ENSIGN GLOBAL COLLEGE, KPONG

EASTERN REGION, GHANA

FACULTY OF PUBLIC HEALTH

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RISKY SEXUAL BEHAVIOUR AND HIV KNOWLEDGE AMONG YOUNG FEMALE ADULTS IN GHANA: INSIGHT FROM GHANA DEMOGRAPHICS AND HEALTH SURVEY 2022

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MASTER OF PUBLIC HEALTH

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DECLARATION

I declare that this assignment is entirely original project of mine, except in any instances where appropriate credit has been given. It also does not contain any work that has been published or written by someone else, has been substantially accepted, or has been awarded any other degree or diploma at Ensign Global College, Kpong, or any other educational institution.

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(Candidate's Name and ID)	Signature	Date

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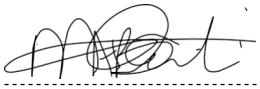
Dr Millicent Ofori		30th September 2024
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Certified by:

Dr Stephen Manortey	……	……..
(Head of Academic Program)	Signature	Date

DEDICATION

This intellectual endeavor is devoted to Almighty God. To my lovely and supportive husband, Mr Asumah Abdul Kadir and my understanding daughter , Miss Abiba Mantenso Abdul Kadir. To my mum and siblings, and my loved ones for their prayers, support and good wishes for me in pursuing my career. With commitment and due diligence as a foothold, this piece of work was completed successfully.

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DEFINITION OF TEAMS

1. Risky sexual behavior : refers to sexual practices that increase the likelihood of adverse health outcomes, such as sexually transmitted infections (STIs), unintended pregnancies, or sexual violence.

2. HIV (Human Immunodeficiency Virus) and AIDS (Acquired Immunodeficiency Syndrome) are related but distinct terms describing a viral infection and its advanced stage.

3. Descriptive statistics are methods used to summarize and describe the main features of a data set,which provide a way to present and organize data in a meaningful way without making inferences or predictions about a larger population. Key elements of descriptive statistics include: measures of Central Tendency (mean median and mode), Measures of Dispersion(range, variance and standard deviation, Measures of Distribution (skewness and kurtosis), Frequency Distribution(frequency tables and graphs: pie chart, histogram among others) and Percentiles and Quartile

4. Regression analysis is a statistical method used to examine and quantify the relationship between one dependent variable and one or more independent variables. The goal of regression analysis is to model this relationship in order to make predictions, understand the relationships between variables, and identify patterns in data.

5. Correlation coefficient is a statistical measure that quantifies the strength and direction of the linear relationship between two variables. It is a key concept in statistics used to assess how closely two variables move together.

6. The term "young female adults" generally refers to women who are in the early stages of adulthood, typically aged between 15 and 24.

ABBREVIATION/ACRONYMS

HIV	Human Immune Virus
AIDS	Acquired Immune Deficiency Syndrome
GDHS	Ghana Demographic and Health Survey
PLHIV	Person living with HIV
WHO	World Health Organization
UNAIDS	United Nations Programme on HIV/AIDS
SDG	Sustainable Development Goals
GSS	Ghana Statistical Service
HPV	human papilloma virus
MSM	Male Sex Workers
FSW	female sex workers
HTC	HIV testing and counseling
ART	Antiretroviral therapy
NACP	The National AIDS Control Program
NAHDP	National Adolescent Health and Development Programme
STDs/STIs	Sexually transmitted Infections
YFHS	youth-friendly health services
IDHS	Indonesian Demographic and Health Survey
SRH	sexual and reproductive health
SIYP	street-involved young people
FFS	fish-for-sex
PPS	probability proportional to size
CAPI	Computer-Assisted Personal Interview

ABSTRACT

Background: Risky sexual behavior and knowledge of HIV are critical public health concerns, especially in Sub-Saharan Africa, which continues to face a significant burden of AIDS. In Ghana, young female adults are a vulnerable population at risk of engaging in risky sexual behaviors and lacking adequate knowledge about HIV transmission and prevention. Engaging in risky sexual behaviors predisposes individuals to a lot of concerns related to sexual and reproductive health, including sexually transmitted infections like HIV.

Aim: This study aimed to investigate risky sexual behavior and knowledge of HIV among young female adults in Ghana using data from the Ghana Demographic and Health Survey (GDHS) 2022.

Methods:The survey utilized a quantitative method using a retrospective cross-sectional study design. Data was gathered from 16 regions in Ghana through the GDHS. The study population comprised young female adults aged 15 to 24 years across these regions.

Results: The results revealed several key determinants significantly influencing risky sexual behavior among young female adults in Ghana. A notable finding was the correlation between risky sexual behaviors and limited knowledge about HIV. The study identified that delaying sexual debut and promoting safer sexual practices are crucial strategies for mitigating risky behaviors and reducing the risk of HIV transmission. Additionally, while a minority of respondents engaged in more diverse sexual relationships, there was also a small number of individuals with unclear reporting on their sexual behaviors.

Conclusion: The study concluded that comprehensive sexual education programs are essential to address misconceptions about HIV transmission, including incorrect beliefs such as transmission through mosquito bites or sharing food. Promoting HIV testing through community outreach and

awareness campaigns is also crucial. Additionally, enhancing access to antiretroviral therapies (ARVs) and incorporating gender-sensitive approaches that take into account the unique socio-cultural factors affecting young women's behaviors and access to healthcare are necessary steps.

Keywords: HIV Knowledge, Risky Sexual Behavior, Ghana, Young Female Adult

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CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

Young female adults are a vulnerable population when it comes to risky sexual behaviors and Human Immune Virus (HIV) knowledge. The term "young adults" refers to individuals in transition from childhood to adulthood ages approximately 15–24 years (Bonnie, Stroud, and Breiner, 2015). Young female adults worldwide face a higher risk of developing HIV due to risky sexual behavior and inadequate knowledge of HIV transmission (Patra and Singh, 2015).

Evidence has shown a concerning trend of increasing HIV rates among young women as they transition from adolescence to young adulthood (Koch and Wehmeyer, 2021). This transition period is crucial for targeted interventions as HIV prevalence rises sharply during this phase. Gender disparities in HIV knowledge and prevalence are evident, with females often exhibiting lower levels of comprehensive knowledge compared to males (Maulide Cane *et al.*, 2021) (Gashaw, 2013); (Sharew *et al.*, 2020)). Research have indicated that young women aged 15-24 are especially vulnerable to HIV, with infection rates being higher compared to young men (Gesesew *et al.*, 2017).

Research has indicated that young adults particularly females, exhibit risky sexual behaviors like early sexual debut, low condom use, and having multiple sex partners, all of which lead to HIV transmission (Odii *et al.*, 2020). There are notable disparities in HIV testing rates among sexually active young women, with only around one-third having undergone HIV testing. (Bekele and Fekadu, 2020).

According to studies, comprehensive knowledge of HIV and AIDS among young women has increased over the years (Appiah *et al.*, 2020), which provides young people with critical information for making informed decisions about their sexual behaviors (Dickson *et al.*, 2021). Enhanced HIV awareness among young adults has been associated with a decrease in risky sexual practices, increased rates of HIV testing, and improved adherence to HIV treatment (Murewanhema *et al.*, 2022). Inadequate knowledge about HIV/AIDS and prevention strategies among young females has been linked to risky sexual behaviors and negative attitudes toward condom use (Khamisa, Mokgobi, and Basera, 2020).

In South Africa, a country with a high HIV prevalence, young adults, especially females, face elevated risks of HIV due to factors such as inadequate awareness and the use of pre-exposure prophylaxis (Ajayi, Ismail, and Akpan, 2019).

In countries where there have been declines in HIV prevalence among young people, changes in sexual behavior have been observed, indicating a correlation between knowledge, behavior, and HIV prevalence (Gouws, 2016). HIV infection remains prevalent among young adults, particularly in sub-Saharan Africa, where a significant number of new infections occur (Kharsany and Karim, 2016; Kresina, Conder, and Lapidos-Salaiz, 2016; Kresina and Lubran, 2017). Young female adults in sub-Saharan Africa are disproportionately affected by HIV infection, with a significant number of new HIV cases occurring in this demographic group (Gesesew *et al.*, 2017)

Homeless young adults in Ghana have been found to participate in risky sexual behaviors due to due to a lack of information about sexuality, resulting in unsafe abortions and maternal deaths (Oppong Asante and Oti-Boadi, 2013). It has been reported that there is limited knowledge of sexual and reproductive health among young males and females in Ghana, which impacts

condom use and perceptions of sexual relationships (Mahama Mubarik and Oladokun Michael Yemisi, 2021).

1.2 Problem Statement

According to the WHO, approximately 38 million people live with HIV/AIDS globally, including about 1.1 million individuals aged 15-24.Young women face a greater risk compared to young men in this age group, with 1.7 times the likelihood of living with HIV. In Sub-Saharan Africa, the discrepancy is much more evident, young women are up to 2.5 times more likely to contract the infection than their male peers. Ghana's high incidence of HIV/AIDS remains a critical public health issue, particularly among young female adults (Fenny, Crentsil and Asuman, 2017). According to (Vitalis, 2021), in 2017, more than 310,000 individuals in Ghana were reported to be living with HIV. The country's HIV population and new cases rose by 3% in 2019 compared to the year before (Akuoko *et al.*, 2021). Despite ongoing efforts to combat the epidemic, statistics reveal a persistently elevated rate of HIV infections, underscoring a significant gap in the effective management of the disease (Abdul-Mumin *et al.*, 2021). One of the central issues contributing to this problem is the inadequate knowledge among women regarding appropriate sexual behaviors and HIV prevention strategies. Many female adults in Ghana continue to indulge in risky sexual practices due to a lack of comprehensive understanding of HIV transmission and protective measures (Darteh, Dickson and Amu, 2020). In Ghana, the number of women living with HIV/AIDS significantly exceeds that of men. (Guure *et al.*, 2020). Research carried out in Ghana indicates that, Of the estimated 42,016 youth between the ages of 15 to 24 years living with HIV in 2020, 73.91% are females (Ghana AIDS Commission, 2021)

The problem is multifaceted, rooted in both educational and cultural dimensions. In many communities, access to accurate and culturally sensitive information about HIV/AIDS is limited, with traditional norms and misinformation often impeding awareness (Farouq, 2016). For instance, discussions around sexual health are frequently stigmatized or deemed taboo, leading to insufficient communication about safe sexual practices (Farouq, 2016). Because of a lack of information about the risks involved with unprotected intercourse, youth frequently obtain sexually transmitted illnesses, and young girls may have unexpected pregnancies (Ajayi *et al.*, 2021). This behavior could also be attributed to a lack of proper information and essential skills for dealing with their emotions, as well as strong peer pressure to engage in sexual activities (Millanzi, Kibusi and Osaki, 2022). The prevalence of myths and misconceptions about HIV transmission contributes to the perpetuation of risky behaviors, such as inconsistent condom use or several sexual partners without sufficient protection (Ezomo, 2018).

This creates a knowledge gap and the aim of the current study is, therefore, to shed more light on the theme of investigating risky sexual behavior and knowledge about HIV among young female adults in Ghana using data from the Ghana Demographic and Health Survey 2022. This study reflects a relatively current perspective of the problem because the data used is the most recent national data from the GDHS 2022.

1.3 Rationale of the Study

The aim for this research is to fulfill a significant knowledge gap concerning risky sexual behavior and HIV awareness among young female adults in Ghana. Despite previous research, there remains a significant void in recent, comprehensive data that accurately reflects the current

trends and issues faced by this demographic. This gap hampers the development of viable public health interventions and policies.

The current study aims to investigate these aspects using the most recent national data from the Ghana Demographic and Health Survey (GDHS) 2022. Using this up-to-date data-set, the research offers a contemporary perspective on the problem, ensuring that the findings are relevant and reflective of the present situation. This is particularly pertinent in the context of Sustainable Development Goal (SDG) 3.3, which aims to eradicate AIDS and other communicable diseases by 2030. Understanding the current state of risky sexual behavior and HIV knowledge among young female adults will contribute to more effective strategies and interventions, thereby supporting progress towards SDG 3.3. The study's insights will assist in designing targeted public health initiatives that address the specific needs of this group, ultimately fostering improved sexual health outcomes and advancing global health goals.

1.4 Conceptual Framework

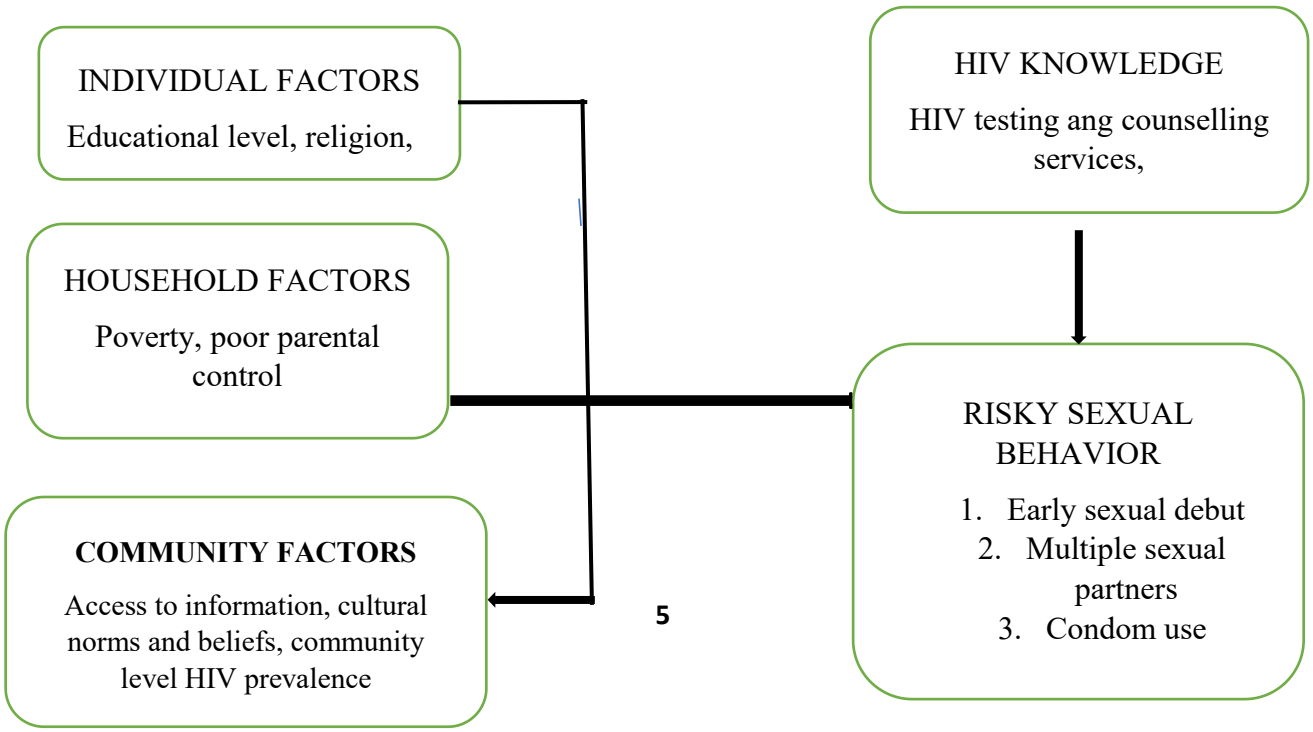


Figure 1: A data-driven conceptual framework on risky sexual behavior and associated factors modified from (Maonga, Gondwe, and Machira, 2018)

In the data-driven conceptual framework, the study examines risky sexual behavior in three levels, namely, early sexual debut, multiple sexual partners, and non-use of condoms (identified as high-risk sexual behaviors), all of which are assessed through factors at the individual, household, and community levels (Maonga, Gondwe and Machira, 2018).

Chosen from an array of possible individual factors are educational level, religion, age, and income. This is premised on the positive role that education enlightening society on issues of behavioral change. Among household factors, poverty influences risky sexual behavior as these young adults tend to have multiple sexual partners, without using condoms at early ages to satisfy their financial needs.

Also, poor parental control can influence the young adult to start practicing early sex, without condoms and with multiple sexual partners as a way of expressing her independence. Community factors include access to information, cultural norms and beliefs, and community-level HIV prevalence, which can either influence risky sexual behavior positively or negatively. HIV knowledge can be enhanced through testing and counseling of both infected and non-infected persons

1.5 Research Questions

- What is the prevalence of risky sexual behavior among young female adults?

- What is the level of knowledge about HIV transmission and prevention among young female adults in Ghana?
- What is the association between risky sexual behaviors and knowledge level of HIV among young female adults in Ghana?
- Which factors determine risky sexual behavior among young female adults in Ghana

1.6 General Objective

Investigate the risky sexual behavior and knowledge about HIV among young female adults in Ghana using data from the Ghana Demographic and Health Survey 2022.

1.7 Specific Objectives

- To determine the prevalence of risky sexual behavior among young female adults in Ghana.
- To determine the level of knowledge of HIV transmission and prevention among young female adults in Ghana.
- To assess the association between risky sexual behaviors and knowledge level of HIV among young female adults in Ghana.
- To investigate the determinants of risky sexual behavior among young female adults in Ghana.

1.8 Profile of Study Area

The cross-sectional study is focused on young female adults in Ghana who are between the ages of 15-24. Ghana is a country located in Africa, specifically West Africa. Ghana sits on the Atlantic Ocean at a latitude of 7.9465o North and a longitude of 1.0232o W. The country has a total land area of 238,533 km2 and a total coastline of 539 km (Ghana Statistical Service, 2023). The country's total land area comprises 69% of agricultural land (World Bank, 2021).

Ghana is bordered to the west by Cote D'Ivoire, to the north by Burkina Faso, to the east by Togo, and to the south by the Atlantic Ocean. The Republic of Ghana is divided into 16 geographical regions with Accra being its capital city. Each region is subdivided for administrative purposes into several districts totaling 261. The districts include 149 ordinary districts, while 109 and 6 have municipal and metropolitan status respectively.

The total population of Ghana as of 2021 is estimated at 30,832,019 comprising 15,631,579 females and 15,200,440 males. The country has a youthful and urbanized population estimated at 11, 777, 831 (38.2%) and 17,472,530 (56.7%) respectively (Ghana Statistical Service, 2021a). In urban regions, females (8,961,329) outnumber males (8,511,201). Nevertheless, more males are in rural areas (6,689,239) than females (6,670,250). The average household size according to the 2021 Housing and Population Census is 3.6.

As of 2021, one in five persons in Ghana (20.8%) who are 3 years and older have never attended school. The country has more females who are uneducated (24.4%) than males (17%). Of the 38% of the total population who have attended school before, 41.8% are males and 37.8% are females. As of 2021, the country's total labor force is 11,541,355 (58.1% of persons 15 years and above) comprising 9,990,237 employed and 1,551,118 unemployed.

The male population is more economically active than their female counterparts (63.5% males as compared to 53% for females) (GSS, 2021b). The fertility rate in Ghana as of 2021 is estimated at 3.1%. Fertility rate is greater in rural (3.8%) than urban (2.7%) areas. As of 2021, the rate peak at 25-29 years was the highest. As of 2021, Women in rural Ghana give birth at an earlier age (21 years) as compared to their urban counterparts (23 years) (Ghana Statistical Service, 2022).

MAP 1.0: The Map of Ghana Source: (The Permanent Missions of Ghana to the United Nations, 2018)

1.9 Scope and Limitation of the Study

The survey took place across the 16 regions of Ghana to assess the relationship between risky sexual behaviors and HIV knowledge among young female adults. This is to ensure the provision of complete data and information for the study. The study also covers young female adults. (Between 15 to 24 years of age) and young female adults in Ghana who are sexually active in the last 12 months with a sexual partner, who could be their spouse or not in the 16 regions of Ghana.

The study's limitation lies in its focus on sexually active young female adults aged 15 to 24 years, potentially overlooking the experiences of other young women who are not sexually active or

outside this age range. This focus could introduce biases from self-reported data and may not fully capture the diversity of risky sexual behaviors and HIV knowledge.

1.10 Organization of the Research

The study is organized into six chapters. The first chapter serves as the introduction, outlining the main theme, including the background, problem statement, research questions, objectives, scope, delimitation, and significance, as well as an overview of the methodology. The second chapter reviews key literature in the field, encompassing conceptual, theoretical, and empirical analyses. Chapter three focuses on the research methodology. Chapter four presents the findings from the collected data. Chapter five discusses the presented data, while chapter six offers conclusions and recommendations

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter reviews pertinent studies related to the topic and objectives of the research. The literature analysis covers the definition of risky sexual behaviors in young adults, factors influencing these behaviors, the consequences of engaging in risky sexual activities, and the relationship between socio-demographic characteristics, risky sexual behavior, and the risk of HIV infection.This chapter provides a review of relevant studies on the topic and objectives of the study. Understanding the connections between risky sexual activity and HIV awareness among young female adults in Ghana is critical for establishing targeted interventions to prevent HIV transmission, improve sexual health education, and empower people to make educated sexual health decisions.

2.2 Prevalence of Risky Sexual Behavior Among Young Female Adults in Ghana.

Unsafe sexual practices among young adults pose a significant public health issue worldwide. The World Health Organization (WHO) estimates that approximately 1.7 million individuals aged 15-24 were newly infected with HIV in 2019.,underscoring the critical need for focused interventions (WHO, 2020). Factors contributing to risky sexual behavior include limited access to education, socioeconomic disparities, and and cultural traditions that hinder open discussions about sexual health (UNFPA, 2021).

In Africa, young women engage in unsafe sexual practices at an alarming rate. According to a study by Tyabazeka (2023), young women in sub-Saharan Africa are more prone to participate in unprotected sex and have multiple sexual partners, often due to inadequate sexual health

education and prevailing gender inequalities. The African Union has emphasized the importance of comprehensive sexual education and accessible healthcare services to reduce these behaviors and improve overall health outcomes (African Union, 2019).

A survey by Yeboah *et al.* (2022) found that approximately 30% of young women aged 15-24 are stated to having multiple sexual partners in the past year. Similarly, a nationwide survey conducted by the Ghana Statistical Service (Ghana Statistical Service, 2015) revealed that 25% of young women engaged in unprotected sex, indicating a significant risk for STIs and unintended pregnancies. Risky sexual behavior among young female adults in Ghana is influenced by various factors, including socioeconomic status, peer pressure, and cultural beliefs that discourage open discussions about safe sex practices (Amoadu *et al.*, 2022). Additionally, comprehensive sexual education has been shown to reduce these behaviors, as evidenced by Anokye *et al.* (2022), who found that young women receiving sexual health education were more likely to practice safer sex.

2.3 The Concept of Risky Sexual Behavior

Oluwatoyin and Modupe, (2014), defined risky sexual behavior as sexual practices that put individuals, particularly adolescents, at risk of sexually transmitted diseases (STDs), including HIV, as well as unintended pregnancies. Yemane Berhanie, (2015) also characterized risky sexual behavior as sexual involvement that includes either unprotected sex or multiple sexual partners. This behavior encompasses early sexual initiation, engaging in sex with someone other than a regular partner, not using condoms, neglecting family planning methods, and engaging in sexual activity while intoxicated by drugs or alcohol.

Both definitions align with the identification of behaviors that increase the risk of STIs and unplanned pregnancies. However, Berhanie's definition offers a more detailed breakdown of

specific risky practices and conditions. Overall, while the core concept of risky sexual behavior remains consistent, focusing on behaviors that heighten the risk of negative sexual health outcomes, the specific descriptions and emphases vary. The concept did not fundamentally change over time but rather became detailed differently as research evolves and more specific behaviors are identified.

These risky sexual practices cannot be attributed to any single country. Universally, it has been shown that risky sexual behavior and its repercussions among young people are widespread phenomenon (Vasilenko and Lanza, 2014). In the United States, most young people practice unsafe sexual intercourse by around age 17, while over 60% of students in Canada and Nova Scotia had vaginal intercourse by the time they finish high school ((Abera *et al.*, 2018).

2.4 Impact of HIV/AIDS in Ghana

The national HIV prevalence rate in Ghana is approximately 1.7%, with significant variations across regions and demographic groups(Ghana AIDS Commission, 2021b). Urban areas such as Greater Accra and Ashanti report higher prevalence rates compared to rural regions, indicating geographical disparities in the epidemic's impact (UNAIDS., 2020). The epidemic disproportionately impacts young women aged 15-24, who contribute to a major part of new infections, as determined by biological, socioeconomic, and cultural factors (UNAIDS., 2020). Key groups, such as men who engage in sexual activities with other men (MSM) and women who provide sexual services (FSWs), have higher HIV prevalence rates (Ghana AIDS Commission, 2021).

Poverty and economic inequality significantly drive the HIV epidemic in Ghana, as economic hardships often push individuals, particularly young women, into transactional sex, heightening their risk of infection (Bekele and Fekadu, 2020). Limited access to education and healthcare

exacerbates this situation, while cultural norms and stigma surrounding HIV hinder prevention and treatment efforts. Such stigma contributes to delays in seeking testing and treatment and perpetuates low awareness of HIV and safe sex practices (UNAIDS., 2020).

Young women's biological susceptibility to HIV infection is further compounded by factors such as the immaturity of their genital tracts, as highlighted by Manu *et al.* (2022) Their study was conducted in Kumasi, Ghana. The researchers aimed to explore the various biological and social vulnerabilities of young women with HIV infection. Their findings indicated that these biological factors significantly increase the risk of infection, emphasizing the importance of addressing them in HIV prevention strategies. Additionally, Bekele and Fekadu(2020) carried out a study in Accra to explore the behaviors of young women and their influence on the process of the HIV epidemic. Their study found that risky sexual behaviors, including inconsistent condom use and multiple sexual partnerships, are high among this demographic, underscoring the need for targeted interventions in HIV/AIDS programs to reduce these risks (Bekele and Fekadu, 2020). Osei,(2019) conducted a study in Accra to explore the factors affecting the adoption of HIV testing among young women. They found that higher educational levels and regular health facility visits significantly increased the likelihood of testing. In another study, Meremo *et al.*(2016) focused on young women in Tanzania, revealing that awareness of HIV testing services was crucial for increasing testing rates. Similarly, Iddrisu, (2019) conducted research in Ghana that indicated urban residency and having multiple sexual partners were considerably linked with increased uptake of HIV screening for young women. Asare, Aryee and Kotoh, (2020) examined the effects of gender and age at first sexual encounters on testing behaviors among adolescents, finding that these factors notably influenced their likelihood of seeking HIV testing.

Ghana has implemented various prevention strategies, including promoting condom use, HIV testing and counseling (HTC), and educational campaigns aimed at reducing risky sexual behaviors (Ghana Health Service, 2022). Antiretroviral therapy (ART) is also widely available, with the National AIDS Control Program (NACP) reporting that about 68% of people living with HIV (PLWH) are receiving treatment, although adherence and retention in care remain challenges (Ghana AIDS Commission, 2021). Community-based interventions and peer support programs are vital for enhancing HIV prevention and treatment efforts.

Social awareness is identified by the World Health Organization as a key factor in controlling the transmission of AIDS. Peer-led education has emerged as an efficient approach to addressing AIDS globally, enhancing self-confidence and health skills among participants (Joorbonyan, Ghaffari and Rakhshanderou, 2022). The economic impact of HIV/AIDS in Ghana is substantial, affecting households, healthcare systems, and the broader economy, contributing to a cycle of poverty and illness (UNAIDS., 2020). The stigma associated with HIV also poses significant social challenges, impacting the mental health and social integration of PLWH and discouraging individuals from seeking necessary testing and treatment (Ghana AIDS Commission, 2021).

2.5 Risky Sexual Behavior and its Implications for HIV Transmission

The implications of risky sexual behavior for HIV transmission among young female adults in Ghana are profound. Engaging in risky sexual behavior increases the predisposition of young women to HIV infection, contributes to the overall prevalence of the virus within the population, and can lead to social stigma and discrimination for those who contract HIV (Amo-Adjei *et al.*, 2023). Additionally, risky sexual behavior among young female adults can perpetuate intergenerational transmission of HIV and place a significant burden on public health systems.

To address the rational the idea of high-risk sexual behavior and its consequences for HIV spread among young female adults in Ghana, comprehensive interventions are needed. This includes providing targeted sexual health education, promoting gender equality, enabling young women to advocate for safe sex practices, and increasing access to HIV prevention and treatment services. By addressing the underlying factors that drive risky sexual behavior and promoting informed decision-making, it is possible to lessen the effect of HIV transmission and enhance the sexual health outcomes for young female adults in Ghana (Odii *et al.*, 2020).

2.6 Knowledge of Sexual Health and HIV/AIDS among Young Female Adults

This section aims to evaluate the literature on young people's understanding and opinion of sexual and reproductive wellness globally,which is fragmented into three sections. The first, focusing on the world's view, the second on the African setting, and the third on Ghana's situation.

Skrzeczkowska *et al.* (2015) discovered that many young people in Poland started their journey into reproductive health without being aware of the consequences of rickless sexual behavior. As a result, 52% of the study's sexually active teens were unaware of the menstrual cycle or how to use contraception. The study also found that, despite the availability of different contraceptives, the condom was the most commonly used technique among teens.

Similarly, Kwankye *et al.*, (2021) conducted a scoping review of literature from January to June 2019 to provide an overview of current knowledge on the sexual and reproductive health (SRH) of Children who are migrants and refugees from Africa. The review included twenty-two surveys that aligned the inclusion criteria. The findings highlighted several issues, including congestion and the sexual exploitation of children in refugee camps, where reproductive health services are often limited and underused. Additionally, linguistic obstacles were identified as

significant barriers to the availability of SRH information and services for young migrants, as the indigenous languages employed are unfamiliar to them. Furthermore, cultural practices such as genital mutilation, that persist after migration, can lead to significant reproductive health consequences including HIV infections among young migrants.

Villalobos *et al.* (2017) studied the effectiveness of counseling services in improving adolescent reproductive health knowledge. In a related study conducted in Gondar, Ethiopia, Feleke *et al.*(2013) investigated the utilization of reproductive health services among adolescents. Their findings revealed that while a substantial majority (93.4%) of adolescents were aware of family planning services, only 79.5% utilized them. Additionally, 68.1% reported using birth control methods during coitus, where condoms are the most utilized. The study also highlighted those adolescents with secondary education had a better understanding and higher utilization of family planning approaches compared to their peers without such exposure, with voluntary counseling and screening services acting as key sources of knowledge.

These results align with those of Ansha, Bosho and Jaleta, (2017), who found that in Ethopia, 80% of their sample also acquired valuable insight into sex, family planning, and contraceptive usage through counseling services. Thus, both studies emphasize the crucial role of counseling in enhancing reproductive health knowledge among adolescents, reinforcing the idea that access to education and counseling services is vital for informed decision-making. The consistency between these findings suggests that improving counseling services can effectively support adolescents in their reproductive health choices.

Adedze *et al.*(2022) carried out a survey in Accra to explore young women's knowledge of HIV transmission and prevention. The survey found that although most participants were informed

about HIV, misconceptions regarding transmission routes persisted, with only 45% correctly identifying effective prevention methods. This indicates a significant gap in comprehensive sexual health education among young women in urban settings.

Similarly, a study by Sakyi *et al.* (2024) assessed the attitudes of young women in Kumasi towards HIV and found that despite a general awareness of the virus, many held incorrect beliefs about its transmission. Their research emphasized the necessity for focused educational efforts to to correct these misunderstandings and enhance the comprehension of safe sexual practices.

Furthermore, Erzuah Bullock,(2022) explored the impact of socio-cultural factors on young women's sexual health knowledge in rural Ghana. The findings revealed that cultural norms often inhibit open discussions about sexual health, leading to misinformation and increased vulnerability to HIV infection.

These studies collectively highlight that young female adults in Ghana possess varying levels of knowledge regarding sexual health and HIV/AIDS, often influenced by socio-economic and cultural factors. Improving educational outreach and dispelling myths about HIV transmission are crucial for enhancing their understanding and promoting safer sexual behaviors.

2.7 The Factors That Determine Risky Sexual Behaviors among Adolescents

Risky sexual behavior involves behaviors that increase the likelihood of negative outcomes, including unprotected sex, having multiple sexual partners, or engaging in transactional sex. These behaviors are often influences by factors, including social norms, lack of comprehensive sexual health education, economic vulnerabilities, and power dynamics within relationships. According to a study by Aninanya, Cornelius Y Debpuur, *et al.*(2015), risky sexual behavior

among young female adults in Ghana is caused by a range of interconnected factors, such as limited access to sexual health information, gender inequalities, and economic pressures. The study found that young women who take part in risky sexual behavior may do so due to insufficient understanding of HIV prevention, limited negotiation power in relationships, and economic dependence on older partners for financial support. A survey by Udigwe *et al.* (2014), on the variables impacting sexual conduct among female teenagers found that young people who did not reside with both parents and came from a disadvantaged family background were more likely to engage in risky sexual practices. Respondents who had incorrect information of their fertile window, had a low risk perception of HIV, but used condoms were more likely to engage in sex .Having several sexual partners is a dangerous sexual practice engaged in by young people, which has harmful effects against them and others. (Vasilenko and Lanza, 2014). Many studies have indicated that having multiple sexual partners among sexually active teens increases their chance of developing sexually transmitted diseases or infections in the likes of human papilloma virus (HPV) infection, which can lead to cervical cancer , chlamydia, and HIV/AIDS.(Vasilenko and Lanza, 2014).

Some research investigated and discovered fascinating but multiple answers, including reasons why young female adults have multiple sexual partners, such as sexual discontent, lack of affection and financial assistance from a partner, violence, and poor communication. (Mwale and Muula, 2017; Siddiqui *et al.*, 2020; Joorbonyan, Ghaffari and Rakhshanderou, 2022).

Other explanations suggested the literature emphasizes that while some viewed the act solely as a source of collateral, others just saw the act as a source of pleasure (Ashenhurst *et al.*, 2017)

Peer pressure and substance usage, like alcohol, marijuana, and tobacco, have been linked with an increased likelihood of having several sexual partners among young people.

Studies have also found that substance abuse influences teenage pregnancy as a result of young female adults engaging in unsafe sexual conduct. Vosburg *et al.* (2016)

In a pilot survey involving teenagers in recovery from drug addiction, researchers attempted investigating the emergence of prescription drug abuse, addiction, and the shift to heroin use among adolescents at certain Recovery High Schools in Massachusetts. According to the study's findings, respondents overused alcohol, cannabis, and nicotine before becoming addicted to prescription opioids. The average age at which prescription opioid misuse began was 15 years, and 58% of respondents admitted to being dependent on certain prescription opioid medications.A notable percentage of those hooked indicated they had been using marijuana prior to starting these drugs.The main reasons provided by adolescents for initially using these substances were peer pressure and curiosity which are driving forces behind the use of these medications.

A study carried out by Bingenheimer, Asante and Ahiadeke, (2015) on peer impacts of sexual behavior between teenagers in Ghana,indicated two rounds of study data were gathered from 1,275 adolescents in two locations in southeastern Ghana, where differences in gender, age, and community characteristics within age groups were examined. The poll found that antisocial peers and perceived peer norms fostering sex heightened the risk of transitioning to first sex. Furthermore, having more friends enhanced the likelihood of acquiring numerous sexual partners among younger participants, and for male young adults, the perception of peer norms that encourage sexual activity raised the likelihood of having multiple partners A similar survey by Dekeke and Sandy, (2014), stated living with friends or alone, parental control, religious attachment, amount of parental education, the number of friends who have had sex, and peer

pressure, formed part of the factors identified as influencing teens to participate in risky sexual activities.

2.8 Gaps in Existing Literature the Current Study Sought to Address

Understanding risky sexual behavior and HIV knowledge among young female adults is critical for effective public health interventions aimed at reducing HIV transmission in Ghana. This literature review identifies gaps in existing literature and outlines the current study's objectives in addressing these gaps. This current study addresses a critical gap in the research by utilizing the most recent national data from the GDHS 2022. This ensures that the analysis reflects a contemporary perspective on the problem, incorporating the latest trends and insights to provide a more accurate and relevant understanding. This technique aimed to offer a broader view of the diversity within the population.

CHAPTER THREE

METHODOLOGY

3.0 Introduction

Section 3.0 details the survey method employed to analyze the dynamics surrounding risky sexual behavior and HIV knowledge among young female adults in Ghana. The section comprises of the study design, the population and sample of the study, data handling, and statistical analysis procedures. The details are presented below:

3.1 Research methods and Design

This research adopted a quantitative approach and a retrospective cross-sectional survey design. A cross-sectional survey is chosen to facilitate the collection of numerical data, enabling easier quantification and measurement of the relationship between risky sexual behavior and HIV knowledge among young female adolescents in Ghana. A retrospective cross-sectional study is an observational study that examines historical data to explore the connections between exposure to a specific factor (like HIV knowledge) and an outcome (such as risky sexual behavior) at a particular moment in time. (Saxena *et al.*, 2013).

Overall, a retrospective cross-sectional study design offered unique advantages for the study of risky sexual behavior and HIV knowledge among young female adults in Ghana, including cost-effectiveness, time efficiency, reduced bias, and ethical considerations.

3.2 Data Collection Technique and Tools

The 2022 GDHS is the seventh round of a population-based survey which was carried out by the Ghana Statistical Service (GSS) to assess progress with health service management and utilization in the country. The data was collated by 37 teams with each team comprising interviewers, supervisors, and biomarker technicians. Data collection was conducted using the Computer-Assisted Personal Interview (CAPI) method, where field workers enter responses from participants on a tablet. The data was collected using four survey questionnaires: questionnaires for men, women, the household, and field workers(GSS GHS and ICF, 2023).

Given the objectives of the study, the data generated from the women's questionnaire, particularly the section on risky sexual behavior and HIV knowledge was employed. The selected data contains information on the sexual experiences, their socio-demographic characteristics, and their level of knowledge of HIV.

This current study limited the data-set to data for all young female adults (15-24 years) recognized as either visitors or household residents, who had spent the night with the household prior to the research. The data obtained was cleaned to avoid outliers and to isolate missing variables using STATA, a statistical software (version 18) to rename and recode the variables for analysis.

3.3 Study Population

Participants in the study must be young female adults aged between 15 and 24 years who are currently residing in Ghana and have been active sexually within the past 12 months. Young female adults who are either younger than 15 or older than 24, or who do not meet the age requirement but are sexually inactive, will be excluded from the study.

3.4 Study Site

The study site for this project is in the 16 regions of Ghana, using data from the GDHS. This comprehensive approach ensures representation from diverse geographic locations within the country and allows for a thorough examination of risky sexual behaviour and HIV knowledge among young female adults across different regions of Ghana.

3.5 Study Variable

Some variables were identified and classified as dependent and independent.

3.5.1 Dependent variable: In this analysis, the dependent variable, which is risky sexual behavior is derived based on the number of sexual partners and condom use. A single sexual partner is considered non-risky regardless of condom use, while multiple sexual partners are deemed risky if condoms are not used. Specifically, if someone has several sexual partners and do not practice condom use, their behavior is classified as risky. Conversely, having multiple partners but using condoms, or having a single partner, is classified as non-risky. This classification is based on the understanding that multiple sexual partners increase the risk.

3.5.2 Independent variable: Age, Highest level of education, current marital status,respondents occupation and Knowledge level and attitude towards HIV. The HIV Knowledge Score was derived by summing the values of the relevant indicators: , condoms during sex, knowledge and use of HIV test kits, can contract HIV from mosquito bites, and a person who appears healthy can still be HIV positive. Individuals are then classified based on this total score. Those who achieve a score of 3-4 are classified as "good" knowledge, while the rest with a score below 3 are classified as "poor" knowledge. Similarly, HIV Attitude Score is calculated by summing the values of the indicators such as “Can HIV be transmitted through sharing food with a person who has AIDS?” “ would buy vegetables from vendor with HIV”, “ ever been |tested for HIV”.

Based on this score, individuals are classified as having a "favorable" attitude if their score is 3, and an "unfavorable" attitude if their score is below 2.

3.6 Sample Size

The survey employed secondary data of the 2022 Ghana Demographic and Health Survey (GDHS) which employed a multi-stage sampling technique to sample 18,450 households in 618 clusters, out of which 15,014 women aged from 15-49 years were interviewed, of which 3,567 are young adults between 15 and 24 years. The first stage of the sampling approach for the 2022 GDHS involved using a probability proportional to size (PPS) strategy for rural and urban areas in each region to select 618 target clusters. The targeted clusters were then selected with equal probability systematic random sampling of the clusters in the first phase for rural and urban areas. After the clusters were selected, the second stage involved listing of households and map updating operation in all the selected clusters. The second stage then yielded a list of households in each cluster. The household list produced then served as a sampling frame which was used to select the household sample.

To determine the sample size of this study, the process began with the initial dataset, which included a larger pool of potential participants. The first step involved applying the specific inclusion and exclusion criteria defined for the study. This meant selecting participants who met the criteria, such as being within 15 to 24 years of age and having been active sexually within the past 12 months, while excluding young female adults who did not fit these requirements. Following this, a series of data cleaning procedures were implemented. Variables with significant missing data were removed, and observations with missing or invalid responses were filtered out. This process ensured that only relevant and complete data were retained for analysis.

After applying these filters and cleaning steps, the data-set was reviewed to confirm the number of observations that met all criteria and had valid data. The final count of valid and eligible observations resulted in a sample size of 2,817. This figure reflects the number of participants who were both eligible according to the study criteria and had complete data for the analysis

Inclusion Criteria

- Young female adults between 15 to 24 years of age in Ghana.
- Young female adults who are sexually active in the last 12 months in Ghana.

Exclusion criteria

- Anyone less than 15 years and above 24 years in Ghana.
- Anyone who is sexually inactive in the last 12 months in Ghana.

3.7 Pre-Testing

The data collection tools did not require pre-testing since the study used secondary data.

3.8 Data Handling

Rigorous procedures for data handling were implemented during this study to guarantee it's validity, reliability and integrity of the information retrieved. This includes meticulous data extraction, cleaning, and validation processes to mitigate potential biases and inaccuracies inherent in secondary sources. Additionally, strict adherence to ethical guidelines and conformity with relevant data protection regulations was upheld throughout the data handling process to ensure confidentiality and privacy. The 2022 GDHS data was loaded into STATA version 18 for onward statistical analysis. The data was scrutinized for missing data, especially concerning key variables that are relevant to this study. Data obtained during this study is been kept in a secure

password computer only accessible to the principal investigator and supervisor. Also, the data obtained is been kept for a period of five(5) years until this research is published, to aid in unforeseen eventualities before and during the process of publication.

3.9 Statistical Analysis

Data collected from the survey was subjected to diverse statistical techniques to analyze the knowledge essential to young female adults in Ghana. Descriptive statistics was employed to summarize the demographic characteristics, knowledge scores, and risky sexual practices of the respondents. Regression analysis was used to examine the effects of independent variables such as age, literacy level, highest level of education, autonomy of a young woman and knowledge level and attitude towards HIV on the dependent variable of risky sexual behavior.

The correlation coefficient was used to measure the strength and direction of the link between risky sexual practices and knowledge score of HIV , using STATA, version 18 software to explore the associations between this variable and outcome. The results of these analyses was integrated and interpreted which provided a comprehensive picture of HIV knowledge and risky sexual behavior among young female adults in Ghana.

The p-value is a statistical test that helps to determine the statistical significance of independent variables in a regression output. It tests the null hypothesis that the coefficient of an independent variable is equal to zero or that the independent variable does not affect the dependent variable(American Statistical Association, 2016). For this study, the p-value is set at 5%, which was utilized to examine determinants of risky sexual behavior and evaluate HIV knowledge level among respondents. Where p-value of a variable is less than 5%, the conclusion is that the variable explains the dependent variable (in this case, the probability that a respondent practice risky sexual behavior).

3.10 Ethical Consideration

Before beginning the project, I got ethical permission from Ensign Global College's Institutional Review Board.

3.11 Limitations of study

While a retrospective cross-sectional survey design offers efficiency and reduced time and cost compared to prospective studies, it inherently relies on recalled information which may be subject to recall bias, especially concerning sensitive topics like risky sexual behavior. Additionally, the study's cross-sectional design restricts its capacity to demonstrate causality or discern the temporal sequence of hazardous sexual activity and HIV knowledge acquisition among Ghana's young female adolescents. Finally, the use of self-reported data for both exposure and outcome variables may introduce measurement bias, affecting the accuracy and reliability of the study's results.

3.12 Assumptions

The study is based on several key assumptions: it presumes that a retrospective cross-sectional survey design is appropriate for examining the correlation between HIV knowledge and risky sexual behavior among young female adults in Ghana. It also assumes that the 2022 GDHS data is accurate and representative, reflecting the population well due to sound sampling methods. Furthermore, the study relies on the belief that the inclusion and exclusion criteria properly target relevant demographic and that variables used effectively measure the intended constructs. Lastly, it assumes that data handling and statistical analysis are conducted correctly to ensure reliable and meaningful results.

CHAPTER FOUR
RESULTS

4.1 Introduction

This section presents the research's results, detailing demographic characteristics of the respondents, prevalence of risky sexual behavior among Ghanaian youth, and their levels of HIV knowledge. It also explores the relationship between risky sexual behaviors and HIV knowledge. Additionally, the chapter examines various factors influencing risky sexual behavior. The finding below illustrates the analysis of the 2,817 responses that had clean and complete data.

4.2 Univariate of Socio-demographic characteristics of the study Respondents.

The table below presents a demographic profile of 2,817 respondents. Most participants are aged 20-24, making up 67.9% of the sample, while 32.1% are aged 15-19. The regional distribution shows the highest representation in the Upper East and Upper West regions, with significant numbers also from the North East and Ashanti regions. Educationally, 72.9% of respondents have completed secondary education, followed by 14.3% with primary education, 8.0% with no formal education, and 4.8% with higher education. In terms of marital status, the majority are single (53.3%), with 24.6% married and 22.0% in other marital categories such as widowed and divorced . Occupationally, the largest groups are those working in services (31.3%) and those not working (33.6%), with smaller proportions in manual labor, sales, agriculture, professional roles, and clerical positions. This distribution indicates a diverse sample with a strong representation of secondary education and a focus on service-related and non-working occupations.

Table 4.1: Univariate analysis of Socio-demographic characteristics of Study Respondents

Variable	Frequency (N=2,817)	Percentage **(%)**
Age		
15-19	904	32.1
20-24	1,913	67.9
Region		
Western	164	5.8
Central	193	6.9
Greater Accra	144	5.1
Volta	132	4.6
Eastern	136	4.8
Ashanti	213	7.6
Western North	171	6.1
Ahafo	171	6.1
Bono	162	5.7
Bono East	186	6.6
Oti	194	6.9
Northern	151	5.4
Savannah	188	6.7
North East	210	7.4
Upper East	211	7.5
Upper West	191	6.8
Highest Educational Level		
No Education	226	8.0
Primary	400	14.3
Secondary	2,055	72.9
Higher	136	4.8
Current Marital Status		
Single	1,503	53.3
married	694	24.6
Others	620	22.0
Respondent's occupation (grouped)		

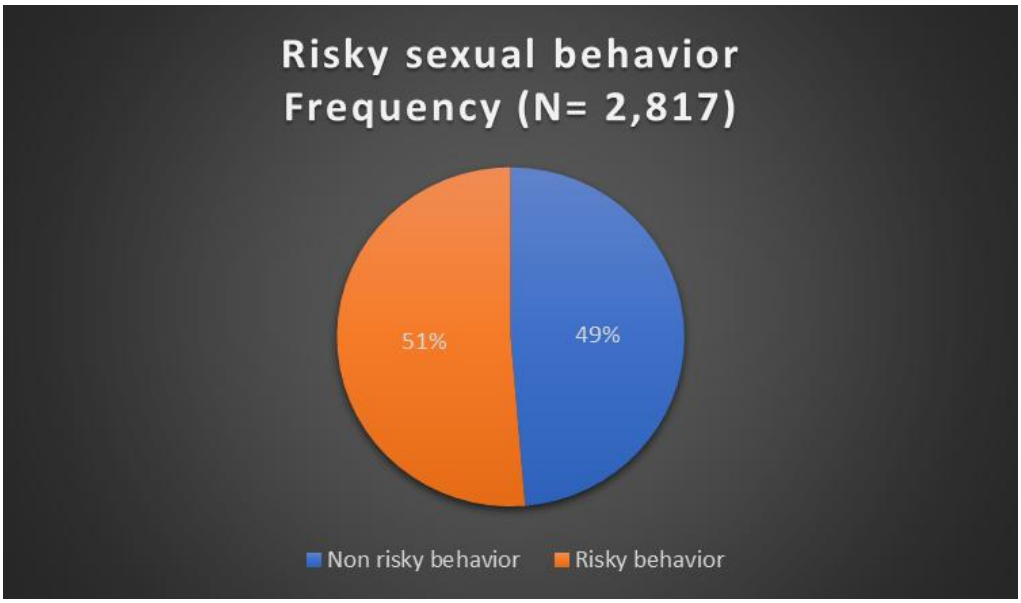
not working	951	33.6
professional/technical/managerial	79	2.8
clerical	56	2.0
sales	205	7.3
agricultural	172	6.1
services	883	31.3
manual	447	15.9
Others	23	0.8

Source (GDHS, 2022)

4.3 Prevalence of risky sexual behavior among young female adults

Figure 4.2 below provides an analysis of risky sexual behavior among 2,817 participants. According to the data, 51.3% of participants engage in risky sexual behavior, while 48.7% do not. This indicates that just over half of the respondents are involved in behaviors considered risky such as no use of condom during sexual intercourse and having multiple sexual partners, whereas nearly half do not engage in such behaviors.

Figure 4.2 Risky sexual behavior



(Source -GDHS, 2022)

4.4 Knowledge level and attitude towards HIV transmission and treatment:

Table 4.3 presents the knowledge level of HIV among young female adults based on a sample of 2,817 respondents. The majority of respondents, 83.3%, correctly recognize that using condoms during sex is an efficient method to lessen the risk of HIV, while 14.1% do not and 2.6% are unsure. Concerning HIV transmission, 78.2% know that HIV cannot be contracted through mosquito bites, with 18.8% believing it can and 3.0% uncertain. Most respondents, 73.5%, understand that a person who appears healthy can still have HIV, whereas 25.1% do not and 1.4% are unsure. Awareness of antiretroviral therapy (ARVs) is moderate, with 56.1% having heard of ARVs and 43.9% not. Overall, 77.5% of the respondents demonstrate good knowledge of HIV, while 22.5% have poor knowledge, indicating a generally strong understanding of HIV prevention and treatment among the majority.

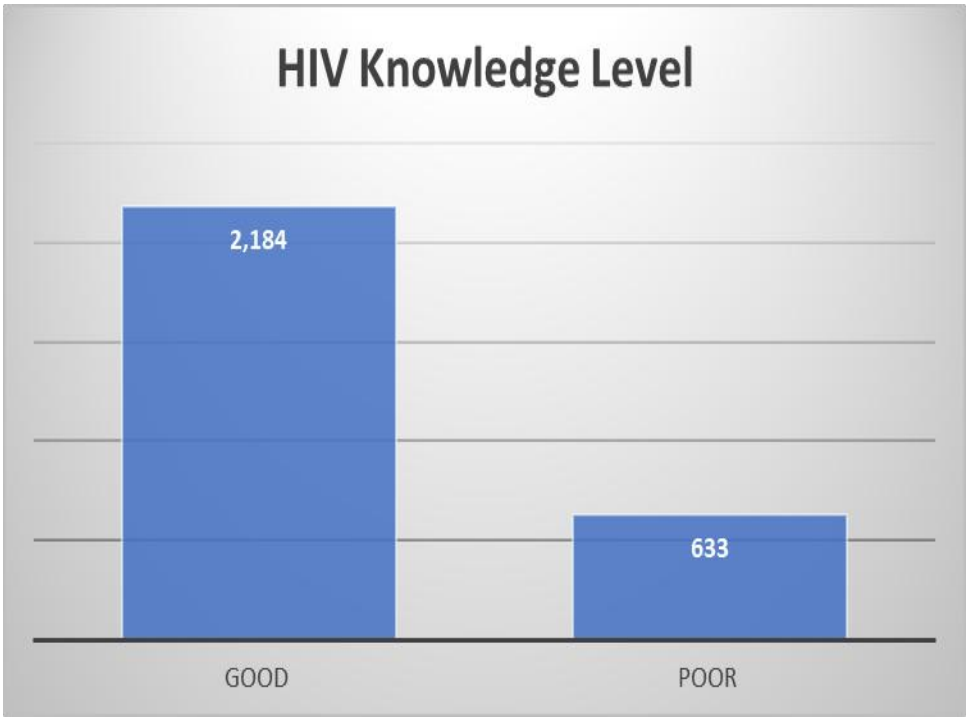
Table4. 2: Knowledge level of HIV among young female adults:

Variable	Frequency (N=2,817)	Percentage (%)

Reduce risk of getting HIV: always use condoms during sex		
No	398	14.1
Yes	2,347	83.3
Do not Know	72	2.6
Can get HIV from mosquito bite		
No	2,202	78.2
Yes	529	18.8
Do not know	86	3.0
A healthy looking person can have HIV		
No	706	25.1
Yes	2,071	73.5
Do not know	40	1.4
Heard of ARVs to Treat HIV		
No	1,236	43.9
Yes	1,581	56.1
HIV Knowledge Level		
Good	2,184	77.5
Poor	633	22.5

(Source -GDHS, 2022)

Figure4.3; HIV knowledge level of young female adults in relation to risky sexual behavior in Ghana



The data on HIV knowledge levels indicates that out of the 2,817 respondents, 77.5% possess good knowledge about HIV, while 22.5% have poor knowledge. This suggests that the majority of the sample has a strong understanding of HIV, its prevention, and treatment. Conversely, a smaller proportion of respondents have limited knowledge, which emphasizes the need for continued education and awareness efforts to address gaps in understanding.

Table4. 3: Attitude towards HIV transmission and treatment

Variables	Frequency (N= 2,817)	Percentage (%)
Ever been tested for HIV		

No	1,485	52.72
Yes	1,332	47.28
Can get HIV by sharing food with persons with AIDS		
No	1,821	64.64
Yes	922	32.73
Do not know	74	2.63
Would buy vegetables from vendor with HIV		
No	2,236	79.38
Yes	570	20.23
Do not know	11	0.39
Attitude towards HIV transmission		
Unfavorable	1,681	59.67
Favorable	1,136	40.33

(Source -GDHS, 2022)

Table 4.3 provides an overview of attitudes towards HIV transmission and treatment among 2,817 respondents. The data reveals that 52.72% of participants have not undergone HIV testing, whereas 47.28% have been tested. This suggests that a majority of individuals have not engaged in testing. Regarding beliefs about HIV transmission, 64.64% correctly understand that HIV is not transmitted through sharing food with someone who has AIDS, while 32.73% mistakenly believe it can be transmitted this way, and 2.63% are uncertain. This indicates a generally good understanding of HIV transmission modes. Concerning purchasing vegetables from a vendor with HIV,a significant majority (79.38%) would not buy vegetables from a vendor living with HIV, reflecting stigma and fear associated with the virus. Only 20.23% would feel comfortable

doing so, suggesting a pressing need for education to combat stigma. The overall attitudes show that 59.67% have an unfavorable view toward HIV transmission, while 40.33% hold a favorable perspective, indicating a mix of fear and openness.

4.5 Bivariate analysis on risky sexual behavior and selected socio-demographic characteristics.

This analysis of risky sexual behaviors in relation with various socio-demographic characteristics indicates several key findings. There is no significant relationship between HIV knowledge level and sexual behavior, as the p-value of 0.274 suggests that having good or poor HIV knowledge does not significantly impact whether individuals engage in risky or non-risky sexual behaviors. Also, a p-value of 0.550 shows no statistically significant association between attitudes toward HIV transmission and risky sexual behavior, suggesting that attitudes may not strongly influence the likelihood of engaging in such behaviors. Age, however, does show a significant association with sexual behavior. Age is a significant factor, particularly for the 15-19 age group, which has a notable association with risky behaviors (1.7% risky) and a p-value of 0.029. The 20-24 age group exhibits a higher percentage of non-risky behavior (65.5%). Educational attainment does not show a significant association with risky behaviors, as most individuals with secondary education (69.9%) engage in non-risky sex. Marital status has a strong correlation, with singles more probable to participate in non-risky sex (50.4%) as compared to married individuals (24.4%), who rarely engage in risky behaviors. Employment status also plays a role; those not working have a higher percentage (32.5%) participating in non-risky behaviors, while only 1.3% of this group engages in risky sexbehaviors, suggesting that one's job may influence their sexual behavior.

Table 4.4: Association between risky sexual behaviors and some socio-demographic characteristics.

Characteristics	Risky sexual behaviors		P-value	Pearson Chi-Square
	Non-risky sex N=2,701(%)	Risky sex N= 116(%)		
HIV Knowledge level				
Good	2,090 (74.2)	94 (3.3)	0.274	2.5856
Poor	611 (21.7)	22 (0.8)		
Attitude towards HIV transmission				
Unfavorable	1,608(57.1)	73(2.6)	0.550	0.36
Favorable	1,093(38.8)	43(1.5)		
Age Distribution				
15-19	856 (30.4)	48 (1.7)	0.029	4.7896
20-24	1,845(65.5)	68 (2.4)		
Highest educational level				
No education	220 (7.8)	6 (0.2)	0.391	3.0023
Primary	379 (13.5)	21 (0.8)		
Secondary	1,970 (69.9)	85 (3.0)		
Higher	132 (4.7)	4 (0.1)		
Current marital status				
Single	1,421 (50.4)	82 (2.9)		

Married	687(24.4)	7 (0.3)		
Others	593 (21.0)	27 (1.0)	<0.001	40.9102
Respondent's occupation (grouped)				
Not working	915 (32.5)	36 (1.3)	0.007	22.8386
Professional/technical/managerial	76 (2.7)	3 (0.1)		
Clerical	56 (2.00	0 (0.0)		
Sales	190 (6.7)	15 (0.5)		
Agricultural	163 (5.8)	10 (0.3)		
Services	853 (30.3)	30 (1.1)		
Manual	427(15.2)	20 (0.7)		
Others	21(0.7)	2 (0.1)		

(Source -GDHS, 2022)

4.6 Determinants of risky sexual behavior among young female adults in Ghana

The multiple logistic regression analysis of determinants of risky sexual behavior in Ghana reveals several key findings. The age group of 20-24 shows an adjusted odds ratio of 0.682 and p-value less than 0.001, showing that this age group is less probable to engage in risky sexual behavior compared to those aged 15-19, though the wide confidence interval suggests some uncertainty in this estimate. Educational attainment shows varied effects. Primary education is associated with an increased likelihood of risky sexual behavior, with an adjusted odds ratio of 1.94 and a p-value of less than 0.001. Secondary education approaches significance with an odds

ratio of 3.80 and a p-value of 0.072, though it is not statistically significant at the 0.05 level. Higher education shows no significant association, with an odds ratio of 7.27 and a p-value of 0.263.

HIV knowledge appears counter intuitive in the adjusted analysis, showing an odds ratio of 0.822 with a p-value of less than 0.001, suggesting that poorer HIV knowledge is associated with a higher likelihood of engaging in risky sexual behavior. The analysis also indicates no statistically significant association between attitudes toward HIV transmission and risky sexual behavior, with both unadjusted and adjusted odds showing confidence intervals that include 1.00. Marital status significantly affects risky sexual behavior. The adjusted odds ratios for married and other marital statuses show significant associations, with married individuals having a decreased likelihood of engaging in risky behaviors (odds ratio of 3.15 and p-value of 0.238), while those in other marital categories have an odds ratio of 0.029 and a p-value of less than 0.001, indicating a strong association with reduced risky sexual behavior.

Occupation also shows significant associations. Different occupational groups, such as those in sales, services, and manual labor, demonstrate increased likelihoods of engaging in risky sexual behavior, with adjusted odds ratios indicating notable variations across these categories. For instance, the odds ratios for occupations like sales (1.086) and services (1.139) are significant with p-values less than 0.001, indicating a higher likelihood of risky sexual behavior as compared with young female adults not working.

Table 4.5 :Multiple logistic regression analysis of factors contributing to risky sexual behavior in Ghana.

Variable	Categories	Unadjusted (P-value)	Unadjusted OR (95% C.I)	Adjusted (P-value)	Adjusted OR (95% C.I)
Age distribution	15-19	1.00 (Reference)		1.00 (Reference)	
	20-24	0.403	0.66(0.25-1.75)	<0.001	0.682(0.195-5.327)
Highest education level	No education	1.00 (Reference)		1.00 (Reference)	
	primary	0.408	2.57(0.28-23.87)	<0.001	1.94(1.07-3.49)
	Secondary	0.231	3.77(0.43-33.20)	0.072	3.80(0.73-19.08)
	Higher	0.084	15.49(0.69-345.49)	0.263	7.27(0.44-118.53)
Level of HIV knowledge	Good	1.00 (Reference)		1.00 (Reference)	
	Poor	0.426	1.82(0.512-1.325)	<0.001	0.822(0.0209-0.0501)
Attitude towards HIV transmission	Unfavorable	1.00 (Reference)		1.00 (Reference)	
	Favorable	0.550	1.20 (0.87 - 1.66)	0.650	1.10 (0.80 - 1.50)
Current marital status	Single	1.00 (Reference)		1.00 (Reference)	
	Married	0.012	0.026(0.0467-0.0059)	0.238	3.15 (1.22, 4.96)

	Others	0.816	0.046(0.0433 -0.347)	<0.001	0.029(0.0120 8-0.04623)
Respondent's occupation (grouped)	Not working	1.00 (Reference)		1.00 (Reference)	
	Professional/technical/managerial	0.954	0.0013(- o.o45-0.47)	<0.001	1.036(0.039- 0.0474)
	Clerical	0.156	0.039(- 0.092- 0.0149)	<0.001	1.058(0.0327 -0.0476)
	Sales	0.042	0.031(0.0012 -0.061)	<0.001	1.086(0.0333 -0.0508)
	Agricultural	1.188	0.012 (- 0.4078- 0.4314)	<0.001	1.112(0.0341 -0.0519)
	Services	0.927	0.0009(- 0.0194- 0.0176)	<0.001	1.139(0.0349 -0.0531)
	Manual	0.01	0.1453(0.038 4-0.2518)	<0.001	1.160(0.0356 -0.0544)
	Others	0.325	0.041(- 0.0406- 0.1228)	<0.001	1.188(0.0370 -0.0570)

(Source -GDHS, 2022) **statistically significant effect at a 95% Confidence Interval*

CHAPTER FIVE
DISCUSSIONS

5.1 Introduction

This chapter detailed how the survey outcomes relate to other studies. The study aimed to provide insight into risky sexual behaviour and HIV knowledge among young female adults in Ghana: findings from the Ghana demography and health survey 2022.

5.2 Socio-demographic characteristics of risky sexual behaviour and HIV knowledge among young female adults

The demographic profile of the 2,817 respondents in this survey offers significant insights into the socio-demographic features of young female adults in Ghana, focusing on age, education, marital status, and occupation. Notably, 67.9% of respondents are aged 20-24, indicating a predominantly young population that may be particularly susceptible to risky sexual behaviors. This aligns with existing research suggesting that younger individuals often engage in higher-risk sexual activities due to peer pressure and inadequate sexual education (Seidu *et al.*, 2024).

Education levels among respondents reveal that 72.9% have completed secondary education. Higher educational attainment is linked with lower rates of risky sexual behavior, as individuals with more education generally possess better knowledge about sexual health and HIV prevention (Nyete, 2019; Koray *et al.*, 2022).

The marital status distribution shows that 53.3% of respondents are single, which may correlate with increased exposure to risky sexual behaviors. Single individuals are often involved in less stable relationships and may engage in casual sex, raising their risk of sexually transmitted

infections (STIs) (Kloh, 2022). In contrast, married individuals typically exhibit lower levels of risky behavior due to stable relationships and mutual accountability(Alexander, 2023).

Occupational data reveals that the largest groups are those working in services (31.3%) and those not working (33.6%). This distribution points to a varied economic landscape, where many individuals may be in informal or unstable employment. Research suggests that those in precarious job situations may experience stress and instability, potentially leading to risky sexual behaviors as a coping mechanism (Asante, 2023). The high percentage of individuals not working may also reflect broader economic challenges impacting sexual health outcomes.

5.3 Prevalence of risky sexual behavior among young female adults

This study reveals that 51.33% of young female adults engage in risky sexual behaviors, such as not using condoms and having multiple sexual partners, which poses significant risks for sexually transmitted infections (STIs) and unintended pregnancies. This prevalence aligns with regional trends, as similar behavior patterns were observed among young women in West Africa, such as the 53% reported in Nigeria (Deveauuse-Brown, 2019).

These findings emphasize the need for tailored interventions that address the specific issues experienced by this demographic, such as restricted access to sexual health education and resources.

Additionally, the study's results aligns with a research, which uncovered that 49% of young women in Ghana engage in unprotected sex. Factors such as peer influence and inadequate sexual education contribute significantly to these behaviors, highlighting the necessity for

educational programs that not only provide knowledge but also empower young women to make safer sexual choices(Owusu, 2021).

A systematic review further supports these findings, noting that socioeconomic pressures and cultural norms may hinder open conversations of sexual health, making young women particularly vulnerable to risky behaviors. This emphasizes the importance of community-based interventions that promote open dialogue and provide accessible sexual health resources(Adekola and Mavhandu-Mudzusi, 2021).

Moreover, the normalization of risky sexual behaviors within certain peer groups also plays a role in influencing social norms on sexual behavior among adolescents and young adults(Munala *et al.*, 2023). Peer groups often impact decisions regarding condom use and partner selection.

5.4 Knowledge level and attitude towards HIV among young female adults in Ghana.

The study reveals that 77.5% of young female adults in Ghana possess a good understanding of HIV prevention and treatment, indicating a high level of knowledge among the majority of respondents. Most participants correctly identify that using condoms is an effective method to reduce HIV risk, that HIV is not transmitted through mosquito bites, and that individuals can still be HIV positive despite appearing healthy. However, a significant knowledge gap is evident, as 43.9% of respondents are unfamiliar with antiretroviral therapy (ARVs), suggesting a need for further education (Onyango, 2013).

In terms of attitudes, while a substantial portion of respondents demonstrate an accurate understanding of HIV transmission modes, stigma remains a prominent issue. Notably, 79.38% of respondents would avoid purchasing vegetables from a vendor who is HIV positive, highlighting persistent stigma and fear associated with the virus. This finding is consistent with

recent studies that underscore the impact of stigma on public health and the necessity for continued educational interventions to foster more inclusive attitudes (Mavhandu-Mudzusi, 2023).

Additionally, 59.67% of respondents hold an unfavorable view of HIV transmission, reflecting a combination of fear and misunderstanding. This contrasts with more favorable attitudes reported in some studies, indicating regional variations and underscoring the need for targeted educational strategies tailored to specific contexts (Anokye *et al.*, 2024).

5.5 Association between risky sexual behaviors and knowledge level Of HIV among young female adults In Ghana.

The study's bivariate analysis reveals that HIV knowledge does not significantly impact risky sexual behaviors, as shown by a p-value of 0.274, indicating that both those with good and poor HIV knowledge are equally likely to engage in such behaviors. This finding aligns with research suggesting that knowing about HIV does not always translate into safer sexual practices (Ibitoye and Adebayo, 2022). Age, however, significantly affects sexual behavior, with the 15-19 age group more likely to engage in risky behaviors compared to older groups, which is consistent with studies highlighting the higher risk of dangerous sexual practices among younger individuals due to peer pressure and inadequate sexual health education (Adekola and Mavhandu-Mudzusi, 2021).

Educational attainment does not significantly correlate with risky sexual behavior in this study, as most individuals with secondary education engage in non-risky sex. This aligns with research indicating that while education can enhance sexual health knowledge, its effect on behavior

change can be complex and not always direct (Boakye, Kumah and Adjorlolo, 2024). Marital status shows a strong association with sexual behavior; single individuals are more likely to engage in non-risky sex compared to married individuals, who tend to exhibit lower levels of risky behavior. This contrasts with some studies that have found higher risky behaviors among single individuals due to less stable relationships (Ayebeng *et al.*, 2022).

Employment status also influences sexual behavior, with those not working showing a higher percentage of non-risky behaviors and a lower incidence of risky practices. This suggests that economic factors and job stability might affect sexual behavior, as unemployment and related stress may influence engagement in risky behaviors or reduce it (Asante, 2023). These findings underscore the importance of considering socio-demographic factors when addressing risky sexual behaviors, indicating that interventions tailored to age, marital status, and employment status might be more effective in promoting safer sexual practices.

5.6 Determinants of risky sexual behavior among young female adults in Ghana.

The multiple logistic regression analysis of determinants of risky sexual behavior among young female adults in Ghana reveals several notable findings. Individuals aged 20-24 are less likely to participate in risky sexual behaviors as compared to their peers aged 15-19. This result aligns with studies suggesting that as individuals mature, they often exhibit more stable and less risky sexual behaviors (Khamisa, Mokgobi and Basera, 2020).

Educational attainment shows mixed effects on risky sexual behavior. While primary education is related to an increased probability of risky sexual behaviors, secondary education's effect is not statistically significant, and higher education shows no significant association. These findings are consistent with research indicating that lower levels of education can be linked to

increased risky behaviors due to limited access to comprehensive sexual health education (Koch and Wehmeyer, 2021). However, the lack of significant associations between secondary and higher education contrasts with studies that suggest higher education generally correlates with safer sexual practices (Bekele and Fekadu, 2020).

The analysis also reveals an unexpected relationship between HIV knowledge and risky sexual behavior. Lower levels of HIV knowledge is correlated with a higher probability of engaging in risky sexual practices, challenging common assumption that better knowledge directly leads to safer behaviors (Ibitoye and Adebayo, 2022). This suggests that factors beyond knowledge, such as access to healthcare or behavioral attitudes, may influence sexual behavior.

Marital status significantly impacts risky sexual behavior, with married individuals less probable to practice risky behaviors. This supports research indicating that stable relationships are associated with lower levels of risky sexual behaviors (Ayebeng *et al.*, 2022). Conversely, individuals in other marital statuses show a strong association with reduced risky behaviors.

Occupation also plays a role, with those in sales, services, and manual labor showing increased likelihood of risky sexual behavior. This results reflects the broader socioeconomic context, where job instability and stress might influence sexual behavior, consistent with studies linking precarious employment to increased risk-taking behaviors (Abera *et al.*, 2018)

CHAPTER SIX

CONCLUSIONS AND RECOMMENDATIONS

6.1 Conclusions

This study offers a comprehensive view of the determinants of risky sexual behavior and HIV knowledge among young female adults in Ghana. The majority of respondents are aged 20-24, a group often prone to higher-risk behaviors due to peer influences and insufficient sexual education. The educational background of participants shows that while a significant portion has completed secondary education, the link between education and risky behaviors is not straightforward. Lower levels of education, especially primary, are associated with increased risk, but secondary and higher education do not consistently correlate with safer sexual practices.

Marital status is a significant determinant of sexual behavior, with married individuals generally exhibiting lower levels of risky behaviors compared to singles. This is consistent with the view that stable relationships contribute to safer practices. The high percentage of individuals in informal or unstable jobs may also contribute to increased risk behaviors, reflecting broader economic pressures.

HIV knowledge is generally good among respondents, but gaps remain, particularly regarding antiretroviral therapy. Despite a high level of awareness about HIV prevention, the study finds that knowledge alone does not always translate into safer sexual practices. Factors such as age, marital status, and occupation are more significant predictors of risky behaviors, highlighting the need for tailored interventions that address these specific factors.

6.2 Recommendations

6.2.1Public Health Practices

- Comprehensive Sexual Health Education: Implement programs tailored to different age groups, with a focus on young adults aged 15-24. These programs should cover HIV prevention, treatment, and antiretroviral therapy (ARVs).
- Community-Based Workshops and School Curricula: Promote sexual practices, condom use, and sexually transmitted infections (STIs) prevention.
- Targeted Outreach and Support: Develop outreach programs for individuals in informal or unstable employment, integrating sexual health education with support services for economic stability.
- Community Engagement: Strengthen efforts to reduce stigma and misinformation about HIV through campaigns that normalize discussions about the virus and encourage supportive behaviors towards those living with it.
- Marital and Relationship Counseling: Offer counseling services that focus on relationship stability and communication for both single and married individuals, highlighting the importance of mutual accountability and safe practices within relationships.

6.2.2 Policy

- Strengthen Health Education Policies: Advocate for and enforce comprehensive sexual health education in schools, regularly updating based on current research.
- Support Economic Stability Programs: Develop policies offering financial and employment support, incorporating sexual health resources to address economic stress and risky behaviors.

- Enhance HIV Testing and Treatment Access: Ensure broad access to HIV testing and treatment in under-served areas, and support policies that reduce the cost of testing and ARV medication.
- Combat Stigma Through Legislation: Enact and enforce anti-discrimination laws to protect individuals with HIV in employment, healthcare, and public settings, and promote inclusive practices.

6.2.3 Public Health Research

- Investigate gaps between HIV knowledge and sexual behavior to understand why increased knowledge doesn't always lead to safer practices.
- Study the consequences of socio-demographic factors such as age and employment status on risky sexual behaviors to design targeted interventions.
- Assess the effectiveness of public health interventions by evaluating their short-term and long-term impacts on behavior.
- Explore how economic instability and employment status influence sexual behavior and develop strategies to integrate economic support with sexual health education.

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APPENDIX

ENSIGN GLOBAL
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OUR REF: ENSIGN/IRB/EL/SN-266/02
YOUR REF:

April 29, 2024.

INSTITUTIONAL REVIEW BOARD SECRETARIAT

Ruhana Ibrahim Damba
Ensign Global College
Kpong.

Dear Ruhana,

ETHICAL CLEARANCE TO UNDERTAKE POSTGRADUATE RESEARCH

At the General Research Proposals Review Meeting of the *INSTITUTIONAL REVIEW BOARD (IRB)* of Ensign Global College held on Thursday, April 25, 2024, your research proposal entitled **"Risky Sexual Behaviour and HIV Knowledge Among Young Female Adults in Ghana: Insight from Ghana Demographics and Health Survey 2022"** was considered.

You have been granted Ethical Clearance to collect data for the said research under academic supervision within the IRB's specified frameworks and guidelines.

We wish you all the best.

Sincerely,

Dr. (Mrs.) Rebecca Acquaah-Arhin
IRB Chairperson

P. O. Box AK 136 | Tema-Akosombo Highway, Kpong, Eastern Region, Ghana |
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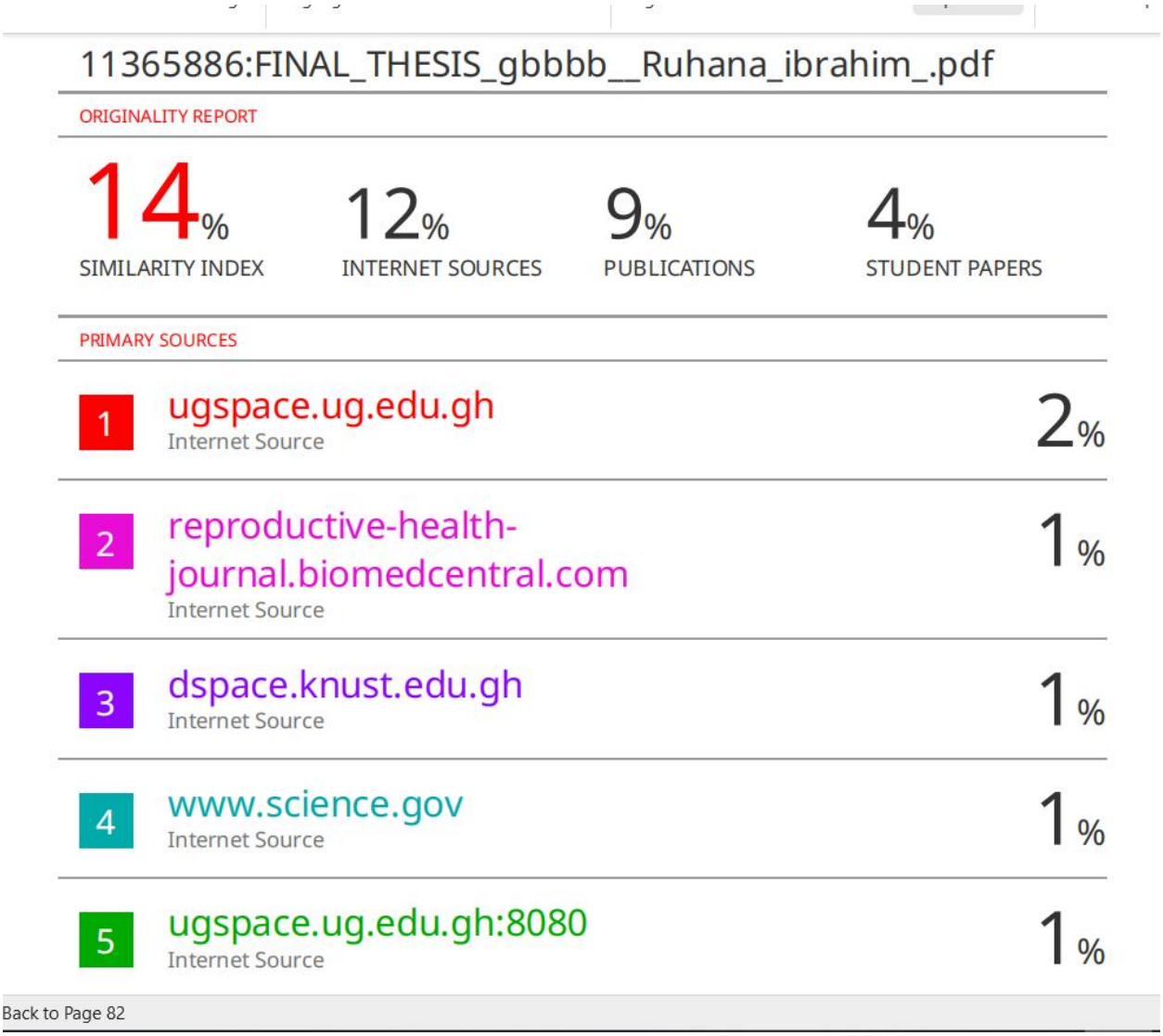
Appendix 1: Ethical clearance

Appendix 2 : Plagiarism report



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