prone to indulging in high risk sexual behavior resulting to STI, HIV and AIDS as well as unwanted pregnancies

In addition, the young adults are individuals who are transitioning from parent-directed healthcare usage to self-determined usage (Schmidt, 2015). Therefore, entree of reproductive health services during this period can improve young adults' reproductive health, avert high risk sexual behaviors practices, and promote behavior change and safe

sexual practices (Schimdt, 2015). Provision of reproductive health services is one vital component of a young adult's health. Provision of reproductive health services involves providing age-appropriate services (Schimdt, 2015) including promoting safe sexual behavior that relies on prevention for behavior change, counseling, family planning, voluntary counseling and testing, condom distribution, screening and STI treatment. Optimally, these services must safeguard the students' rights to privacy, respect, and informed consent, while respecting cultural and religious values and rights to an individual (Schimdt, 2015).

Several studies have identified that university students continually engage in high risk sexual behaviors (Sinead *et al.*, 2013; Heeren *et al.*, 2012; Mwangi, Ngure and Thiga 2012; Miller *et al.*, 2008; Adam and Mutungi 2007). In consideration of this, several programmes have been designed to curb high risk sexual behavior among university students'.

2.2 Reproductive health services established by universities globally to curb HRSB

2.2.1 Health programmes

The Youth Friendly Service is a reproductive Health service programme that focuses on increasing students' knowledge regarding STI/HIV transmission dynamics, condom-use self-efficacy, contraceptives as well as facilitating partner communication about sex and condom use (Godia, 2012). Awareness of the importance of youth-friendly services has been on the rise worldwide. Several developed countries like Germany, Netherlands,

Sweden, the United Kingdom, Canada and the United States of America, have ‘youth information centres’ or ‘youth friendly ‘clinics (Schimdt, 2015; Currie *et al.*, 2012)

The United States of America (USA) has a national programme, Healthy People 2020 established in all universities. One of its primary objectives is to reduce the number of new STIs and address high risk sexual behavior among students (Sinead *et al.*, 2013). In Chinese universities a study by Li *et al.*, (2013) indicate lower levels of high risk sexual behaviors but the Chinese Ministry of Education are advocating for early behavior change programmes in schools. Amid rapid economic development, socio-cultural changes, and globalization, Chinese youths are becoming more sexually active and increased access to substance use (Li *et al.*, 2013). According to Burke *et al.*, (2015) University students in Ireland are frequently targeted with sexual health reminders and campaigns throughout the academic year that are designed to apply specifically to students and student life (Union of Students in Ireland 2011). Students also have specific health promotion initiatives such as on-campus Chlamydia testing in two universities in Ireland (Vaughan *et al.*, 2010).

In Africa, South Africa is among the leading countries in Sub Saharan Africa to implement adolescent health services through its *National Adolescent Friendly Clinic Initiative* (NAFCI) dubbed as ‘love-life’ (FHI, 2000). Efforts have also been made in other Sub-Saharan African countries to provide youth friendly services for example in Kenya, Uganda, Ghana as well as in Angola through the USAID *Prime Project* (Intra Health International, ca. 2004). African, Universities have also set up programmes to curb high risk sexual behavior. South Africa’s Higher Education HIV and AIDS

Programme have called for more peer-education, HIV sexual risk-reduction programmes targeting university students (Heeren *et al.*, 2012). Universities in Nigeria have a programme known as 'Empowering Youth through Young People. The programme aims at reaching out to students and promotes safe sex through seminars and providing life skill training (Imaledo, Kio and Eme, 2012).

In Kenya effort has been made to curtail this high risk sexual behavior among the youth. For example, a study carried out by Kimiywe *et al.*, (2008) identified that most Universities in Kenya have institutionalized programmes to deal with high risk behavior including the sexual behavior. These include; availability of AIDS Control Units (ACU) which offer support by for instance providing condoms, STI Care and treatment, Peer Counseling and mentoring programme. Also, the universities offer common courses including HIV and AIDS, critical and creative thinking, this equips students' with invaluable tools to increase their self-confidence, assertiveness, social and negotiation skills (Godia 2012).

Voluntary Counseling and Testing (VCT) programme form an important component of both primary and secondary HIV prevention strategies. Students can access them for testing and those who test negative are encouraged to reduce their risk sexual behavior while those who test positive are referred to appropriate follow-up services and have their health monitored (Godia, 2012).

Drug prevention programmes, studies have documented the relationship between substance use and high risk sexual behavior (Gallegos, 2008). Hence, drug prevention programmes that reduce substance use may also reduce the likelihood of engaging in

risky sex behavior (Johnson, 2011). Thus, the study sought to identify if the alcohol and other substance abuse programmes put in place have had any effect in reduction on high risk sexual behavior by students.

2.2.2 Psychological Support Programmes

Mentoring programmes, Studies conducted by Advocates for Youth, (2011) indicate programmes which included a caring adult-adolescent relationship help youth act more responsibly and develop self-esteem when offered good role models, affirming relationships and safe environments (Mwiria, 2007). Kenyatta University has also adopted and established a Mentoring programme for whose main goal was to provide staff to student mentorship on academics, career and life skills. The student to student mentoring was later established to easily reach out to other students and share matters of education, relationships and life skills. (Directorate Mentoring programme Kenyatta University, personal communication). Hence this study sought to establish if students in the university who uptake the mentoring programmes behave differently in terms of evading the high risk sexual behavior compared to those who do not consider uptake of these services.

Peer counseling Programme, Peer education is usually defined as “a form of teaching and/or sharing information, values and behaviors by members of similar age and/or status groups” (Imaledo, Kio and Eme, 2012). The peers are a small representative of a given population that attempt to influence the rest of the population. Peers can be trained or none trained. Its assumed peers form a source of information to their peers as well as high levels of trust that allows for open discussions of sensitive topics allowing

continuous flow of information in both directions (Manago, Ward and Aldana, 2015) These programmes are considered of valuable importance compared to adult-led health promotions because it promotes better communication among peers. In addition the peers understand each other's needs compared to people of different age group as a result, peer educator's may have a greater potential to effect change to their peers (Imaledo *et al.*, 2012). Thus, peer counseling makes a valuable and useful contribution to improve youth's health, success and well-being. Kenyatta University has also adopted this form of teaching and established peer counseling programme whose main goal was to promote behavioral change in order to reduce the high cases of unplanned pregnancy being observed in the university (Coordinator peer counseling programme Kenyatta University, personal communication) In this sense, this study sought to determine the influence peer counselors have to their peers on uptake of reproductive health services in the university.

2.2.3 Computer-assisted Behavioral Change Interventions

Computer- assisted behavioral change intervention are delivered in classrooms with the help of an oriented behavioral change intervention teacher using the web based version and hardcopy version. This type of intervention allows online counseling and support services that enable exchange of reproductive health and HIV/AIDS information between sexual reproductive health providers and young adults. It also includes use of virtual peer educators, interactive safer sex quizzes, story boards, and role plays (Young and Rice 2011; Noar *et al.*, 2009).

A Study by Musiimenta (2012) reveal that computer-assisted HIV interventions have led to reduced number of sexual partners, reduced risky sexual behaviors and improved students' sex abstinence. This was consistent to studies by (Bailey *et al.*, 2010; Ito *et al.*, 2008; Halpern *et al.*, 2008) that revealed improved knowledge and perception of vulnerability to HIV/AIDS, improved students attitudes towards gender equity in HIV/AIDS and pregnancy prevention, reduced adherence to men's infidelity-related norms and improved girls' perception of condom assertiveness self-efficacy.

There is evidence that computer-assisted HIV/AIDS innovations increase participants' knowledge of sexual health and HIV/AIDS (Bailey *et al.*, 2010; Young and Rice 2011; Noar *et al.*, 2009; Ito *et al.*, 2008; Halpern *et al.*, 2008). Although increase in knowledge does not always guarantee changes in behavior, reliable information especially about the involved risks can be vital in motivating health behavioral change (Prochaska and DiClemente 1983). Attitudes and self-efficacy of students also improved (Gustafson *et al.*, 2001). However, Studies that have assessed influence of computer assisted behavioral interventions reveal that Condom use appeared to be unaffected by the intervention. (Bailey *et al.*, 2010; Young and Rice 2011; Noar *et al.*, 2009; Ito *et al.*, 2008; Halpern *et al.*, 2008).

2.3 Reproductive health services established in Kenyatta University

Youth friendly services (YFS) were established under the Kenyatta University welfare and counseling project in partnership with Pathfinder Kenya in 1989. The Main objective of the program is to reduce rates of unplanned pregnancy, abortions and STI infections among university students. To provide family planning and counseling

services to students and offer life skill trainings on reproductive health issues and on relationships. The youth friendly services currently also offer breast and cervical cancer screening to students and staff, provide Antenatal, postnatal and child welfare clinic to students who are expectant and have babies.

Voluntary Counseling and Testing (VCT) was established in 2002 in Kenyatta University shortly after HIV and AIDS was declared a national disaster in the country. Kenyatta University VCT main objective is to encourage HIV testing, provide support to those infected and to conduct seminars and workshops on modes of HIV infection, and how to manage. According to Godia (2012) VCT programmes form an important component of both primary and secondary HIV prevention strategies. Students can access them for testing and those who test negative are encouraged to reduce their risk taking sexual behavior while those who test positive are referred to appropriate follow-up services and have their health monitored.

Kenyatta University AIDS control unit (ACU) was established in 2001 in response to the commission of higher education call for their establishment to reduce HIV and AIDS infections in institutions of higher learning. ACU main mandate is the formulation and promotion of programmes and activities for prevention and management of HIV and AIDS within the University and its neighboring communities. Its objectives are to facilitate peer education and life skill training to students and staff aimed at appropriate behavior change, sexual practices and positive living. Sensitizing the neighboring University community on HIV and AIDS issues. ACU organizes various activities such as seminars and workshops on HIV and AIDS management, reproductive health issues

and also conduct HIV and AIDS testing week every academic year for the university fraternity. ACU works jointly with the Voluntary counseling Testing center and through youth friendly clubs such as Kenyatta University Students AIDS control organization(KUSACO) and I choose Life (ICL).ACU is also mandated to provide and dispense condoms at the hostels and offices.

I choose life (ICL) Kenyatta university ICL's programme was established in 2002. ICL is a nationwide programme whose vision is to see a Healthy Africa Empowered people. Its goal is to contribute to the Kenya National AIDS strategic plan by reducing HIV infections, improving the quality of life for those infected and affected as well as mitigate the socio-economic impact of HIV and AIDS. ICLs mission is to create a movement of caring community members among students that make responsible and informed decisions with regards to their sexual reproductive health, HIV and AIDS and their life. ICL objectives are to: improve HIV and AIDS related knowledge delaying Sexual debut, decreasing the number of sexual partners per student, increasing condom use among sexually active students, decreasing stigmatization amongst people living with HIV and AIDS, Strengthening HIV and AIDS policy development and implementation with student and increasing VCT uptake by initiating specific youth programmes that aim at promoting the uptake of counseling and testing services among students. ICL programme uses peer education for behavior change among university students influencing change of students' practices, attitudes, risks and perception regarding their sexuality.

Kenyatta university peer counseling programme was established in 1989 under the Kenyatta University Family Welfare and Counseling project (KUFWCP) in partnership with Pathfinder international. Peer counseling programme aims promoting responsible sexual behavior among student, to reduce rates of unwanted pregnancies and abortions, to reduce STIs and HIV/AIDS infections, advocate for responsible drinking and reduce alcohol and drug abuse among students. Peer counseling programme reaches out to student by having one on one counseling, conducting door to door sensitization and counseling, conducting seminars, workshops and airing of movies addressing on: reproductive health issues and sexuality, relationship matters, alcohol and drug abuse, time management, stress management and on general issues that affect students on campus.

The Kenyatta University directorate of mentoring was established in 2006. With the aim of staff mentorship of all students from admission to the university and through their entire study period at Kenyatta university, with the aim of enabling first year students settle down faster with university life, enable them make informed decisions concerning their social life and career achievement. Its main objective is to nurture university students with strong moral and social values, to inculcate graduates with good management and leadership skills who are competent in their area of expertise. It was also envisaged that mentored students would lead a more fulfilled life while in Kenyatta University and beyond.

Kenyatta University Wellness Centre (KUWEC) was established in March 2010. Its main mandate is to offer counseling services and run the alcohol and drugs abuse

programmes (ADA) and to develop other health related programmes such as reproductive health issues. KUWEC vision is to create a conducive environment where students and staff experience a sense of well-being by being empowered with knowledge and skills aimed at behavior change and modification towards healthy life styles. Its objectives are to offer individual, group, pastoral, marital and industrial counseling to students and staff, Counseling and therapy to individuals engaging in alcohol and drug abuse, implement Kenyatta University Alcohol and Drug Abuse (ADA) policy as well as conduct training of trainers (TOTs') in peer counseling and alcohol and drug abuse. KUWEC is also responsible for conducting KU's baseline surveys on ADA.

KUWEC serves as a key programme in curbing high risk sexual behavior since, studies have documented the relationship between alcohol and substance use and risky sexual behavior (Gallegos, 2008). Hence, drug prevention programmes that advocate for people to engage in responsible drinking and reduce substance abuse may also reduce the likelihood of engaging in risky sex behavior (Johnson, 2011). Thus the study sought to establish if the alcohol and drug abuse programme (ADA) put in place had any influence in reduction of students' indulgence in high risk sexual behavior.

Studies have revealed that Programme duration in a given locality could influence the uptake of reproductive health services to the targeted beneficiaries. According to Alemayehu and Ahmed, (2008) uptake of services varies greatly with regard to programme duration in the university and the nature of activities they undertake. Hence,

the study also sought to establish if programme duration within the University since its establishment influenced students' uptake of reproductive health services.

2.4 Student awareness of established reproductive health services

According to Burke *et al.*, (2015) awareness and accessing sexual reproductive health services plays a major role in the level of sexual health experienced by young people. Access to reproductive health services allows for provision of information, use of protective contraceptive measures and also enables screening of STIs that helps in early diagnosis and prevention of sexual health outcomes (Mevisse *et al.*, 2011). Awareness of available services and programmes in University greatly influences student uptake of these programmes (Godia, 2012). A study by Kiran *et al.*, (2015) also revealed that students' ability to access reproductive health services influenced uptake and utilization of services. The study also revealed that Students at universities where SRH services were within the university health centre had a high utilization of SRH services than where SRH services were outside. A study by (Myers, 2009) revealed that uptake services increased in surroundings and places familiar to people where they feel comfortable This study contradicts (Godia, 2012) that reveal that most students utilize SRH services more when they are in a separate location from the main health facility that is accessed by all. The study also showed significant association with distance to the SRH to its utilization, the shorter the distance the more students accessed it compared to those in schools where services were far from students. Hence, this study sought to asses if student's awareness of availability of services increased access and uptake of reproductive health services.

2.5 Social demographic characteristics that influence uptake of reproductive health services

Gender may seem to influence uptake of reproductive health services in that male and female have different needs and expectations regarding their sexuality (Schimdt, 2015). For instance, studies have shown that men tend to have more permissive attitudes about casual sex and engage in more high risk sexual behaviors than their female counterparts (Grello *et al.*, 2006; Petersen and Hyde, 2010). Females tend to have different causes and major consequences for engaging in high risk sexual behavior practices than do men. The permissive attitudes practiced by males indirectly influences their uptake of reproductive health services in that less males may not deem it essential to seek services regarding their sexuality.

Young men and young women may have different reasons for engaging in high risk sexual behavior. Majority of men tend to base their sexual relations on exploration factor whereas women tend to place emphasis on close relationships, (Graves, Senter, Workman and Mackey, 2010) which may alter their reasons for having sex. Studies indicate that most women tend to have less control over condom use with a partner, which means condom use negotiation requires individuals' level of high self-efficacy (Schimdt, 2015). Engaging in high risk sexual behavior may have different consequences for young men and young women. For example studies reveal that women are biologically more vulnerable to HIV and AIDS and STIs, more vulnerable to sexual assault and rape than are men. In addition young women bear more the primary physical and emotional burden of an unplanned pregnancy (Sagrestano, Rogers

and Service, 2008; DeLameter, 2007). The consequences encountered by women necessitate the need for them to uptake reproductive health services. Hence the study sought to determine if students' gender at Kenyatta University influenced their uptake of reproductive health services.

Age forms an important demographic variable in sexual reproductive health as it marks age of first sexual debut. Age of first sexual debut is considered a high risk sexual behavior and it may influence an individual's sexual behavior in their life time. Age is a demographic factor that affects utilization of health services. Reports from KDHS 2008/09 revealed an increased uptake of family planning services among age 20-24 years as compared to 10-19 year old youth. The youth hardly perceive the seriousness of sickness or health need and this is a major impediment to the youth in accessing and utilizing health services (Obonyo, 2009). A study by Senderowitz, *et al.*, (2003) on rapid assessment of reproductive health services concluded that youth are unwilling to seek care due to the national laws and policies restricting care based on age and/or marital status, poor understanding of their changing bodies and insufficient awareness of risks associated with early sexual debut, STI/HIV and pregnancy.

Relationship status may influence uptake of reproductive health services. According to (Johnson *et al.*, 2009) in early adolescence there is a strong attachment to parents which shifts to peers and later on there is often a shift again to a romantic partner. University students are mainly at this age of seeking romantic partners providing a context for discovering what is attractive and arousing, their partners like and dislike, and how to reconcile one's own desires with those of one's partner (Furman and

Shaffer, 2011). In addition, Furman and Shaffer (2011) noted that romantic relationships are the primary channels in which individuals learn about their sexuality. Hence university students may at this point in time explore their sexuality thus getting engaged in high risk sexual behaviors.

Religion greatly impacts on sexual reproductive health as it may influence the knowledge, attitude and practices related to sexual behavior (Oladepo and Fayemi 2011; Obidoa, *et al.*, 2012). According to Smith (2015) most religions shy away from discussing or educating their members on sexual topics, some religions do not advocate on use of condoms and contraceptives. Hence, according to Oladepo and Fayemi (2011), Obidoa *et al.*, (2012) ones affiliation to a religion greatly impacts on their knowledge attitude and practices of reproductive health.

Research has shown that reproductive health and sexual behavior among university students' can be influenced by ones religion. In a study by Oladepo and Fayemi (2011) in a Nigerian University, majority of the students consented to the fact that their religion (Christianity and Islam) supported the adoption of abstinence but was difficult to achieve.

According to Kamau (2006) religious bodies had for a very long time opposed reproductive health care in favor of abstinence among the unmarried. Attempts by the Kenyan government to introduce sex education in schools in the early 1990s were resisted by religious organizations, particularly the Catholic Church and the Muslims (Brockman, 1997). The Catholic Church, which opposes and denounces the use of condoms and other contraceptives, publicly burnt them and other AIDS awareness

materials, and demolished condom dispensers (IPS, 1996). This culture of silence, only leads to lack of sexual reproductive health information among young adults on necessary reproductive health services to help protect themselves from reproductive health challenges facing them (Kamau, 2006). Failure to provide young adults with reproductive health information, may lead to their lack of life skills needed to enable them effectively negotiate transition challenges of adolescence and emerging adulthood. This study, therefore sought to find out if religion of KU students then influenced uptake of reproductive health services

A Study by Kiran, *et al.*, (2015) revealed that gender was predictor factor for uptake of reproductive health services with males being three times more likely than females to utilize RHS. Kiran *et al.*, (2015) study contradicts Peterson and Hyde (2010) that showed females sought RHS more than males this study sought to investigate which gender had utilized the RHS more. Marital status especially being married influenced uptake of RH service with married persons being six times more likely to utilize RH services compared to the unmarried persons. From the study by (Kiran *et al.*, 2015) it also revealed that other predisposing socio demographic factors such as the religion, ethnicity, did not have any statistically significant association with uptake of reproductive health services. This study sought to establish if students' social demographic characteristic such as gender, religion, relationship status, year of study, had any association with uptake of reproductive health services at Kenyatta University.

2.6 Students knowledge levels influencing uptake of Reproductive health services

Forms of high risk sexual behavior

High risk sexual behaviors practiced by university students include: early sexual debut, unprotected sex, multiple sexual partners and inadequate contraception use, promiscuous behavior and sexual contact with an unknown partner (Johnson, 2011; Kirby *et al.*, 2010). A study by Burke *et al.*, 2015 on university students revealed that age of sexual debut emerged as a significant predictor of an individual having multiple sexual partners in their life; it is also a risk factor for negative sexual health and social outcomes (McBride, Morgan, and McGee 2012).

Studies indicate that substance use and alcohol precedes risky sexual behavior, because, for instance, people tend to have risky sex when, under influence of substance use or because they exchange sex for drugs hence substance use acts as a gateway for risky sexual behavior. This exposes students to unplanned pregnancy, induced abortions, STIs like e.g. Chlamydia, gonorrhea, syphilis, HIV and HPV infection (Kirby *et al.*, 2010). This study sought to know if students at KU were knowledgeable of the various forms of high risk sexual behaviors and consequences associated with engaging in high risk sexual behavior.

Knowledge of high risk sexual behaviors and on available reproductive health services has been rated as one of the most important factor for decreasing the prevalence of high risk sexual behaviors among students thus influencing uptake of reproductive health services (Larki *et al.*, 2015). Studies have revealed that the educated youth are more

likely to seek youth friendly health services as they possess better understanding of their health needs (KDHS, 2008/09; Obonyo, 2009). This study therefore assumes that university students being in the highest level of education are in a better position to understanding their sexual health needs thus are more likely to utilize reproductive health services that have been set up in the university.

A study done in Burkina Faso, Ghana, Malawi, and Uganda in 2004 showed that contraceptive, STI and VCT services were under-utilized by the youth due to lack of knowledge about the services (Biddlecom, *et al.*, 2007). Godia (2012) and Tilahun *et al.*, (2010) also found out that lack of understanding of the importance of sexual reproductive health care or knowledge of RHS and where to go for care may discourage young people from using reproductive health services. Sexual health education through seminars, workshops plays a key role in passing sexual health information to students and which in turn can increase utilization of services. A study by Mironski (2013) also notes that insufficient knowledge of HRSB and knowledge of RHS acts as a barrier to students using reproductive health services and students engaging in safe sexual relations. Therefore this study sought to investigate if KU students have sufficient knowledge of high risk sexual behaviors and also knowledge of the available reproductive health services that are available for them in the university.

Interestingly a study by Majelantle, *et al.*, (2014) demonstrated that increased knowledge about AIDS was not a predictor for positive behavioral change. The study by Majelantle, *et al.*, (2014) on youths in Botswana revealed that youths continued to engage in risky sexual behavior despite having widespread and correct information and

knowledge about HIV and AIDs. Knowledge about a disease or factor that predisposes an individual to ill health has been shown to be a prerequisite for behavior change. Knowledge on sexual reproductive health has shown to influence an individual's sexual values and attitude (Larki *et al.*, 2015). This study sought to identify if KU students' knowledge on HRSB and their consequences were determinants for students engaging in safe sexual practices and utilizing reproductive health services.

2.7 Students attitudes towards reproductive health services

Students attitudes towards ABC strategy: A study by Liku, Kioko and Katz (2010) on students attitude towards ABC strategy at University of Nairobi (UoN) revealed that students attitude towards ABC strategy towards HIV and AIDS and unintended pregnancy prevention was not entirely positive though knowledge on ABC was relatively high (over 70%).

A study by Kairu (2006) in Kenyatta university revealed students had a positive attitude towards ABC strategy on HIV prevention. More than half of the student population interviewed (51%) had a positive attitude on abstinence, only 20% had a positive attitude to being faithful and only 17% had a positive attitude towards condom use. However their attitude on practicability of the ABC strategy abstinence was ranked number three, followed by being faithful to one partner and condom use as most effective. Therefore, this study sought to further explore if KU students attitude on ABC strategy influenced uptake of reproductive health services.

Health service providers' (HSP) attitudes have been identified as a major barrier that discourages young people from seeking or going back for reproductive health services (Godia, 2012; Obonyo, 2009). A study by Warenius *et al.*, (2006) in Kenya and Zambia revealed that reproductive health services were underutilized by youths due to judgmental attitude of health providers and lack of competence coupled with lack of knowledge in youth friendly service provision. A study in Ethiopia on health workers attitude toward sexual and reproductive health services for unmarried youth revealed that some health workers were setting up penal rules and regulations against premarital sex thus restricting youths from visiting the RHS (Tilahun *et al.*, 2010). Studies also indicate that HSP influence uptake of reproductive health services as most youth report that they are afraid of HSP because they ask personal and judgmental questions and sometimes give advice that is scary which discourages them from seeking services (Godia, 2012). Thus the study sought to examine student's attitude of the health service provider's friendliness and how it has influenced uptake of reproductive health services at Kenyatta University.

Assumptions of lack of anonymity and confidentiality have been seen as a hindrance to access and uptake of reproductive health services. A study by (Kiran *et al.*, 2015) revealed that majority of student's participants (71%) said the lack of confidential services was a significant barrier to their utilization of Sexual Reproductive Health (SRH) services. Similarly, 30% believed available services were inadequate to meet their SRH needs hence did not utilize the service or sought for them elsewhere. Thus the study sought to examine KU student's attitude of the health service provider's

friendliness and if confidentiality was maintained thus influencing their uptake of reproductive health services.

2.8 High risk sexual behavior Practice in Universities

Emerging young adults are in a period where they are trying to form their own identity, to be autonomous and are conscious of making their own choices and actions (Hägström-Nordin, 2005). Merluzzi and Nairn (1999) noted that emerging young adults perceive themselves as being healthy. Since they have few peers facing major illness attributed to high risk sexual behavior practices, thus have a tendency to think that they are invulnerable to illness. This perception creates the tendency among emerging young adults to simultaneously engage in multiple high risks sexual behaviors that expose them to health risks which adversely affect their present and future health and well-being. Studies have shown that levels of participation in risk behaviors such as unprotected sexual activity peak during early adulthood (Johnston, *et al.*, 2009). When compared with older adults, sexually active young people aged 15–24 are at an increased risk of acquiring STIs or experiencing an unplanned pregnancy as a result of a combination of biological, behavioral and cultural factors specific to the population (Centers for Disease Control and Prevention, 2010)

A study by Currie *et al.*, (2012) revealed that once students are in college, several other factors may play a role in students' decision making around sexual behavior. Previous researchers have identified several variables that have shown to relate to risky sexual behavior in university students, this include alcohol and substance use (Cooper, 2002), sensation seeking, (Dworkin, 2005), and religious beliefs, race, and family background

(Manago, 2015). Farrimond, (2012) study found that belief that one's peers were not using condoms during vaginal intercourse was significantly associated with not using condoms oneself. Furthermore, as students enter university, they are exposed to several novel situations and given greater freedom to explore new behaviors than they might have in high school, under parental monitoring. Lastly, university culture has also shown to impact on students' sexual beliefs and practices; for example, a less religious or more liberal environment may have more permissive norms regarding sexual behaviors for students (Schmidt, 2015).

High risk sexual behavior is a common practice among university students worldwide (Sinead *et al.*, 2013). According to Sinead *et al.*, (2013), there has been an increased trend in sexual debut among first year students that culminates to indulgence of high risk sexual behavior among university students throughout their campus life. Students from China, Europe and North America have reported lower rates of sexual activity with a prevalence ranging from 10% -15% compared to their peers from western and developing countries (Li *et al.*, 2013; Currie *et al.*, 2012). Song *et al.*,(2014) study on university students in Korea revealed that, after entering college, 84 % of South Korean college students had a relationship (Kang, 2011), and 50.8 % of male and 19 % of female college students experienced sexual intercourse (Shin, *et al.*, 2011). The rate of sexual intercourse of college students is increased tenfold compared to that of high school students in South Korea and, thus, the college years are a very critical period for education regarding sexual intercourse and safe sex.

A report on students high risk sexual behavior in Sub Saharan Africa show that 58.5% are currently sexually active, multiple sexual partners prevalence rate ranged from 40% to 75.2%, prevalence of unprotected sex ranged from 29.2% to 62% (Gelibo *et al.*, 2013; Rahamefy *et al.*, 2008). Dersee *et al.*, (2014) study on university students in Ethiopia revealed that students were sexually active and that 65.8% had at least once engaged in high risk sexual behaviors. The study reported that 11.5% had multiple sexual partners in the last three months, 44.3% of the students used condom inconsistently, 35.3% had started sexual intercourse before the age of 18 years and 16.3% of males had sex with commercial sex workers. For example, a study among university students in Madagascar by Rahamefy *et al.*, (2008) revealed that 86.5% of the students engaged in inconsistent/lack of condom use with 29% of the students reported to having multiple sexual partners. A survey conducted at six Ugandan universities showed 70% of the students had engaged in sexual experiences with 51% of the students reported inconsistent condom and 24% of the students having multiple sexual partners during the last 12 months prior to the survey (EAC/EALP, 2010).

This reveals that more students in universities are continually engaging in high risk sexual behavior despite efforts undertaken by universities to set up programs to curb this behavior. Thus, accounting for 45% of new HIV infections worldwide (UNAIDS, 2009), in addition, accounting approximately half of all new STIs (CDC, 2009).

Statistics from a study conducted in Kenyan universities by Kimiywe *et al.*, (2008) indicate high risk sexual behavior is rampant in the universities. From the study 74.1% of the students were sexually active, inconsistent condom use was at 12%, sharing of

partners was at 15.8%, undesired sex under influence of drug and substance abuse at 16.8%. Therefore, these findings continue to reveal the need of reproductive health services and more so measure to put in place for students to be informed about the availability of reproductive health services so as to avert the negative health outcomes associated with engaging in high risk sexual behavior.

Consequences of high risk sexual behavior continue to rise over the years with an estimated one million young people aged 15 to 24 years are getting infected with HIV every year representing 60 % of all new infections among those aged 15 years and older (UNAIDS 2010). WHO (2009a) reports that of the estimated 22 million unsafe abortions that occur every year, 15% occur among young women aged 15to19 years and 26% occur in those aged 20 to 24 years this group consist of young women in universities. The highest rates of STIs are found to be among young adults within the ages of 20 and 24, followed by adolescents aged 15-19 years (Wolfers, Zwart and Kok, 2011).

Song *et al.*, (2014) study on Korean college revealed that students experienced unintended pregnancies and abortions. In addition, the incidence of STI's is among students is highest in the twenties and the incidence of human immunodeficiency virus (HIV) infection increased more rapidly in the 20–24 age group compared to other age groups (Korean Centers for Disease Control and Prevention 2012). A study in Ireland university by Burke *et al.*, (2015) revealed that 36.7% of all new STI notifications were among individuals aged between 20 and 24, while those aged under 20 years represented 10.8% of all reported STIs (Health Protection Surveillance Centre, 2014).In

Kenya prevalence of STI's at 4.2% and at least 2% of female students had ever experienced unplanned pregnancy. In the light of the findings above, there is need for universities to continually provide sexual reproductive health education programs that cajole young adults to adopt safe sexual practices, behavior change, abstinence and use of preventive strategies should be initiated developed and sustained in all institutions of higher learning. This further justifies the need to assess student's uptake of reproductive health services curbing high risk sexual behavior and if KU students indulgence in high risk sexual behavior influences uptake of reproductive health services.

2.9 Summary of literature review

The literature reviewed shows that students are continually engaging in high risk sexual behavior and that there exists various types of programmes and services in universities that are designed specifically to curb student's high risk sexual behaviors. However the extent to which students' uptake these services are yet to be established. Determining students' uptake of reproductive health services in Kenyatta University is of great importance for this study in order for University management and programme coordinators to better strategize way RHS programmes can be accessed and utilized by all students. Finally there is little research that has been conducted to determine students' knowledge, attitude and practices that influence uptake of reproductive health services designed to curb high risk sexual behaviors among students in Kenyatta University. This is the major gap that this research endeavored to bridge.

CHAPTER THREE

METHODOLOGY

3.0 Research design

This study used the survey research design which was cross-sectional because it was carried at one point in time. According Robson (2011), survey research seeks to obtain information that describes existing phenomena by asking individuals about their perceptions, attitudes, behavior or values. The survey design is also convenient in collecting extensive data from a large scale of respondents within a short period of time (Mugenda and Mugenda, 2012).It yields reliable quantifiable data as it is collected at one point in time and conclusions can be inferred to the whole population (Kothari, 2004).For this study, it enabled the researcher to seek information from students on their knowledge, attitudes and practice that influence their uptake of reproductive health services as well as studying their socio-demographic characteristics.

3.1 Measurement of variables

3.1.1 Independent variables

Independent variables for the study comprised of (a) Students knowledge of forms of high risk sexual behaviors and their consequences. To measure this, students were asked to list the various forms of HRSB they knew of as well as consequences that were then ranked in descending order from the most known to least known by the students. (b) Students' attitude for ABC strategy was measured by a set of five items for each component scored on a five-point scale ranging from strongly disagrees to strongly agree. The attitude score was created by calculating the means of the items for each construct. Whereby, a high value score corresponded with a positive attitude and a low

value score corresponded with a negative attitude. Students' attitude towards service provision which was measured by students' opinion on whether health service providers (HSP) were friendly and confidentiality was maintained. These opinions were scored using a five level likert scale of strongly agree, agree, neutral, disagree and strongly disagree. (c) Students' engagement in these forms of high risk sexual behavior which was measured with regard to the aspects of:- lack/inconsistent condom use, having multiple sexual partners, having sex under the influence of alcohol and drug abuse and sex for favor. These aspects were measured by the frequency of times students had engaged in the HRSB in the last 6 months prior to the study and this was scored by use of a three level likert scale of severally, once and never.

The intervening variable for the study was Students' awareness of already existing reproductive health services, which were Youth friendly services, voluntary counseling and testing centre, AIDs control unit, I choose life, peer counseling, mentoring program and Kenyatta university wellness centre which offer life skill training and BCC that influences students' knowledge attitude and practice of HRSB which will determine students' uptake of RHS.

3.1.2 Dependent variable

The dependent variable for the study was students' uptake of RHS which was measured by student attesting to use of VCT, YFS, ACU, ICL, peer counseling, mentoring programme and KU wellness Centre.

3.2 Description of study location

The study was carried out at Kenyatta University (main campus). The university is located about 23kilometers from Nairobi along the Nairobi-Thika superhighway on 1,100acres of land. With Machakos University being its only constituent college The University has campuses at Ruiru, Nairobi city Centre, Parklands, Kitui, Mombasa, Kericho, Nakuru, Nyeri, Embu and Daadab. In addition it has Open Distance and e-learning Centres in Marsabit, Garissa, Kisumu and Kakamega. The University has various modes of study fulltime/regular students, evening and part time classes, digital school as well as the institutional based program (IBP).Students admitted to join the university are either self-sponsored or government sponsored who are selected by Kenya Universities and Colleges Central Placement Service (KUCCPS). (Kenyatta University calendar 2014-2017)

Kenyatta University currently has sixteen schools offering various degree programmes this are: school of Architecture and Spatial Planning, Agriculture, Applied Human Sciences, Business, Education, Engineering and Technology, Economics Environmental Studies, Law, Hospitality & Tourism, Humanities and Social Sciences, Medicine, Public Health, Pure and Applied Sciences, Visual and Performing Arts as well as graduate school. The university has three semesters in an academic year namely first semester that runs from September to December, second semester that runs from January to March and trimester which runs from May to July (Kenyatta University calendar 2014-2017). For this reason, field research for this study was carried out on the

first Semester of Academic year 2014/2015 from the month of September 2014 to December 2014.

Kenyatta university student capacity is estimated to be over 70,000 students studying in the main campus and other campus all over the country. It is therefore one of the largest universities in Kenya in terms of student population. Secondly, at KU all students admitted through KUCCP reside in the main campus. Thirdly all the programmes designed to curb the high risk sexual behavior are based in the main campus and therefore KU offered a rich environment for this study.

3.3 Target population

The study targeted only registered undergraduate students' on regular mode of study residing in the main campus hostels during the first semester of academic year 2014/2015 from the month of September 2014 to December 2014. The total population was approximately 10,033 students (Directorate of Accommodation Kenyatta University, personal communication, 2014).

3.3.1 Inclusion criteria

The study only included registered undergraduate students for academic year 2014/2015 first semester residing within the main campus hostels from September 2014 to December 2014 as the main participants for the research. These students were more likely to access and utilize the services that are situated within the campus compared to nonresident students' who may decide to seek services outside the campus.

3.3.2 Exclusion criteria

Registered undergraduate students for academic year 2014/2015 first semester who were not residents within the main campus hostels at the time of study were excluded from the study.

3.4 Sampling technique

Sampling technique is part of the research plan that indicates how cases are to be selected for observation. In this study, a combination of purposive sampling, proportionate sampling and stratified and simple random sampling were used. According to Robson (2011), purposive sampling involves handpicking of subjects because they are informative or possess the required characteristics to the objectives of one's study. Kenyatta University (main campus) was purposively selected for this study as it offered a rich environment for this study as discussed in section 3.2.

Kenyatta University main campus student residential area is divided into three zones namely Eastern, Western and Nyayo zone which were all included in the study. In order to ensure a representative sample, proportionate random sampling was done from the three residential zones. Stratified random sampling was used to select four hostels from each zone whereby two were male hostels and two female hostels to ensure gender representation from where respondents were to be selected. Simple random sampling was used to get to the respondent.

3.5 Sample size

The population for students residing in main campus was approximately 10,033 students with Nyayo zone having 4,497, Western zone 3,134 and Eastern zone 2,402 students (see Appendix F). The sample size for the study was determined using Fisher *et al.*, (1995) formula for a population above 10,000.

$$n = \frac{Z^2 p (1-p)}{d^2}$$

Where;

n- Sample size

Z- Statistic for a level of confidence (95% level of confidence, *Z* value is 1.962)

p- Expected proportion in the target population. (Assuming 50%, *p* =0.05)

d- Precision level of statistical significance (7%, *d*=0.07)

$$n = \frac{(1.962)^2 \times 0.5 (1-0.5)}{(0.07)^2}$$

$$n = 200$$

Therefore, from this equation a total of two hundred students (200) were selected as respondents for this study. Proportionate sampling of students in the various hostel zone was done, with ninety students (90) students being sampled from Nyayo zone, sixty two students (62) were sampled from western zone and forty eight students (48) sampled from Eastern zone on table 3.1. Random sampling of two male students' hostel and two female students' hostel in each zone was done. Simple random sampling of respondent from hostels was then conducted. The researcher with assistance of the housekeepers was able to get the specific numbers for all rooms of the selected hostel. Hence the door

numbers were written down on pieces of paper that were folded and placed in a bowl and mixed thoroughly. The researcher then picked a given number of papers with the estimated number of respondent from each hostel. The room number appearing on the picked paper is where the researcher went to search for the respondent and only one respondent was picked per room as illustrated on Table 3.2.

Table 3.1: Proportionate sampling of respondents from the hostel zones

Hostel Zone	Total population	Sampled population
Nyayo zone	4,497/10,033 X 200	90
Western zone	3,134/10,033 X 200	62
Eastern Zone	2,402/10,033 X 200	48
Total		200

Table 3.2: Random sampling of respondents from the hostels

Nyayo zone	Gender	sampled population
Nyayo 1	Female	22
Nyayo 2	Female	23
Nyayo 4	Male	23
Nyayo 6	Male	22
Western zone		
Ngong	Female	16
Lukenya 1 and 2	Female	15
Kilimabogo	Male	16
New Ruwenzori	Male	15
Eastern Zone		
Old aberdares	Female	12
New Aberdares 2 and 4	Female	12
Mfumbiro 1 and 3	Male	12
New Menengai 1 and 2	Male	12
Total		200

3.6 Data collection tool and procedure

The research used self-administered questionnaire and interview schedules for data collection.

3.6.1 Questionnaire

Data from the student participants was collected by use of a self-administered questionnaire since it guaranteed anonymity and confidentiality. Kothari (2004) stipulates that use of the questionnaire is one of the major ways to elicit self-reports on people's opinions, attitudes, beliefs and values. The questionnaire contained closed-ended questions to provide specific responses and open ended items for in depth information. Open ended questions permit a greater depth of response and give an insight into the respondents' feelings, backgrounds, hidden motives and intentions (Mugenda and Mugenda, 2012).

For the administration of student questionnaire, the researcher together with the help of two trained research assistants visited the selected hostels in the evening during weekdays from 5pm to 7pm after classes. Students' approached in the selected hostel, were first engaged by creating a rapport between the researcher and student explaining the purpose of the study. Probing of the student was done to ascertain they were the ones allocated the given room. Students' consent to participate in the study was sought who upon consenting would sign the consent form and a questionnaire was then handed over for them to fill. Students' were also informed the researcher preferred to wait for them to fill up the questionnaire. However, some declined requesting if the filled

questionnaire could pick on a later date which was agreed upon by the student and researcher. The researcher then picked contacts and door number of the respondent in order to trace the student. However, some students proved difficult to trace back that led to loss of some questionnaires. There were instances where the researcher missed out on student from the selected room thus noted down the door number and plan for a return visit.

3.6.2 Interview guides

The researcher conducted a total of ten interviews using a semi structured interview schedule. This was done to gather in depth information from seven programme coordinators' who were heading the VCT, YFS, ACU, ICL, peer counseling, mentoring programme and KUWEC. Additionally, the head of health unit who gave insight to the medical conditions they deal with as a result to student engagement in HRSB, the director of student's affairs and the director of accommodation who gave insight on how they deal with students cases such as unplanned pregnancy, where a student is evicted by the roommate from the hostel and if they knew where to refer such students.

The interviews were done face to face through direct personal investigation; hence the researcher collected information personally by writing. For the administration of interview, the researcher booked an appointment with each key informant who was purposively selected for the study since they serve us staff programme coordinators for the reproductive health services offered at KU. These face- to -face interviews lasted not more than fifteen minutes and took place at their various work stations and offices.

3.7 Pre-testing

Before commencing the study, pre-testing of the study instruments was conducted. The aim of pre-testing was to assist in determining accuracy, clarity and suitability of the research instruments and to check their validity and reliability (Mugenda and Mugenda, 2012). The pre-testing study was conducted at the school of business and involved a total of fifteen students. The fifteen students were self-sponsored students who were not residents in the main campus hostel hence could not be duplicated in the main study. Two staff members employed to offer services at the university programmes were also involved in the pre-testing. Adjustments were made in order to make the research instruments more appropriate before the actual field work begun. The responses derived from the pretest were used by the researcher to refine the questionnaire by rephrasing and editing thus ensuring that the questions conveyed the same meaning to all respondents. The pretest enabled the researcher to test the appropriateness of the study tool by ensuring that items tested what they were intended to (validity) and that they consistently measured the variables in the study (reliability). It also helped to estimate the length of time for the administration of instruments.

3.8 Validity of instruments

Validity refers to the extent to which an instrument measures what it is intended to measure based on objectives (Kothari, 2004). To enhance validity of the research instruments, peer review was done where the study proposal was presented twice at the department. Consistent consultations were done by the researcher together with supervisors and other expatriates who were knowledgeable in the reproductive health

field of study. This helped in establishing ambiguous questions and missing gaps in the questionnaire, and corrections were made on research items that were not clear before being used in the actual study.

3.9 Reliability of instruments

Reliability of measurement is the degree to which a particular measuring procedure gives similar results over a number of repeated trials thus, pre-testing is a good way to check for reliability of the data collection instruments (Kothari, 2004). Reliability test was conducted for the likert scale items using Statistical Package for Social Sciences (SPSS) where internal consistencies were analysed using Cronbachs coefficient alpha. The results of Cronbachs Coefficient Alpha yielded a value of 0.78 which was acceptable. According to Streiner and Norman (1989), a Cronbach Alpha Value of 0.70 or higher is considered good enough. Thus it indicated that the items selected for measurement of variables were reliable measures.

3.10 Logistical and Ethical considerations

Prior to conducting the study, Permission from relevant authorities' in relation to this study was sought. Approval from the graduate school was sought permitting the researcher to proceed in the area of study (See Appendix F). Permission from Kenyatta University Management was mandatory since the study was based within the university. An acceptance letter was issued that facilitated the researcher to conduct the study within the university (see Appendix G). Ethical clearance was also sought from Kenyatta University Ethics Review Committee the research body in the university

mandated to review proposals (see appendix E). A research permit to conduct the study was obtained from the National Commission for Science, Technology and Innovation (NACOSTI) which is the national research coordinating body in Kenya (see Appendix H). Voluntary participation and consent of respondents was sought before commencement of study and respondents were requested to sign the consent form (see appendix A) when they agreed. The respondents were assured of confidentiality and also informed that they could withdraw from the study, when they so wished without any consequences.

3.11 Data analysis

This study generated both qualitative and quantitative data. Quantitative data collected was analyzed using the Statistical Package for Social Sciences (SPSS). Descriptive statistics of means, frequencies and percentages were used to describe and summarize data. Inferential statistics used included chi-square to test relationship among variables. Data presentation was done through tables.

The qualitative data obtained from the open ended questions in the students' questionnaire was manually explored, to check for emerging themes. They were then clustered in a patterned order so as to identify variables that depicted general concepts that occurred repeatedly. Information generated was also statistically analyzed so as to elaborate on factors influencing students' uptake of reproductive health services. Qualitative data from the Key informants and some students' responses was presented in narrative form highlighting respondents' voices to compliment some of the quantitative findings.

Chi-square test of significance at a significance level of $P < 0.05$ was used to establish the relationship between the dependent and independent variables. The chi-square test of was preferred since both the dependent and independent variables used in the study were categorical.

CHAPTER FOUR

PRESENTATION OF RESEARCH FINDINGS

4.0 Introduction

The main purpose of this study was to assess students' knowledge, attitude and practices that influence uptake of services targeting high risk sexual behavior at Kenyatta University. This chapter entails data analysis and findings of the study based on research objectives of the study stated earlier in chapter one. The hypotheses formulated for this study were statistically tested by use of Chi-square test. This chapter therefore presents

students' awareness of existing programs and services that address reproductive health services at KU, students' socio- demographic characteristics, knowledge, attitude and practice that influence students' uptake of available reproductive health services.

The targeted sample size for this study was 200 students. However, a total of 178 respondents participating in the study were used for analysis indicating a response rate of 89.0%. According to Timothy and Wislar (2012), a response rate of 85% and above is considered to be good. In addition head of key facilities /directorates of YFS, VCT, ACU, ICL, peer counseling, mentoring, KUWEC, accommodation and health services were interviewed as key informants for the study.

4.1 Background Characteristics of Respondents

This section examines demographic data of students. Descriptive statistics of each socio-demographic variable (gender, age, relationship status, religion and the year of study) are described. This information was necessary for the study to comprehensively

gain the background information about the respondents. The socio demographic factors were later compared to the uptake of RHS.

Table 4.1: Socio Demographic Characteristics of Students'

Socio demographic factors	Frequency (n=178)	Percentage %
Gender		
Male	85	47.7
Female	93	52.3
Age		
20 years and below	33	18.5
21-24 years	124	69.7
25 years and above	21	11.8
Relationship status		
In a committed relationship	70	39.3
Mingling and searching	63	35.4
Single/not in a relationship	45	25.3
Year of study		
First year	20	11.2
Second year	66	37.1
Third year	71	39.3
Fourth and Fifth year	21	17.4
Religion		
Protestant	91	51.1
Catholic	59	33.2
Muslim	28	15.7

The results in table 4.1 reveal that females were 52.3% of the sample and were more than the males who were 47.7% of the sample. The research sought to find out the age of the respondents in the study. Age was categorized into three categories (1) 20 years and below, (2) 21 years to 24 years and (3) 25 years and above. Table 4.1 reveals that more than half (69.7%) of the respondents were aged between 21 and 24 years old. Those aged 20 years and below comprised of 18.5% while those aged 25 years and above comprised of 11.8%. The distribution of respondent age revealed a concentration

in the age category of 21 to 24 years. These results are reflective of the age group for most undergraduate students in Kenya and globally.

Relationship status of the students was categorized into three categories (1) in a committed relationship, (2) Mingling and searching and (3) single/not in a relationship. Respondents were asked to indicate the category they belonged to. Table 4.1 reveals that at the time of study 39.3% of the respondents were in a committed relationship, 35.4% were mingling and searching for partners while 25.3% were single.

The year of study of the respondent was an important variable for the study since it gave an indication of the length of time students have been at the university. This could form a key indicator on uptake of RHS within campus. Since it is assumed the longer one spends on a given place/location they are more familiar with the environment. First years are deemed to be relatively new on the university hence may not be aware of the available services compared to their counterparts in other academic years.

Findings in table 4.1 reveal that more than a third of the students (37.1%) participating in the study were in second year followed by third year students who were 34.3% of the total respondents. Fourth were 17.4% while first year students' 11.2% respectively. Underrepresentation of fourth and first year students could be attributed to the fact that at the time of the study majority of the fourth years were not residing within the main campus.

Religion of respondents was categorized into Catholic, Protestant, Muslim. Respondents were asked to identify the category they belonged to. Table 4.1 presents the distribution

of respondents by their religious affiliations. Half (51.1%) of the respondents were Protestants, while Catholics were at 33.2%, and Muslims were 15.7%. The high number of Christians' respondents could be explained by the fact that Christians make the majority of the Kenyan population at an estimate of 90% (KDHS, 2008/2009).

4.2 Students' Awareness of Reproductive Health Programs and Services in Kenyatta University

The study sought to establish if students were aware of existing programmes and services addressing reproductive health issues at KU. Students were asked to list any of the programmes or services they were conversant with that existed in the main campus addressing reproductive health among students.

Findings presented in Table 4.2 reveal that more than half of the respondents were aware of: Youth Friendly Services (YFS), Voluntary Counseling and testing (VCT), Aids Control Unit (ACU), and Mentoring Program with percentages: 62.7% , 70%, 65.3% and 50.6% respectively. The other programs had less than 50% students' awareness and in descending order their ratings were: Peer Counseling services (47.5%), I Choose Life (ICL) (45.9%), Kenyatta University Wellness Centre (KUWEC) (34.7%).

In depth interview data from some programme coordinators agreed to the fact that students' were conversant of the various programmes. The heads for VCT and YFS reported that students were aware of the services offered at these centers owing to the

high number of students who sought services from the programmes. Findings from KUWEC revealed that most students were not aware of this programme.

“We are busy and serve more than 30 students in a day especially for ante natal care and 20 on contraceptives use.”(Respondent KII 2)

“In a busy day we can counsel and test over 50 students.”(Respondent KII 1)

“In a week we serve less than 5 students.”(Respondent KII 5)

Table 4.2:Students’ awareness of reproductive health programs and services in Kenyatta University

Program	Frequencies (N=178)	Percentage (%)
Voluntary Counseling and Testing (VCT)	145	70
AIDS control unit (ACU)	116	65.3
Youth Friendly services(YFS)	111	62.7
Mentoring	90	50.6
Peer Counseling	85	47.5
I choose life (ICL)	81	45.9
Kenyatta University wellness Centre	61	34.7

**Multiple Reponses allowed

4.2.1 Methods used to create awareness of the programmes

The source of information by students of various reproductive health programmes and services were further investigated and are presented in table 4.3.

Table 4.3: Frequency distribution of sources of information for students about RH program and services

Sources of RHS information	Frequency (n=178)	Percentage %
Brochures/posters	125	70.2
Through a friend/peer	103	57.9
Seminars/workshop	76	42.7
Matriculation	55	30.9
Others	23	12.9

**Multiple Responses allowed

As shown in table 4.3, more than two thirds (70.2%) of the respondents knew of the existence of various programmes through brochures and posters disseminated while 57.9% knew of the programmes and services through their friends/peers. Seminars/workshops and matriculation ceremony were at 42.7% and 30.9% respectively. Findings from this study reveal that, brochures/ posters and peer recommendation can therefore, be said to be the most popular sources of information delivery to students about RH programmes and services in Kenyatta University.

However, of great concern, is that only 30.9% of the student population listed matriculation as one of the avenues they were aware of the available programmes. Yet any student who has been admitted to the university is provided with a folder that contains brochures of some of these programmes. In addition, newly admitted students undergo an entire week of orientation of the university where various heads of the programmes brief them of the programmes and services offered and their location. This could be an indication that the students may not pay attention towards the much information provided about these programs during orientation and matriculation. This could be as a result of the immense joy experienced by first year students for being in

university and may not pay attention towards the speeches about these programmes during matriculation. This was attested to by one of the respondents (SR 39) who said:

“I never bothered to read the many brochures in my folder only to revisit my folder in third year and begun reading them that’s when I learnt of most of the programmes and decided to visit one. I must have been so overjoyed to join campus and was more concerned of my degree program that key to my dream career.”(Respondent SR 39)

In depth interview conducted with programme coordinators concurred with this finding that their major way of informing students about the programme was through brochures and pamphlets that are distributed to new students during registration and are always available in the programmes office. They also consented to the use of posters that display information of upcoming events such as seminars and workshops. In addition they all attested to the fact they are given time to talk to all new students during matriculation. They welcome students to the university and brief them on the various services and activities that each programme undertakes as well as inform them on where to access the services.

“One way of making our service known is that we have an opportunity to address all first year students during orientation week about the program and services we offer.”(Respondent KII 5)

“Whenever we have an activity for example the testing week, we design posters and banners that are put up in the notice boards in the university and banners at

the gate that inform the students. I believe it's through this that our programme is known by most of the students'."(Respondent KII 3)

4.2.2 Students' Uptake of Reproductive Health Services

This study further sought to establish the level of students' uptake of RHS that are in existence in Kenyatta University. Students' were asked if they had ever utilized the available RHS. Those who answered in affirmative were further asked to identify the program whose services they had utilized. Those who had not utilized outlined reasons for no use of the reproductive health services. These findings are presented in table 4.4

Table 4.4: Students' Uptake of Reproductive Health Services

Uptake of RH services	Frequency	Percentage
Utilized RH services	79	44.4%
Not utilized RH services	99	55.6%
Total	178	100%

Findings in table 4.4 reveal that just over two fifth (44.4%) of the students had utilized the RHS existing in the university while over half (55.6%) had not. The researcher further sought to understand why the 55.6% of the students had not utilized RHS.

Table 4.5: Students' reasons hindering uptake of reproductive health services

Reasons for not utilizing RH services	Frequency	Percentage
Time factor/clashing with academic programs	28	28.3%
Never felt the need to seek service	25	25.3%
Not aware of existing programs	24	24.2%
I seek services outside campus	22	22.2%
Total	99	100%

Findings presented in table 4.5 highlight the various reasons that were cited by more than half (55.6%) of students who had not utilized reproductive health services as of the time of the study, these reasons include: Lack of time conflicting with academic needs 28.3%, students not experiencing the need to seek service 25.3%, while 24.2% were not aware of existing programmes and 22.2% sought services out of campus. These reasons are illustrated by the various responses of students who indicated.

‘The activities clash with the academic programmes’, (Respondent SR21)

‘I trust myself therefore I need no help from the services’ (Respondent SR48),

‘I am just young and having fun therefore I don’t need to be told what to do and what not to do’ (Respondent SR93)

‘I have other commitments on academics which is the core reason of being in school’. (Respondent SR105)

4.2.3 Students’ Health Seeking Behavior of Existing Reproductive Health

Services

The study further, sought to establish the frequency of seeking for services by the 44.4% of students who attested to have ever utilized available reproductive health services in the University. Students were asked to indicate frequency of utilizing services from the various programs on a scale which ranged from severally, once and never. Findings showed in table 4.6 reveal that VCT had the highest uptake of 45.1% with 13.1% of the students reporting to have utilized VCT services ‘severally’. This was followed by ICL at 42.5%, ACU 38.4%, YFS 38.3%, Mentoring 31.3%, and Peer

counseling 31.1% and lastly Drugs and wellness center at 16.8%. Findings also showed that more females 33.9% utilized YFS while only 4.4% males utilized YFS.

Table 4.6 Students Utilization of RHS by Programme

		Severally		Once		Never		Total
		Male	Female	Male	Female	Male	Female	
YFS	N	0	18	7	36	63	35	159
	%	0	11.3	4.4	22.6	39.6	22	100
VCT	N	11	12	24	32	50	46	175
	%	6.2	6.9	13.7	18.3	28.5	26.3	100
ACU	N	17	11	18	20	48	52	172
	%	9.9	6.4	10.5	11.6	27.9	30.2	100
ICL	N	15	18	17	23	49	50	172
	%	8.7	10.5	9.9	13.4	28.5	29.1	100
Peer counseling	N	11	17	10	19	56	59	172
	%	6.4	9.9	5.8	11	32.6	34.3	100
Mentoring	N	10	12	17	15	63	54	172
	%	5.8	6.9	9.9	8.7	36.6	31.4	100
Drugs& wellness	N	4	2	13	9	77	67	172
	%	2.3	1.7	7.6	5.2	44.7	38.9	100

**Multiple responses allowed

4.2.3 Students' Recommendations on Improvement of Reproductive Health Programmes And Services

Students were also asked to give recommendations to improve on service delivery as

presented in Table 4.7

Table 4.7: Students Recommendation on Improvement of Reproductive Health Services Delivery

Recommendation	Frequency	Percentage%
Use of social media	108	60.6
Extension of opening hours	64	35.9
Use of K.U radio	53	29.8
Need for more young HSP	23	12.9

**Multiple responses allowed

More than half (60.6%) recommended that the various programmes should use social media as a channel for communication on programme services and activities. Extension

of opening hours was recommended by 35.9% of the students, so that they could seek RHS services after classes. Use of KU radio station was also recommended by 29.8% of the students and 12.9% of the students recommending programmes to hire young HSP.

The programme coordinators recommendations were almost similar to those given by students especially on use of social media to pass information to the students. Most recommended the need to add on staff capacity to enable them to efficiently serve the growing student population.

“There is need for more peer educators to match the growing student population”. (Respondent KII4)

4.3 Influence of Socio-Demographic Characteristics on Students Uptake Of Reproductive Health Services

The study hypothesized that there is no significant relationship between student’s socio-demographic characteristics and uptake of reproductive health services.

The socio-demographic variables studied for this research were age, gender, relationship status, year of study and religion. Chi-square was used to establish if there was any relationship between these variables and uptake of reproductive health services as hypothesized.

4.3.1 Gender and Uptake of Reproductive Health Services

Gender is an important variable as it plays an important factor in health seeking behavior. Results in table 4.8 indicate that there were slight differences between the males and females with regard to utilization of existing reproductive health services in

Kenyatta University. Seventy nine (44.4%) of respondents who utilized services 47.3% and 41.2% were females and males respectively.

Table 4.8: Gender and uptake of reproductive health services

Gender	Utilized RH services	Not utilized RH services	Total
Male	35 41.2%	50 58.8%	85 100.0%
Female	44 47.3%	49 52.7%	93 100.0%
Total	79 44.4%	99 55.6%	178 100.0%

$\chi^2=0.677$; C= 0.62; df=1; p= 0.411

Chi-Square results ($\chi^2=0.677$; df=1; p=0.411) indicate that gender was not significantly associated with uptake of reproductive health services at 0.05 significance level. Therefore, the hypothesis that there is no significant relationship between social demographic characteristics⁷ of students and uptake of reproductive health services was retained with regard to gender.

4.3.2 Age and Uptake of Reproductive Health Services

Age of an individual is an important factor in seeking reproductive health services. Results in table 4.9 illustrate that the highest proportion (47.6%) of respondents who had sought reproductive health services were aged between 25 years and above, followed by those aged 21-24 years 44.4% and then 20 years and below at 42.4%.

Table 4.9: Age of respondent and uptake of reproductive health services

Age	Utilized RH services	Not utilized RH services	Total
below 20 years	14 42.4%	19 57.6%	33 100.0%
21-24 years	55 44.4%	69 55.6%	124 100.0%
25 years and above	10 47.6%	11 52.4%	21 100.0%
Total	79 44.4%	99 55.6%	178 100.0%

$\chi^2 = 0.140$; df= 2; p= 0.932

The chi-square test ($\chi^2=0.140$; df=2; p=0.932) indicate there was no significant association between age of the students and uptake of reproductive health services at 0.05 significance level. Hence, hypothesis there was no significant relationship between social demographic characteristics of students and uptake of reproductive health services was retained for students' age.

4.3.3 Relationship Status and Uptake of Reproductive Health Services

Relationship status of the students was also examined to assess its influence on uptake of reproductive health services. Findings shown in table 4.10 indicate that of those who had ever utilized reproductive health services more than half (55.7%) were in a relationship while those who were mingling and searching were 42.9% and only 28.9% were not in a relationship.

The chi-square results ($\chi^2=8.077$; df=2; p=0.208) showed that the observed variation for uptake of reproductive health services by relationship status was not significant at 0.05 significance level. Thus, the null hypothesis stating that there was no significant relationship between social demographic characteristics of students and uptake of reproductive health services was retained with regard to relationship status.

Table 4.10: Relationship Status and Uptake of Reproductive Health Services

Relationship status	Utilized RH services	Not utilized RH services	Total
In a relationship	39 55.7%	31 44.0%	70 100.0%
Mingling& searching	27 42.9%	36 57.0%	61 100.0%
Single	13 28.9%	32 71.1%	45 100.0%
Total	79 44.4%	99 55.6%	178 100.0%

$$\chi^2 = 8.077; df=2; p= 0.208$$

4.3.4 Year of study and Uptake of Reproductive Health Services

Students' year of study was deemed as an important variable influencing uptake of reproductive health services. Apart from first years other students in the university had been in the university for a substantial amount of time hence a higher probability of them utilizing reproductive health services in the university.

Results in table 4.11 reveal that of those who had utilized reproductive health services 47.8% of them were second year students third year constituted 47.5%, first years 45% and the fourth and fifth year combined were 37.3%. Chi- square results ($\chi^2=1.520$; $df=3$; $p=0.678$) showed that year of study was not significantly related to uptake of reproductive health service at a significance level of 0.05. Thus, the hypothesis that there is no significant relationship between social demographic characteristics and uptake of reproductive health services was retained for students by year of study.

Table 4.11: Year of study and Uptake of reproductive health services

Year of study	Utilized RH services	Not utilized RH services	Total
First year	9	11	20
	45.0%	55.0%	100.0%
Second year	22	24	46
	47.8%	52.20%	100.0%
Third Year	29	32	61
	47.5%	52.5%	100.0%
Fourth & Fifth year	19	32	51
	37.3%	62.7%	100.0%
Total	79	99	178
	44.4%	55.6%	100.0%

$$\chi^2=1.520; df=3; p= 0.678$$

4.3.5 Religion and Uptake of Reproductive Health Services

Results presented in table 4.12 indicate that the proportion of those who had utilized reproductive health was highest amongst Catholics 47.4%, Muslims 46.4% and Protestants 41.7%.

Table 4.12: Religion of respondent and Uptake of Reproductive Health Services

Religion	Utilized RH services	Not utilized RH services	Total
Catholic	28	31	59
	47.4%	52.6%	100.0%
Protestant	38	53	91
	41.7%	58.3%	100.0%
Muslim	13	15	28
	46.4%	53.6%	100.0%
Total	79	99	178
	44.4%	55.6%	100.0%

$$\chi^2=1.425; df=3; p= 0.700$$

Chi- square results ($\chi^2=1.425$; $df=3$; $p= 0.700$) showed that religion was not significantly related to uptake of RHS at a significance level of 0.05. Thus, the

hypothesis that there is no significant relationship between social demographic characteristics and uptake of reproductive health services was retained for students' religion.

4.4 To determine students' knowledge on HRSB influencing their uptake of Reproductive health services

4.4.1 Student's knowledge of high risk sexual behavior and their consequences

In an attempt to determine if the students' were knowledgeable on the various forms of high risk sexual behavior (HRSB) and their consequences. Respondents were asked to write down the forms of HRSB they knew of and also indicate the consequences of such behavior. The HRSB forms highlighted by students are contained in table 4.13.

Table 4.13 Students' Knowledge of various forms of HRSB

Forms of HRSB	Frequency n=178	Percentage %
Engaging in unprotected sex	128	71.9
Having multiple sexual partners'	98	55.1
Having Anal/oral sex	68	38.2
Engaging in Sex when drunk	64	36.0
Hookups/ one night stand	31	17.4
Engaging in sex for favor	23	12.9
Early sex debut	21	11.7

**Multiple responses allowed

The findings of this study show that students knew of engaging in unprotected sex was known by nearly three quarters(71.9%) as a form of high risk sexual behavior, while having multiple sexual partners was highlighted by over half (55.1%) of the students respondents. Other forms of HRSB highlighted included having sex under influence of

alcohol and drugs (36.0%), hook ups (17.4%), engaging in sex for favor (12.9%), and early sexual debut (11.7%).

With regard to students' knowledge of the consequences of engaging in high risk sexual behavior, the study deemed that individual's knowledge of consequences of engaging in high risk sexual behavior could act as a protective factor to either abstain or engage in safe sexual behavior.

The study sought to know if students were aware of the consequences of engaging in high risk sexual behavior. The main consequences outlined by the respondents, included contracting HIV and AIDS (98.3%), contracting STI (91.6%) and unplanned pregnancy (71.3%). Abortion was considered by a quarter of the respondents (25.3%) as a consequence and only 2.8% of the students respondents considered stress a consequence of engaging in high risk sexual behavior.

Table 4.14: Students' rating of Consequences of HRSB

Consequence of HRSB	Frequency n=178	Percentage%
HIV and AIDS	175	98.3
STI	163	91.6
Unplanned pregnancy	127	71.3
Abortion	45	25.3
Stress	5	2.8

**Multiple responses allowed

4.4.2 Students' Knowledge of Unprotected Sex as a HRSB and Uptake of RHS

Results presented in table 4.15 show that of the students who had utilized reproductive health services nearly half (48.4%) of them knew about unprotected sex was a high risk sexual behavior whereas it was not known by 34% of the students'. On the other hand it

was unknown by more than half of the students (51.6%) of having unprotected sex but had not utilized reproductive health services.

Table 4.15 Knowledge of Unprotected Sex as a HRSB and Uptake of RHS

Lack/inconsistent condom use	Utilized RH services	Not utilized services	RH Total
known	62 48.4%	66 51.6%	128 100.0%
Unknown	17 34.0%	33 66.0%	50 100.0%
Total	79 44.4%	99 55.6%	178 100.0%

$$\chi^2 = 3.036; C = 0.130; df = 1; p = 0.081$$

Chi-square results ($\chi^2=3.036$; $df=1$; $p=0.081$) show there was no significant relationship between students' knowledge on engaging in unprotected sex as a high risk sexual behavior, and uptake of reproductive health services at a significance level of 0.05. Thus, the hypothesis that there was no significant relationship between students' knowledge of high risk sexual behavior and uptake of reproductive health service was retained for engaging in unprotected sex.

4.4.3 Students Knowledge of Multiple Sexual Partners as a HRSB and uptake of RHS

The study sought to examine if students' knowledge of having multiple sexual partners as a form of high risk sexual behavior influenced uptake of reproductive health services. Results in table 4.16 reveal that of the students who had utilized reproductive health services 44.3% knew about having multiple sexual partners was a high risk sexual behavior whereas 44.6% did not know.

Table 4.16 Knowledge of Having Multiple Sexual Partners as a HRSB and Uptake of Reproductive Health Services

Multiple sexual partners known	Utilized RH services	Not utilized services	RH	Total
	39	49		88
	44.30%	55.70%		100.00%
Unknown	40	50		90
	44.60%	55.40%		100.00%
Total	79	99		178
	44.40%	55.60%		100.00%

$$\chi^2=2.036; df=1; p=0.986$$

Chi-square results ($\chi^2=2.036$; $df=1$; $p=0.986$) show there was no significant relationship between students' knowledge on multiple sexual partners as a high risk sexual behavior and uptake of reproductive health services at a significance level of 0.05. Thus the hypothesis that there was no significant relationship between students' knowledge of high risk sexual behavior and uptake of reproductive health service was retained for having multiple sexual partners.

4.4.4 Students' Knowledge of Engaging in Sex under Influence of Alcohol and Drug Abuse as HRSB and Uptake of RHS

Results from table 4.17 indicate that of the students who had utilized reproductive health services 43.8% knew that engaging in sex under influence of alcohol and drug abuse is a high risk sexual behavior whereas 44.7% did not know.

Table 4.17 Students' Knowledge of Engaging in Sex under Influence of Alcohol and Drug Abuse as a HRSB and Uptake of RHS

Sex under influence of alcohol	Utilized RH services	Not utilized services	RH Total
Known	28	36	64
	43.80%	56.20%	100%
Unknown	51	63	114
	44.70%	55.30%	100%
Total	79	99	178
	44.40%	55.60%	100%

$\chi^2=3.016$; $df=1$; $p=0.899$

Chi-square results ($\chi^2=3.016$; $df=1$; $p=0.899$) show there was no significant relationship between students' knowledge on engaging in sex under the influence of alcohol and drug abuse as a high risk sexual behavior and uptake of reproductive health services at a significance level of 0.05. Thus, the null hypothesis there was no significant relationship between students' knowledge of high risk sexual behavior and uptake of reproductive health service was retained for engaging in sex under the influence of alcohol and drug abuse.

4.4.5 Students' Knowledge of Engaging in Sex for Favor as a HRSB and Uptake of RHS

Findings presented in table 4.18 indicate that more than half (62.5%) of the students' who had utilized reproductive health services were knew about sex for a favor was a HRSB and 41.3% was not known to them. Chi-square results ($\chi^2=4.645$; $df=1$; $p=0.031$) show there was a significant relationship between students' knowledge on engaging in sex for favors as a high risk sexual behavior and uptake of reproductive health services at a significance level of 0.05. Thus, the null hypothesis there was a significant

relationship between students' knowledge of high risk sexual behavior and uptake of reproductive health service was rejected for engaging in sex for favor.

Table 4.18 Knowledge of Engaging in Sex for Favor and Uptake of Reproductive Health Services

Sex for favor	Utilized RH services	Not utilized RH services	Total
Known	15 65.20%	8 34.80%	23 100%
Unknown	64 41.30%	91 58.70%	155 100%
Total	79 44.40%	99 55.60%	178 100%

$\chi^2=4.645$; C= 0.159; df=1; p=0.031

Findings from this study indicate that students' knowledge of sex for favor as a HRSB had a significant association with uptake of reproductive health services.

4.4.6 Students' Knowledge of having anal/oral sex as a HRSB and uptake of reproductive health services

Results presented in table 4.19 reveal that the students who had utilized reproductive health services 41.2% of the students knew of having anal or oral sex was a HRSB and 46.4% did not know.

Table 4.19 Students' Knowledge of having Anal/Oral Sex as a HRSB and Uptake of RHS

Having anal/oral sex	Utilized RH services	Not utilized RH services	Total
Known	28 41.2%	40 58.8%	68 100.0%
Unknown	51 46.4%	59 53.6%	110 100.0%
Total	79 44.4%	99 55.6%	178 100.0%

$\chi^2=1.458$; df=1; P= 0.499

Chi-square results ($\chi^2=1.458$; $df=1$; $p=0.499$) show there was no significant relationship between students' knowledge on having anal or oral sex as a high risk sexual behavior and uptake of reproductive health services at a significance level of 0.05. Thus, the null hypothesis there was no significant relationship between students' knowledge of high risk sexual behavior and uptake of reproductive health service was retained for having anal or oral sex.

4.4.7 Students' Knowledge of Engaging in Hookups and One Night Stand HRSB and Uptake of Reproductive Health Services

Findings presented in table 4.20 indicate that of the students who had utilized reproductive health services 45.2% were knew about engaging in hookups/one night stand was a HRSB and 44.2% did not know.

Table 4.20 Students' Knowledge of Engaging in Hookups and One Night Stand as a HRSB and Uptake of RHS

Hook ups/one night stand	Utilized RHS	Not utilized RHS	Total
Known	14	17	31
	45.2%	54.8%	100.0%
Unknown	65	82	147
	44.2%	55.8%	100.0%
Total	79	99	178
	44.4%	55.6%	100.0%

$\chi^2= 1.923$; $df=1$; $p=0.009$

Chi-square results ($\chi^2= 1.923$; $df=1$; $p=0.009$) show there was a significant relationship between students' knowledge on engaging in hookups/one night stand as a high risk sexual behavior and uptake of reproductive health services at a significance level of 0.05. Thus, the null hypothesis there was a significant relationship between students'

knowledge of high risk sexual behavior and uptake of reproductive health service was rejected for engaging in hookups/one night stand.

4.4.8 Students' Knowledge of Early Sexual Debut as a HRSB and Uptake of RHS

Findings presented in table 4.21 indicate that more than half (52.4%) of the students who had utilized reproductive health services knew that early sexual debut was a HRSB and 43.3% did not know. Chi-square results ($\chi^2=1.886$; $df=1$; $p=0.017$) show there was a significant relationship between students' knowledge on early sexual debut as a high risk sexual behavior and uptake of reproductive health services at a significance level of 0.05. Thus, the null hypothesis there was a significant relationship between students' knowledge of high risk sexual behavior and uptake of reproductive health service was rejected for engaging in early sexual debut.

Table 4.21 Students' Knowledge of Early Sexual Debut as a HRSB and Uptake of RHS

Early sexual debut	Utilized RHS	Not utilized RHS	Total
Known	11	10	21
	52.40%	47.60%	100.0%
Unknown	68	89	157
	43.30%	57.7%	100.0%
Total	79	99	178
	44.4%	55.6%	100.0%

$\chi^2=1.886$; $df=1$; $P=0.017$

4.5 To determine students attitude that influence their uptake of reproductive health services

4.5.1 Students attitude of ABC strategy as a safe sex practice

The researcher sought to obtain students' attitude on selected safe sex practice that could be attributed to students' uptake of reproductive health services. This was guided by the abstinence, being faithful to one partner and condom use(ABC) behavioral preventive strategy against spread of HIV and AIDS. The ABC strategy was regarded as protective factor for behavior change thus resulting to a positive health outcome in curbing high risk sexual behavior.

Table 4.22: Students attitude towards ABC strategy

ABC strategy	Positive		Negative		Total	
	F(n)	%	f (n)	%	F (N)	%
Abstinence	71	39.9	107	60.1	178	100
Being faithful to one partner	128	71.9	50	28.1	178	100
Condom use	102	57.3	76	42.9	178	100

Findings from table 4.22 reveal that more than half of the students 60.1% had a negative attitude on abstaining this indicates the desire to indulge in premarital sex that can lead to high risk sexual behaviors such as early sexual debut among students. Thus students engaging in premarital sex may fear utilizing reproductive health services with the attitude that the health service providers will judge them for engaging in premarital sex. Whereas only 39.9% of the students who had a positive attitude in abstaining till marriage.

Students had a positive attitude to being faithful to one partner with nearly three quarters (71.9%) of the students agreeing it's essential to remain faithful to one partner.

With only 28.1% of the students having a negative attitude towards being faithful to one partner. Thus this could result to students utilizing reproductive health services to seek services such as family planning and counseling seeing on how to have healthy relationships.

Students also had a positive attitude with more than half of the students (57.3%) feeling that it was important for one to use condom use when engaging in sex. Whereas 42.9% of the students had a negative attitude towards condom use. Negative attitude towards condom use could result to increased uptake of RHS as individuals may seek help to avert consequences associated with lack of condom use for example post exposure prophylaxis, getting emergency pills at the YFS as well as VCT services to check if they have contracted the virus.

4.5.2 Students' Attitude towards Service Provision of RHS

The researcher further sought to obtain the students opinion towards service provision at reproductive health services and programs. Students were asked to gauge whether confidentiality is exercised and if the service providers are friendly using a 5-point likert scale. The results are tabulated in table 4.23

Table 4.23: Students Attitude towards Services Provision

	Confidentiality is exercised		Friendly service providers	
	Frequency (N)	Percent %	Frequency (N)	Percent %
Strongly agree	34	19.1	24	13.5
Agree	40	22.4	35	19.7
Neutral	53	29.5	48	26.9
Disagree	30	16.6	42	23.6
Strongly disagree	22	12.4	29	16.3
Total	178	100	178	100.0

Findings from this study reveal that nearly a half (41.5%) of the students believed that the programs maintained confidentiality, 29.5% were neutral and only 29.0% disagreed. Only 33.2% of the students agreeing that service providers were friendly.

The researcher sought to determine influence of students' attitudes with regard to ABC strategy as a safe sexual practice and uptake of reproductive health services.

4.5.3 Student's Attitude on Abstinence and Uptake of Reproductive Health

Services

The study sought to establish if students' attitude in abstinence had any influence on their uptake of reproductive health services. Results, of these findings are presented in table 4.24.

Table 4.24: Abstinence and Uptake of RHS

Abstinence	Utilized RHS	Not utilized RHS	Total
Positive	14 19.70%	57 80.30%	71 100%
Negative	65 60.70%	42 39.3	107 100%
Total	79 44.40%	99 55.60%	178 100%

$\chi^2 = 12.432$; $C = 0.256$; $df = 4$; $p = 0.014$

Results presented in table 4.24 above reveal that only 19.7% with a positive attitude had utilized reproductive health services whereas more than three quarter (80.3%) who had a positive attitude did not utilize reproductive health service. This could mean that students with a positive attitude towards abstinence perceived they were safe from ill sexual health thus did not find the need to utilize reproductive health services.

Findings indicate that more than half of the students (60.7%) with a negative attitude towards abstaining utilized reproductive health services. This could be an indication that students perceived themselves at risk and susceptible to illness due to their engagement in sexual activity thus sought RHS for protective measures or treatment. Whereas, only 39.3% with a negative attitude had not utilize reproductive health services.

Chi-square results ($\chi^2= 12.432$; $C=0.256$; $df = 4$; $p= 0.014$) show there was a significant relationship between students attitude on abstinence and uptake of reproductive health services at a significance level of 0.05. Therefore, the null hypothesis that there was no significant relationship between students' attitude and uptake of reproductive health services was rejected for abstinence.

4.5.4 Being Faithful to One Partner and Uptake of Reproductive Health Services

Being faithful to one partner was an important variable in this study as this would probably reduce students' engagement in multiple sexual partners. Moreover, studies

have shown that individuals in stable relationships have high self-efficacy on negotiating for condom use and contraceptives and are most likely to engage in safe sexual practices (Schimdt, 2015). Hence, the study sought to establish if students' attitude in being faithful to one partner had influence on uptake of reproductive health services.

Table 4.25 Being Faithful to One Partner and Uptake of RHS

Being faithful to one partner	utilized RHS	not utilized RHS	Total
Positive	56 43.70%	72 56.30%	128 100%
Negative	23 46%	27 54%	50 100%
Total	79 44.40%	99 55.60%	178 100%

$\chi^2= 1.309$; C=0.085; df= 4; p= 0.860

Results presented in table 4.25 show that 43.7% students with a positive attitude on being faithful to one partner had utilized reproductive health services whereas more than half of the students (56.3%) with a positive attitude did not utilize reproductive health services. Finding continue to reveal that nearly half of the students (46%) with a negative attitude towards being faithful to one partner utilized reproductive health services thus they perceived to be at risk of sexual health illness maybe due to their engagement in HRSB such as having multiple sexual partners. Whereas more than half (54%) with a negative attitude did not utilize reproductive health services

The Chi-square results ($\chi^2= 1.309$; C=0.085; df= 4; p= 0.860) reveal there was no significant relationship between students attitude on being faithful to one partner and uptake of reproductive health services at a significance level of 0.05. Thus, the null

hypothesis that there was no significant relationship on students' attitude and uptake of reproductive health services was retained for being faithful to one partner.

4.5.5 Students' Attitude on Condom Use and Uptake of Reproductive Health Services

Students attitude on condom use was assessed and its influence to uptake of reproductive health services. Results of this study regarding students' attitude on condom use and uptake are presented in table 4.26.

Table 4.26: Condom use and Uptake of Reproductive Health Services

Condom use	utilized RHS	Not utilized RHS	Total
Positive	59	43	102
	57.80%	42.20%	100%
Negative	20	56	76
	26.30%	73.70%	100%
Total	79	99	178
	44.40%	55.60%	100%

$\chi^2=14.926$; $C=0.278$; $df=4$; $p= 0.005$

Findings presented in table 4.26 indicate that there was a significant relationship between students' attitude on condom use and uptake of reproductive health service. Results show that more than half of the students (57.8) with a positive attitude towards condom use had and 42.2% of the students with a positive attitude to condom use did not utilize reproductive health services. Whereas, nearly a quarter of the students (26.3%) with a negative attitude towards condom use had utilized RHS and nearly three quarter of the students (73.7%) with a negative attitude towards condom use had not utilized reproductive health services

This finding could be an indication that students who had a positive attitude to safe sexual practices engaged in positive sexual behavioral practices such as condom use and utilizing of reproductive health services. On the other hand, those with negative attitude towards safe sexual practices engaged in negative sexual behavioral practices like inconsistent/lack of condom use, not utilizing reproductive health services and hence could be at high risk of suffering from adverse consequences of engaging in high risk sexual behavior.

The chi-square results ($\chi^2=14.926$; $C=0.278$; $df=4$; $p= 0.005$) revealed there was a significant relationship between students attitude on condom use and uptake of reproductive health services at a significance level of 0.05. Thus, the null hypothesis stating that there is no significant relationship between students' attitude and uptake of reproductive health services was rejected with regard to condom use.

4.5.6 Students' Attitude on Service Provision that Confidentiality is maintained

Confidentiality of students' information given to health service providers' has shown to influence uptake of reproductive health services (Godia, 2012). This study also sought to establish if students perception that confidentiality is maintained when information they shared with reproductive health providers in various programs influenced their uptake of reproductive health services.

Results presented in table 4.27 show that of those students who had utilized reproductive health services half (50%) strongly agreed and 52.5% agreed that confidentiality was maintained, whereas 26.4.% were neutral, 56.6% disagreeing and 47.6% strongly disagreeing still utilized reproductive health services.

The chi-square results ($\chi^2=18.295$; $C=0.305$; $df=4$; $p=0.001$) revealed there was a significant relationship on students attitude on confidentiality is maintained and uptake of reproductive health services at a significance level of 0.05. Thus, the null hypothesis stating that there is no significant relationship between students' attitude and uptake of reproductive health services was rejected with regard to confidentiality is maintained.

Table 4.27: Students' perception that HSP maintained confidentiality and Uptake of RHS

Confidentiality maintained	is Utilized services	RH Not service	utilized RH	Total
Strongly agree	17 50.0%	17 50.0%		34 100.0%
Agree	21 52.5%	19 47.5%		40 100.0%
Neutral	14 26.4%	39 73.6%		53 100.0%
Disagree	17 56.6%	13 43.4%		30 100.0%
Strongly Disagree	10 47.6%	11 52.4%		21 100.0%
Total	79 44.4%	99 55.6%		178 100.0%

$\chi^2=18.295$; $C=0.305$; $df=4$; $p=0.001$

4.5.7 Students' attitude on service provision that health service providers are friendly

Health services providers greatly influence uptake of reproductive health services by young adults. Studies reveal that Health Service Providers (HSP) influence uptake as most youth report that they are afraid of HSP because they ask personal and judgmental questions and sometimes give advice that is scary which discourages them from seeking services (Godia, 2012).

Results presented in table 4.28 indicate that of those students who utilized reproductive services 45.8% strongly agreed and more than half 62.9% agreed that health service providers were friendly, whereas 20.8% were neutral and 59.5% disagreed and 37.9% strongly disagreed.

Table 4.28: Students' Perception on Friendly Service Providers and Uptake of Reproductive Health Services

Friendly health service providers	Utilized services	RH Not service	utilized RH	Total
Strongly agree	11 45.8%	13 54.2%		24 100.0%
Agree	22 62.9%	13 37.1%		35 100.0%
Neutral	10 20.8%	38 79.2%		48 100.0%
Disagree	25 59.5%	17 40.5%		42 100.0%
Strongly Disagree	11 37.9%	18 62.1%		29 100.0%
Total	79 44.4%	99 55.6%		178 100.0%

$\chi^2=34.047$; C=0.401; df=4; p=0.000

The chi-square results ($\chi^2=34.047$; df= 4 p=0.000) revealed there was a significant relationship on students attitude on confidentiality and uptake of reproductive health services at a significance level of 0.05. Thus, the hypothesis that there is no significant relationship between students' attitude on reproductive health service provision and uptake of reproductive health services was rejected with regard to friendly health services providers.

4.6 To Determine Students' HRSB Practices that Influence Uptake of RHS

4.6.1 Students' Engagement in HRSB Practices

The researcher sought to find out high risk sexual behavior practices among the students. Students were asked to gauge the extent to which they had engaged in inconsistent condom use, having multiple sexual partners, having sex under the influence of alcohol and drugs and having sex for favors in the last six months prior to the study based on a scale ranging from often, once and never. These findings are presented in table 4.29

Table 4.29: Students' High Risk Sexual Behavior Practices

	Ofte n		Onc e		Neve r		Tota l	
	F	%	F	%	F	%	F	%
lack/inconsistent condom use	52	29.2	74	41.6	52	29.2	178	100
Multiple sexual partners	45	23.3	60	33.7	73	41.0	178	100
Sex influenced by alcohol & drugs	64	36.0	48	27.0	66	37.0	178	100
Sex for favor	21	11.8	32	18.0	124	69.2	178	100

Table 4.29 reveals students' engagement in high risk sexual behavior. Nearly three quarters of students (70.8%) reported lack of/inconsistent condom use, with 41.6% of those saying they had engaged in this form of HRSB 'at least once' in the last 6 months prior to the study. Further 63% of the students attested to have ever had sex while under the influence of alcohol and drugs with over a third (36%) indicating they had 'often' practiced this HRSB. More than half of the students'(57%) reported having multiple sexual partners with 33.7% reporting to have engaged in this form of HRSB 'at least once' in the last 6 months prior to the study. While only 30.3% attested to have had sex

for favor. These results continue to highlight that university students indeed engage in high risk sexual behaviors. The findings of this study are consistent with Rahamefy *et al.*(2008) findings that more students in universities are continually engaging in high risk sexual behavior despite efforts undertaken by universities to set up programs to curb the behaviors.

4.6.2 Students' Engagement in Inconsistent/lack of Condom Use as a HRSB and Uptake of RHS

The researcher further sought to establish the relationship between inconsistent/lack of condom use as a high risk sexual behavior practice and uptake of reproductive health services. Results presented table 4.30 reveal that those students who had utilized reproductive health services more than a quarter 33.8% reported to have engaged inconsistent/lack of condom 'at least once, six months prior to the study, further 25% attested to have engaged inconsistent/lack of condom 'often' whereas 16.7% reported to have never practiced inconsistent/lack of condom use.

Table 4.30: Engagement in Inconsistent/lack of Condom Use and Uptake of RHS

Inconsistent/lack of condom	Utilized RH services	Not utilized service	RH	Total
Often	13 25.00%	39 75.00%		52 100%
Once	25 33.80%	49 66.20%		74 100%
Never	11 16.70%	55 83.3%		66 100%
Total	79 44.40%	99 55.60%		178 100%

$\chi^2= 7.250$; C=0.198; df=4; p= 0.012

Findings in table 4.30 above reveal that nearly three quarter of the students (75%) had engaged in inconsistent/lack of condom use often and more than half (66.2%) had

engaged in inconsistent/lack of condom use at least once six months prior to the study. This indicates a continuous trend in students engagement in high risk sexual behaviors and the perceived notion that students have they are young exploring themselves sexually thus do not perceive themselves to be at risk of contracting STIs and HIV and AIDs. Hence, the need not to utilize reproductive health services.

Chi-square results ($\chi^2=7.250$; $df=4$; $p=0.012$) showed there was a significant relationship between inconsistent/lack of condom use and uptake of reproductive health services at a significance level of 0.05. Thus, the hypothesis that there is no significant relationship between students' high risk sexual behavior practice and uptake of reproductive health services was rejected for inconsistent/lack of condom use.

4.6.3 Students' Engagement in Multiple Sexual Partners and Uptake of Reproductive Health Services

Findings presented in table 4.31 indicate that more than a quarter of the students (38.9%) had multiple sexual partners often and had utilized reproductive health services. More than half of the students (56.2%) who had engaged in multiple sexual partners once had utilized reproductive health services. This could indicate that these students on realizing there practices sought reproductive health services such as VCT to check their status or counseling in order not to have a repeat of the same thus protect themselves.

Whereas more than half of the students (61.0%) who had multiple sexual partners often had not utilized reproductive health services and less than half (43.8%) who had multiple sexual partners once had also not utilized reproductive health services. This indicates a continuous trend in students engagement in high risk sexual behaviors and

the perceived notion that students have they are young exploring themselves sexually thus do not perceive themselves to be at risk of contracting STIs and HIV and AIDs hence, the need not to utilize reproductive health services.

More than half of the students (60.3%) reported to never having multiple sexual partners and had utilized reproductive health services. This could reveal that these students had the self-efficacy to shun away HRSB but also felt the need to utilize RHS to seek protective measures through life skill training, attending seminars on relationships thus keeping themselves off indulging in high risk sexual behavior.

Table 4.31: Engagement in Multiple Sexual Partners and Uptake of RHS

Multiple Sexual partners	Utilized RH services	Not utilized RH service	Total
Often	12 38.90%	33 61.10%	45 100%
Once	23 56.20%	37 43.80%	60 100%
Never	44 60.30%	29 39.70%	73 100%
Total	79 44.40%	99 55.60%	178 100%

$\chi^2=5.070$; C= 0.166; df=4; p= 0.028

Chi-Square results ($\chi^2=5.070$; df=4; p=0.028) reveal there was a significant relationship between student engaging in multiple sexual partners and uptake of reproductive health services at 0.05 probability error. Thus, the hypothesis that there is no significant relationship between students engaging high risk sexual behavior practice and uptake of reproductive health services was rejected for having multiple sexual partners.

4.6.4 Sex under Influence of Alcohol and Drugs and Uptake of Reproductive

Health Services

Findings presented in table 4.32 indicate that of those students who utilized reproductive health services existing in the university, nearly three quarters (72.9%) reported to have engaged in sex under the influence of alcohol and drugs ‘at least once’ six months prior to the study. Further, more than half (51.6%) attested to have ‘often’ engaged in sex under the influence of alcohol and drugs often, whereas only 16.7% reported to have never engaged in sex under the influence of alcohol and drugs.

Table 4.32: Engagement in Sex under Influence of Alcohol and Drugs and Uptake of RHS

Sex under influence of alcohol and drugs	Utilized RH services	Not utilized service	RH	Total
Often	33 51.6%	31 48.4%		64 100.0%
Once	35 72.9%	13 27.1%		48 100.0%
Never	11 16.7%	55 83.3%		66 100.0%
Total	79 44.4%	99 55.6%		178 100.0%

$$\chi^2=16.730; C= 0.293; df= 4; p= 0.002$$

The chi- square results ($\chi^2=16.730$; $C=0.293$; $df=4$; $p=0.002$) reveal there was a significant relationship between sex under influence of alcohol and uptake of reproductive health services at probability error of 0.05. Thus, the hypothesis that there is no significant relationship between students engaging in high risk sexual behavior practice and uptake of reproductive health services was rejected for engaging in sex under the influence of alcohol and drugs.

4.6.5 Students Engaging in Sex for Favor and Uptake of RHS

Results presented in table 4.33 reveal that nearly a quarter of the students (23.8%) attested to have often engaged in sex for favors, 21.2% reported to have engaged in sex for favor once six months prior to the study had utilized reproductive health services. Findings reveal that less than half 45% of the students who engaged in sex for favor utilized reproductive health service could be attributed to the fact that students feared to be judged by health service providers hence shunned away from utilizing services.

While more than half (54.4%) reported to have never engaged in sex for favor had utilized reproductive health services.

Results continue to reveal that more than three quarters of the students (76.2%) had engaged in sex for favor often and 78.8% at least once had not utilized reproductive health services. This continues to reveal students' engagement in high risk sexual behavior and failure for them to seek reproductive health services putting them at risk of suffering from adverse sexual reproductive health illness later in life.

Table 4.33:Engagement in Sex for Favor and Uptake of RHS

Sex for favor	Utilized services	RH Not service	Utilized RH	Total
Often	5 23.8%	16 76.2%		21 100.0%
Once	7 21.2%	26 78.8%		33 100.0%
Never	67 54.0%	57 46.0%		124 100.0%
Total	79 44.0%	99 55.6%		178 100.0%

$$\chi^2 = 11.467; C = 0.246; df = 4; p = 0.022$$

Chi square results ($\chi^2=11.467$; $df=4$; $p=0.022$) showed a significant relationship between sex for favor and uptake of reproductive health services at a probability error of 0.05. Thus, the hypothesis that there is no significant relationship between students engaging in high risk sexual behavior and uptake of reproductive health services was rejected with regard to engaging in sex for favor.

CHAPTER FIVE

DISCUSSION OF FINDINGS

5.0 Overview

This chapter presents discussion of the main research findings as guided by the research objectives of the study stated earlier in chapter one.

5.1 Students social demographic characteristics

The results of the study established that more than half of the respondents (62%) were between 21 and 24 years. The results of these study established that majority the youth were aged between 20 to 24 years thus at a crucial stage of exploring their live and the freedom that comes from being away from parents control thus engaging in high risk sexual behaviors. For this study age of the students did not have statistical significant association to uptake of reproductive health services. This finding contradict studies indicating that older youths in colleges had a higher likelihood of utilizing YFS especially for family planning, VCT, and treatment for STIs (Obonyo, 2009). While KDHS, 2008/9 pointed out that youth aged 20-24 years had higher utilization of contraceptives as compared with those younger ones.

The study results revealed that Protestants followed by Catholics were the leading religions of the sample taken. Interestingly, findings from this study show that students from Catholic and Muslim religion utilized the services compared to the protestants, despite the Catholic and Muslim religion being known to resist attempts by the Kenyan government to introduce sex education in schools in the early 1990s (Brockman, 1997). Findings from the study could reveal that despite religions embracing the culture of

silence on youth sexual reproductive health, the students could be accessing reproductive health information from other sources such as their peers and social media.

However, for this study students', religion did not influence uptake of reproductive health services as other studies have shown. A study by Obonyo (2009) revealed that religion had an association to some services like family planning, VCT and counseling services. Studies have established that some religions prohibit the youth from utilizing reproductive health services since it a sin to engage in premarital sex thus reproductive health services are only for married people (Kamau, 2006 and Brockman, 1997).

The findings further established that majority of the respondents (39.3%) were in a committed relationship compared to 35.4% who were mingling and searching Relationship status also influences sexual reproductive health behavior which may have an impact on one's knowledge and attitude towards uptake of reproductive health services. It also impacts on sexual practices that an individual is likely to engage in which may be either a high risk sexual behavior or positive sexual behavior. Most of the students participating in the study were found out to be in second and third year with fourth year students being the least.

This study revealed there were no significant influence of students' social demographic characteristics and uptake of reproductive health service. This was similar to Majelantle, *et al.*, (2014) study on where youths social demographic characteristic influence uptake of the VCT.

5.2 Students awareness of existing reproductive health services

The study established that VCT, YFS, ACU were found to be the most popular programmes among the students with more than 50% been aware of their existence. Awareness of the programmes offered within the campus was found to be created mostly using brochures/posters and through friends/peers.

Findings reveal that slightly less than half of the population were not aware of ICL, peer counseling and Kenyatta University wellness centre was least known with only 34.7% being aware of its existence hence, these services were least utilized by students. Liku *et al.*, (2010) study at University of Nairobi (UoN) also revealed that student contact with peer educators was low with only 34% of the students attesting to have consulted peer educators. This result contradicts a study by Imaledo *et al.*, (2012) that had shown use of peer educators as the best method to reach out students since they relate and understand each other since they belong to the same age group.

These findings are in line with studies by Biddlecom, *et al.*, (2007) and Godia (2012) that have reported that lack of awareness of RHS by the youth was a major factor that causes underutilization of reproductive health services. Therefore, lack of awareness of existing programs leads to low utilization of the services by students. Obonyo (2009) study revealed a significant association between students' awareness and knowledge to increased service utilization. This could mean that increasing the knowledge base of the students of the available reproductive health services and programs by creating awareness of the available services could greatly improve or scale up uptake of reproductive health services.

5.3 Uptake of Reproductive Health Services

This study established that 44.4% of the students had utilized available reproductive health services in the University whereas 55.6% had not utilized the reproductive health services. This demonstrated that only less than half of the respondents were willing to utilize reproductive health services in the University. These findings are in agreement with (E2A, 2016) study that revealed only 12.7% of students had utilized YFS at KU. As well as Walsh, *et al.*, (2010) who claimed that the implementation of reproductive health services is encouraging, but creation of services does not necessarily guarantee their use. Hence, the need to identify measures and strategies to make reproductive health services known to students enhancing their uptake.

Conversely, the 55.6% who had not utilized reproductive health services could be attributed to the fact that maybe they were not aware of existing reproductive health services, they had never felt the need to utilize the reproductive health services or they sought reproductive health services out of the university. Findings on utilization of reproductive health services in this study were similar but slightly higher to studies that had found low utilization of adolescents' utilization of sexual reproductive health services in Nepal at 9.2% (Kiran *et al.*, 2015) Vanuatu at 12.6% (Kennedy *et al.*, 2013) and in Ethiopia at 21.5% (Abajobir and Seme, 2013) but was lower compared to adolescents utilization in Tanzania at 75% (MasatuMC, Klepp, Kvålea, 2001).

Findings also reveal that programmes such as YFS, more females than males visited. This could be attributed to the fact that YFS major services were deemed to be female oriented by the males this include services such as cervical cancer screening, family

planning services and the ante natal and post natal services. This study, further stipulates the huge gap that exists for males to be involved in matters pertaining to family planning. Findings from this study are consistent with study by Godia (2012) which revealed that uptake of VCT services has been on the increase and was being taken positively by individuals to know their HIV status, since majority of the students attested to have utilized the VCT services.

Findings in this study elicit great concern in that respondents were found to indulge in HRSB and uptake of reproductive health service was low since less than half of the population had utilized reproductive health services. These results are of significance in ensuring access of reproductive health is key to all. Formulation of new methods to enhance awareness of available reproductive health services in the university.

5.4 Students knowledge of HRSB influencing uptake of reproductive health services

The study established that more than half of the students were had up to date information of unprotected sex and having multiple sexual behaviors as being forms of HRSB while less than half of the students' attested to knowing that early sexual debut, sex under influence of alcohol and drugs were forms of HRSB. On the other hand, more than three quarters of the students were informed of the various consequences associated with HRSB.

The study also sought to establish the relationship between students' knowledge of high risk sexual behaviors and uptake of reproductive health services. Findings from this study reveal students' knowledge on forms of HRSB and their consequences did not greatly influence uptake of reproductive health service. These findings are inconsistent

with studies by (Obonyo, 2009 and Godia, 2012) that revealed that lack of students' knowledge on the importance of safe sexual behavior and the importance of sexual health care may contribute to students' unwillingness or desire to seek reproductive health services.

Students' at KU were well informed of the various forms of HRSB and their consequences but did not utilize reproductive health services within the university that have been established for them. Similarly, a study by (Majelantle, *et al.*, 2014) demonstrated that increased knowledge about AIDS was not a predictor for positive behavioral change. The study by Majelantle and colleagues on youths in Botswana revealed that youths continued to engage in risky sexual behavior despite having widespread and correct information and knowledge about HIV and AIDs.

5.5 Students attitude influencing uptake of reproductive health services

The study established that students' attitude to the ABC strategy for protective sexual behavior influenced uptake of reproductive health services. Students' attitude on condom use had a significant relationship in utilization of reproductive health services. This could be attributed to the fact that most of the students with a positive attitude utilized reproductive health services in order to get more information on condom use as well as get more condoms that are distributed at the RH programmes. Those with a negative attitude towards abstaining till marriage majority had utilized reproductive health services an indicator that students' were engaging in sexual relations when not married and could also mean student engagement in HRSB.

An association between being faithful to one partner and seeking of reproductive health services was discovered with majority of those who strongly believed in being faithful to one partner having sought services from the various programmes. These findings are in agreement with Kairu (2006) and Liku *et al.*, (2010) studies on students' attitude to ABC strategy have called for the need of RH programmes to redouble their efforts in strengthening the ABC strategy among university students in order to positively influence students' sexual behavior.

The findings further revealed that most of the students believed that the programmes maintained confidentiality and were friendly this is in contrast to other studies by (Godia, 2012). Despite the fact that students believed confidentiality was maintained and health service providers were friendly uptake of reproductive health services were low. The reasons given by the students for not visiting the programme centers were fear, anxiety, ignorance and tight academic schedule.

5.6 Students' engagement in high risk sexual behavior practices influencing uptake of reproductive health services

The study established that students continued to indulge in HRSB with nearly three quarters (70.8%) attesting to lack of/inconsistent use of condom, more than half (63% and 57%) reporting to have sex under the influence of alcohol and substance abuse and having multiple sex partners respectively. These findings are in line with Rahamefy *et al.*, (2008) findings that more students in universities continually engage in high risk sexual behavior despite efforts undertaken by universities to set up programmes to curb the behaviors.

Results on students engagement in high risk sexual behavior also concur with what other researchers have asserted that engagement in high risk sexual behavior during emerging adulthood may be somewhat developmentally normative given that an important aspect of emerging adulthood particularly those aged between of 18 and 24 years is exploration especially in the realm of sexual and romantic relationships (Arnett, 2010; Claxton & van Dulmen, 2013; Stinson, 2010). This may explains the high engagement of more than half of the respondents in inconsistent condom use, sex under influence of alcohol and/or drugs and multiple sexual partners.

Findings of this study on inconsistent condom use was at 70.8 % is similar to findings of studies on America and Nigeria university students where more than half of the study population also reported never using condoms or any pregnancy protection. (Schmidt 2015; Obidoa,*et al.*, 2012; Oladepo and Fayemi, 2011). Other studies have also reported continued inconsistent condom use among young adults despite their awareness that condoms are effective in preventing the transmission of STDs and unplanned pregnancies (Johnson 2011; Gellibo 2013).

Findings in this study are alarming since nearly three quarter of the respondents (70.8%) reported inconsistent/lack of condom use given the direct costs and indirect cost associated with unplanned pregnancy, STI and psychological distress among students (Manago 2015). Individuals who inconsistently use or never use condoms continually place themselves and their partners at an elevated risk for contracting HIV, STI and unintended pregnancy (DiClemente et al. 2007).

Findings on students' engaging in sex under the influence of alcohol and drugs is similar to a finding by Schmidt (2015) study in America whereby students reported engaging in sexual intercourse after using drugs and alcohol. The findings are also consistent with KDHS 2008/09 that suggests that use of alcohol or drugs is related to risky sexual behavior. In addition several studies reveal that alcohol has been consistently linked to high risk sexual behaviors as it impairs judgment, has been associated with engagement in early sexual debut from as early as age 12, association with number of sexual partners and unprotected sex (Rehm, *et al.*,2012; Shuper, *et al.*,2009). Furthermore, alcohol use is a risk factor for HIV/AIDS (KDHS2008/2009; Kieru, 2013)

Findings from this study revealed that student engagement in high risk sexual behavior influenced uptake of reproductive health services. This could be attributed to the fact that students' realization of engaging in HRSB sought reproductive health service in order to avert consequences associated with engaging in HRSB. On the other hand, it could be attributed to the fact students had become resilient and engaging in HRSB was normative hence did not find the need to utilize reproductive health services.

Finally students' engagement in high risk sexual behavior, inconsistent condom use, having multiple sexual partners, sex under the influence of alcohol and drugs influenced uptake of reproductive health services. According to Burke *et al.*, (2015) the study also confirmed that inconsistent use of condom and multiple sex partners were the leading HRSB, necessitating the need to intensify the efforts in addressing the practices as well as alleviating the ignorance by students.

CHAPTER SIX

SUMMARY, CONCLUSION AND RECOMMENDATION

6.1 Introduction

In this chapter the researcher makes summary, conclusion and recommendations based on the research findings and analysis done in previous chapter. The conclusion is a summary of the report, including brief explanation on certain observations, while the recommendation will give suggestions and advice based on the research findings.

6.2 Summary and conclusion Key findings

Objective 1: To establish students' awareness of existing programmes and services that address reproductive health services at Kenyatta University

The study established that more than half (50%) of the students' were conversant with VCT, YFS, ACU and Mentoring programmes. Whereas, less than half of the students were conversant with the peer counseling, ICL and KUWEC programmes. Awareness creation of the programmes and services offered within the campus was mostly through brochures/posters 70.2% and through friends or peers 57.9%.

Findings reveal the need for RH programmes to explore new avenues to reach out to students' for them to be more conversant with the programs and services offered.

Objective 2: To determine students' uptake of reproductive health services at Kenyatta University

This study established that 44.4% of the students had utilized available reproductive health services in the University whereas 55.6% had not utilized the reproductive health

services. This demonstrated that only less than half of the respondents were willing to utilize reproductive health services in the University.

The reasons cited by more than half of the students (55.6%) who had not utilized RHS was lack of time since the programmes operation time collided with hours they had lecture class (28.3%), not desiring to use RHS 25.3% and 22.2% sought RHS out of campus.

The study therefore, concluded that uptake of RHS was relatively low despite the resources that have been used to implement the RHS. This could also be linked to majority of students not being conversant about the RHS hence the low uptake.

Objective 3: To determine influence of socio- demographic characteristics on students' uptake of available reproductive health services.

The distribution of students respondent revealed that more than half (62%) of the population were aged between 21 and 24 years. Nearly half (48.3%) of the students were protestants and catholics were 32%. Most of the respondents (39.3%) were in third year a (37.1%) in second year.

Results revealed no significant relationship of students' socio demographic characteristics and uptake of RHS. Hence, hypothesis there was no significant relationship between socio demographic characteristics of students' and uptake of reproductive health services was retained. This study established that, students' socio-demographic characteristics did not have any influence on uptake of RHS.

Objective 4: To determine students' knowledge on high risk sexual behavior in relation to their uptake of reproductive health services

Students' were found to be well informed of the various forms of high risk sexual behavior and their consequences. Unprotected sex was known by nearly three quarters (71.9%), more than half (55.1%) knew of having multiple sexual partners. Whereas only 5.1% knew that early sexual debut was a form of HRSB. The main consequences outlined by the respondents included contracting HIV and AIDS (98.3%), contracting STI (91.6%) and unplanned pregnancy (71.3%).

Uptake of reproductive health was significantly related to students' knowledge on sex for favor ($p=0.031$), hookups/one night stand ($p=0.009$) and early sexual debut ($p=0.017$) while students' knowledge of HRSB that were not significantly related to uptake of reproductive health services were: inconsistent/lack of condom use ($p=0.081$), having multiple sexual partners ($p=0.986$), engaging in sex under influence of alcohol and drugs ($p=0.899$) and engaging in anal/oral sex ($p=0.499$). Hence, hypothesis there was no significant relationship between students' knowledge of HRSB and uptake of reproductive health services was retained. Highlighting that students' knowledge of HRSB was not a predictor for uptake of RHS.

Objective 5: To determine students' attitude that influence their uptake of reproductive health services

The study established that more than three quarter (71.9%) of the students had a positive towards being faithful to one partner. And more than half (57.3%) had a positive attitude to condom use. Nearly half (41.6%) of the respondents had a positive

attitude that reproductive health service providers were friendly and maintained confidentiality. However, majority of the students' more than half (60.1%) had a negative attitude to abstaining.

Uptake of reproductive health services was significantly related to students attitude on abstinence ($p=0.014$), condom use ($p=0.005$), confidentiality is maintained ($P=0.001$) and service providers were friendly ($P=0.000$). Hence, hypothesis there was no significant relationship between students' attitude and uptake of reproductive health services was rejected for this study. Based on the findings, students' attitude was found to greatly influence uptake of RHS.

Objective 6: To identify students' high risk sexual behavior practices that influence uptake of reproductive health services

The study established that a larger proportion of students' reported to have engaged in inconsistent/lack of condom use 70.8%, followed by engaging in sex under the influence of alcohol and drugs 63% and having multiple sexual partners at 57%.

Uptake of reproductive health services was significantly related to the following student engagement in high risk sexual behavior: inconsistent/lack of condom use ($p=0.012$), having multiple sexual partners ($p=0.028$), engaging in sex under the influence of alcohol and drugs ($p=0.002$) and students' engagement in sex for favor ($p=0.022$). Hence, hypothesis there was no significant relationship between students' practice of HRSB and uptake of reproductive health services was rejected for this study.

Based on the study findings, students continue to engage in HRSB. With students' engagement in HRSB significantly influencing uptake of reproductive health services within Kenyatta University. Necessitating need for reproductive health programmes to intensify efforts to curb the practices.

6.3 Recommendations

In view of the findings that emerged from this study, the following recommendations, recommendations are made with regard to: practice, policy and research.

6.3.1 Recommendations for practice

Uptake and utilization of reproductive health services at Kenyatta University are significantly low. These calls for reengineering in the way students should be sensitized about services offered by various programmes in the university. In order to achieve this, the current study makes the following recommendations

1. Programmes to use Kenyatta university media such as the KU radio, KU Television and social networks such as face book, tweeter handles, whatss app to communicate of services provided.
2. The university management needs to extend service delivery hours of RHS. Strengthen and increase the number of HSP, student peer counselors and mentors that will match the students' growing population.
3. Programmes need to intensify efforts to educate students on reproductive health issues through seminars, workshops, KU media and social networks

4. Programmes need to adopt strategies that strengthen ABC strategy so as to influence students' attitude to adopt safe sex practices

6.3.2 Recommendations for policy

The policy framework plays an important role in the community and individual change process.

1. It is important for the university management to formulate a student reproductive health policy that informs them of their reproductive health rights and available RHS in Kenyatta University
2. The university management should design and provide a monitoring and evaluation manual for all reproductive health programmes within the university

6.3.3 Recommendations for further research

Based on the findings of this research, the following studies are recommended for further research.

1. A similar study could be replicated in other universities both public and private to establish the uptake of the available reproductive health services.
2. A comparative study could be carried out between students residing off campus and those residing on campus to establish whether there are differences in their uptake of reproductive health services in the University.

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APPENDICES

Appendix A: Informed Consent Form

Consent to participate in research

My name is Mary Wanjau a master's student undertaking my M.Sc in community resource management at Kenyatta University. I am conducting a study entitled "Assessment of Students' Knowledge, Attitude and Uptake of Services Targeting High Risk sexual Behavior: A Case of Kenyatta University, Nairobi county. For the purpose of this study, I wish to interview undergraduate students in Kenyatta University in order to find out about the uptake and utilization of programs curbing high risk sexual behavior by the students.

Procedure to be followed

Participation in this study will require you answer questions in the questionnaire that you will be given. Your participation in this study is entirely voluntary. Please read the information below and ask questions about anything you do not understand, before deciding whether or not to participate.

Discomforts and risks

Some of the questions you will be asked are on intimate subject and maybe embarrassing or make you uncomfortable. If this happens you may choose not to answer specific questions or stop participating at any time without penalty. It will take you about 20 minutes to complete the questionnaire.

Benefits

If you participate in this study you will help us to learn how to provide effective services that can improve on the reproductive health of students. You will also benefit by knowing more about reproductive health services that are available within the main campus.

Reward

If you agree to participate in this study, we will appreciate you orally with a word of "Thank you" as no financial reward is anticipated.

Appendix B: Questionnaire for Students

Introduction: “My name is Mary Wanjau I’m a post graduate student in Kenyatta University undertaking M.Sc. in Community Resource management. I am conducting a study entitled “Determinants Of Students’ Uptake Of Reproductive Health Services Targeting High Risk Sexual Behavior In Kenyatta University” for the purpose of this study, I wish to interview undergraduate students in Kenyatta University in order to find out about the uptake and utilization of programs curbing high risk sexual behavior by the students.

Confidentiality and consent: “Please allow me to seek your responses to some very personal questions that some people find difficult to answer. Your answers are completely confidential. Your name will not be written on this questionnaire, and will never be used in connection with any of the information you tell me. You do not have to answer any questions that you do not want to answer, and you may stop answering the questions at any time you want to without penalty. Your honest answers to these questions will help us better understand what students think, say and do about the Reproductive health programs and services in the university. I greatly appreciate you taking time to respond to this questionnaire.

Instructions: Please Tick () or fill in the appropriate answer in the spaces provided.

Section 1 Demographic information

1. Please indicate your sex (i) Male [] (ii) Female []
2. Please indicate your (i) School (ii) Year of study
3. Please indicate your age in years (i) 20 and below [] (ii) between 21 & 24 []
(iii) Above 25 []
4. Please indicate your religion (i) Catholic [] (ii) Protestant [] (iii) Muslim []
5. Relationship status (relationship with a partner of the opposite sex)
 - (i) Committed relationship (with one partner for more than 6 months prior to the study)
[]
 - (ii) Mingling/dating & searching for a partner []
 - (iii) Single & not in a relationship []

Section II

6. Kindly list the forms of high risk sexual behavior that you know of

7. What are the consequences of engaging in high risk sexual behavior?

8. Tick the program that you know exists in Kenyatta University whose aim is addressing high risk sexual behavior?

- (i) Youth Friendly services (YFS)(Ghana 2) [] (ii) I choose Life (ICL) []
 (iii) Voluntary counseling and testing centre [] (iv) Counseling services []
 (v) Drugs and Wellness centre [] (vi) Mentoring program []
 (vii) AIDs control unit (ACU) []

9. How did you get to know about the program?

- (i) Through a friend/peer [] (ii) Seminar/workshop organized by the program []
 (iii) Program brochures or posters []

If other way specify

10. To what extent do you agree with the following statements regarding your attitude towards ABC strategy for safe sexual practices?(SD=Strongly disagree, D=Disagree, N=Neutral, A=Agree, SA=Strongly agree)

Abstinence (staying away from sexual activity)	SD	D	N	A	SA
I plan to abstain till am married					
Abstaining helps keep of STI, HIV, unplanned pregnancy					
It's possible to stand the pressure of having sex					
Abstinence is not difficult to practice					
I advocate for abstinence					

Being faith to one partner					
Since faithfulness is very important in a relationship					
As long as I have one partner I can be intimate with them					
Having same sex partners for a long time is boring					
Having many partners is a sign of sexual prowess					
Having many sex partners is not enjoyable					
Condom use					
It's good to use condom to protect oneself					
If I trust my partner there is no need to use condoms					
Discussing condom use is not embarrassing to me					
Condom use reduces sexual pleasure					
Condoms should be used for casual encounters					

11. To what extent have you engaged in the following sexual practices in the last 6 months prior to the study?

	Severally	Once	Never
Inconsistent/ lack of condom use			
Having multiple sexual partners			
Sex under influence of alcohol and drugs			
Sex for favor			

12. Have you ever visited any of the following programs (in question 13 below) to access this services

1 Yes [] 2. No [] (if no go to question 14)

13. If yes which program did you visit and how often did you seek services

	Severally	Once	Never
Youth Friendly services YFS			
Voluntary counseling and testing VCT			
AIDS Control Unit ACU			
I choose Life ICL			
Peer counseling			
Mentoring			
Drugs and wellness centre			

14. If No, tick the most appropriate reason

Reasons for not utilizing RH services	Tick only one
Not aware of existing programs	
Never felt the need to seek service	
Time factor/clashing with academic programs	
I seek services outside campus	

15. To what extent to do you agree with the following statement on services provided within campus to curb high risk sexual behavior

Statement	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
Confidentiality is maintained					
Friendly service providers					

16. Kindly list reasons that hinder you from seeking services and a participating in program activities designed to curb high risk sexual behavior in the university.

17. In your opinion, so far do you think the programs and services provided have been a successful in curbing high risk sexual behavior? (i)Yes [] (ii) No []

Please explain your answer.

18. What recommendations would you make for the programs to improve their services so as to: Reach out to the students

THANK YOU

Appendix C: Interview Guide

Interview guide for director of AIDs Control Unit, Dean Student affairs and Director University Wellness, and the coordinators of the programs concern with curbing high risk sexual behaviors.

The purpose of this interview is to seek information that will be used to provide a general description of the ability of the student's access to quality services that would help them control the high risk sexual behaviors.

Introduction of the interview

Hello my name is Mary Wanjau and I would request to interview you.

During the interview I would like to discuss the following topics: availability of programs established to curb high risk sexual behavior among students in the university, services you offer to the students relate to the negative high risk sexual behavior and your opinions about how these services could be improved to reach more students and effectively help them to change their behaviors. Your responses will be kept confidentially and will be highly appreciated.

Questions

1. When was this program established in this university?
2. What are the programs goals and objectives?
3. What activities does your program use to reach out to the students?
4. Do you think the students are aware of the program? What are your reasons?

5. In addition what do you think needs to be done in order for the students to participate in your program? Benefit from your program

Appendix D: Kenyatta University (Main Campus) Hostel Capacity First Semester Academic Year 2014/2015

Nyayo zone	Capacity	Gender
Nyayo 1	872	Female
Nyayo 2	889	Female
Nyayo 3	882	Male
Nyayo 4	890	Male
Nyayo 5	420	Male
Nyayo 6	420	Male
Nyayo flats	124	Male
Total	4,497	
Western Zone		
Kilimabogo	661	Male
Ngong	672	Female
Longonot	435	Male
Lukenya	392	Female
Old Ruwenzori	190	Female
New Ruwenzori c	248	Male
New Ruwenzori W	262	Male
Ruwenzori Quarter	20	Male
Usamabara	59	Male
Usamabara	195	Female
Total	3,134	
Eastern Zone		
Nyandarua	384	Male
Mfumbiro	430	Male
Old Menengai	453	Male
Old Menengai	19	Female
New Menengai	516	Male
New Aberdares	402	Female
Old Aberdares	198	Female
Total	2,402	

Appendix E: Kenyatta University Ethics Review Committee Approval Letter



KENYATTA UNIVERSITY ETHICS REVIEW COMMITTEE

Email: chairman.kuerc@ku.ac.ke
secretary.kuerc@ku.ac.ke
ercku2008@gmail.com
 Website: www.ku.ac.ke

P. O. Box 43844 - 00100 Nairobi
 Tel: 8710901/12
 Fax: 8711242/8711575

Our Ref: KU/R/COMM/51/344

Date: 26th June, 2014

Wanjau Mary Njeri,
 Department of Community Resource Management & Extension,
 Kenyatta University,
 P.O Box 43844, Nairobi

RE APPLICATION NUMBER PKU/211/1187- "ASSESSMENT OF STUDENT KNOWLEDGE, ATTITUDE AND PRACTICE RELATING TO UPTAKE OF REPRODUCTIVE HEALTH SERVICES: A CASE OF KENYATTA UNIVERSITY, NAIROBI COUNTY"

1. IDENTIFICATION OF PROTOCOL

The application before the committee is with a research topic "Assessment of student knowledge, attitude and practice relating to uptake of reproductive health services: a case of Kenyatta university, Nairobi County" version 2 received on 26th June, 2014.

2. APPLICANT

Wanjau Mary Njeri, Department of Community Resource Management & Extension

3. STUDY SITE

Nairobi County, Kenya

4. DECISION

The committee has considered the research protocol in accordance with the Kenyatta University Research Policy (section 7.2.1.3) and the Kenyatta University Ethics Review Committee Guidelines AND APPROVED that the research may proceed for a period of ONE year from 26th June, 2014.

5. ADVICE/CONDITIONS

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

When replying, kindly quote the application number above.

If you accept the decision reached and advice and conditions given please sign in the space provided below and return to KU-ERC a copy of the letter.


 PROF. NICHOLAS K. GIKONYO
 CHAIRMAN ETHICS REVIEW COMMITTEE

I, Mary Njeri Njeri.....accept the advice given and will fulfill the conditions therein.

Signature.....M Njeri..... Dated this day of 26th June.....

cc. Vice-Chancellor
 Director: Institute for Research Science and Technology



Appendix F: Kenyatta University Graduate School Approval Letter



KENYATTA UNIVERSITY GRADUATE SCHOOL

E-mail: dean-graduate@ku.ac.ke
kubps@yahoo.com
 Website: www.ku.ac.ke

P.O. Box 43844, 00100
 NAIROBI, KENYA
 Tel. 020-8704150

Internal Memo

FROM: Dean, Graduate School **DATE:** 1st July, 2014
TO: Ms. Wanjau Mary Njeri **REF:** H60/24154/11
 C/o Community Resource
 Management & Extension Department

SUBJECT: APPROVAL OF RESEARCH PROPOSAL

We acknowledge receipt of your Research Proposal after fulfilling recommendations raised by the Graduate School Board of 27th March, 2014.

You may now proceed with your Data collection, subject to clearance with the Principal Secretary, Higher Education, Science & Technology.

As you embark on your data collection, please note that you will be required to submit to Graduate School completed Supervision Tracking Forms per semester. The form has been developed to replace the Progress Report Forms. The Supervision Tracking Forms are available at the University's Website under Graduate School webpage downloads.

Thank you.

JOSEPHINE K. NJAGI
FOR: DEAN, GRADUATE SCHOOL

CC. Chairman, Community Resource Management & Extension Department

Supervisors:

1. Dr. Lucy Kathuri-Ogola
 C/o Community Resource Management & Extension Department
Kenyatta University
2. Dr. Lucy W. Maina
 C/o Sociology Department
Kenyatta University

Appendix G: Kenyatta University Dvc Academic Approval Letter



KENYATTA UNIVERSITY

OFFICE OF THE DEPUTY VICE-CHANCELLOR (ACADEMIC)

Tel: (+254-20) 8710901-19 Ext 57481,cisco 3055
Fax: (+254-20) 8711380
Website: www.ku.ac.ke

P.O. Box 43844-00100
Nairobi, Kenya
E-mail: dvc-acad@ku.ac.ke

Ref: KU/DVCACAD/IRT/VOL.3/(37)

11th August, 2014

Mary Njeri Wanjau
C/o Community Resource Management & Extension. Dept.
Kenyatta University
P O Box 43844-00100
NAIROBI

Dr. Ms. Wanjau

REF: REQUEST TO CONDUCT RESEARCH - MARY NJERI WANJAU

The above subject refers.

Your request to for permission to conduct your Masters Research study at Kenyatta University on your research titled: "**Assessment of students knowledge attitude and practice relating to reproductive health services: A case of Kenyatta University**" has been approved.

On completion of your research, you are expected to submit a hard and soft copy of your research report/thesis to our University Library and the Institute for Research, Science and Technology.

Please liaise with the Director, Institute for Research Science & Technology before commencing data collection for further guidance.

Thank you.

PROF. JOHN OKUMU
DEPUTY VICE-CHANCELLOR (ACADEMIC)

c.c. Vice-Chancellor

JO/gnm

Appendix H: NACOSTI Approval Letter



NATIONAL COMMISSION FOR SCIENCE, TECHNOLOGY AND INNOVATION

Telephone: +254-20-2213471,
2241349, 310571, 2219420
Fax: +254-20-318245, 318249
Email: secretary@nacosti.go.ke
Website: www.nacosti.go.ke
When replying please quote

9th Floor, Utalii House
Uhuru Highway
P.O. Box 30623-00100
NAIROBI-KENYA

Ref. No.

Date:

16th July, 2014

NACOSTI/P/14/2793/2554

Mary Njeri Wanjau
Kenyatta University
P.O.Box 43844-00100
NAIROBI.

RE: RESEARCH AUTHORIZATION

Following your application for authority to carry out research on "*Assessment of students knowledge attitude and practice relating to uptake of reproductive health services: A case of Kenyatta University, Nairobi County,*" I am pleased to inform you that you have been authorized to undertake research in **Nairobi County** for a period ending **7th July, 2015**.

You are advised to report to **the Vice Chancellor, Kenyatta University, the County Commissioner and the County Director of Education, Nairobi County** before embarking on the research project.

On completion of the research, you are expected to submit **two hard copies and one soft copy in pdf** of the research report/thesis to our office.


DR. S. K. LANGAT, OGW
FOR: SECRETARY/CEO

Copy to:

The Vice Chancellor
Kenyatta University.

The County Commissioner
The County Director of Education
Nairobi County.

