RELATIONSHIP BETWEEN AWARENESS OF SICKLE CELL DISEASE PREMARITAL SCREENING AND ITS COMPLIANCE AMONG UNMARRIED STUDENTS OF UNIVERSITY OF BENIN, BENIN CITY, EDO STATE

BY

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IN PARTIAL FUFILMENT OF THE REQUIREMENT OF THE AWARD OF BACHELOR OF NURSING (BNSC) , COLLEGE OF MEDICAL SCIENCES, UNIVERSITY OF BENIN, BENIN CITY.

OCTOBER, 2025.

DECLARATION

This is to declare that this research project titled "**RELATIONSHIP BETWEEN AWARENESS OF SICKLE CELL DISEASE PREMARITAL SCREENING AND ITS COMPLIANCE AMONG UNMARRIED STUDENTS OF UNIVERSITY OF BENIN, BENIN CITY, EDO STATE**" was carried out by **BENJAMIN BLESSING IYOBOSA.** It is solely the result of my work except where acknowledged as being derived from other person(s) or resources.

MATRICULATION NUMBER: BMS2001212

FACULTY/SCHOOL: NURSING SCIENCES, UNIVERSITY OF BENIN, BENIN CITY.

SIGNATURE: _______________

DATE: ___________________

CERTIFICATION/APPROVAL

This is to certify that this research project by **BENJAMIN BLESSING IYOBOSA** with **MATRICULATION NUMBER: BMS2001212** was examined and approved for the award of Bachelor's degree (BNSC).

____________________ DATE:_______________

Mrs. N. E. OYANA

(

Supervisor)

____________________ DATE:_________________

PROF. (MRS.) C. E. OMOREGBE

(Head Of Department)

______________________ DATE:……………………...

(**CHIEF EXAMINER)**

DEDICATION

I dedicate this Project work to Jehovah God, whose power have been a source of strength throughout my life and academic journey, and to my wonderful Parents, Mr and Mrs Benjamin Uria, and my siblings, Osarieme, Peace and Isoken, I love you all and thanks for your unwavering support.

ACKNOWLEDGMENT

I would like to express my heartfelt gratitude to Jehovah God, for His divine guidance, wisdom, and strength throughout this research journey. I also express my deepest gratitude to my wonderful parents, Mr Benjamin and Mrs Sarah Uria, and my siblings, for their unwavering support, encouragement, and love.

I am incredibly grateful to Mrs. N. E. Oyana, a distinguished scholar of impeccable standing. Her invaluable contributions, meticulous corrections, and expert guidance were instrumental in shaping this research study. I would also like to extend my appreciation to my HOD, Dr (Mrs.) R.E Esewe, Prof. F. U. Okafor, Prof (Mrs) J. A. Afemikhe, Prof. (Mrs) C.E Omoregbe, Dr (Mrs) C. Enuku, Sr. J. N. Chukwurah, Mrs C. C. Edo-Osagie, Dr T. A. Ehwarieme, Mrs. M. A. Iniomor, Mrs. R. Lawal, Mrs Ikhuobase, Mrs F. Esebanme and Mr Aragua as well as all other lecturers and non- academic staff for their immense contribution, dedication and support.

Finally, I would like to appreciate everyone who contributed to the success of this study in one way or the other. This study would not have been possible without the contributions of numerous individuals who have supported me throughout this research journey. I extend my sincere appreciation to everyone who has played a role in shaping this study, from the participants who will share experiences to the healthcare professionals who provided valuable insights. I am grateful for the guidance of my supervisor, and the expertise of my lectures. To my ever loving and sweetest cousin, Judith, know that you have a special place in my heart and thank you for always being my emotional support. To my friends, those I met in course of this journey and to my roommates; Shade, Amy, Kewve, Gift, Rejoice, Favour, Joy, Adesuwa, Hope, I say thank you. Thank you all for your time, effort, and encouragement. This story will be incomplete if I fail to mention Margie, Kammy and NSC200. Your contributions have been invaluable, and I am honored to have had the opportunity to work with each and every one of you.

Abstract

Sickle cell disease (SCD) poses a significant public health challenge in Nigeria due to its genetic nature, high prevalence, and associated morbidity. Despite increasing awareness campaigns, many individuals still fail to comply with preventive measures such as premarital screening. This study investigated the relationship between awareness and compliance towards premarital sickle cell screening among unmarried students in the Faculty of Arts, University of Benin, Edo State. A correlational design was adopted, and 350 participants were selected using multistage sampling. Data were collected using structured questionnaires and analyzed using SPSS version 24.0, with descriptive statistics and Chi-square tests applied. The findings revealed a high level of awareness regarding SCD and premarital screening among respondents; however, compliance was moderate. Although many students knew their genotype and acknowledged the importance of screening, cultural, emotional, and social factors still hindered full compliance. Statistical analysis showed no significant relationship between awareness and compliance ($p = 0.067$). The study concludes that awareness alone does not guarantee compliance, emphasizing the need for targeted interventions that address behavioral, cultural, and emotional barriers to effective screening practices.

Keywords: Sickle Cell Disease, Premarital Screening, Awareness, Compliance, University Students

TABLE OF CONTENTS

List of Tables

List of Figures

CHAPTER ONE

INTRODUCTION

1.1 Background to the study

Genetic blood disorders appear to be prevalent in Africa. They may be the principal factor contributing to numerous physical and mental disorders. They are various forms of genetic diseases-Hemophilia, Platelet disorders, Sickle-cell disease, Thalassemia, Thrombophilia . Sickle cell disease is one of the hereditary disorders that presents significant challenges to both individuals and society as a whole (Bosah & Alagbu, 2020). Sickle cell disease (SCD) is a multisystem condition that impacts all organs via vascular blockage. The lifelong repercussions of the condition, including anemia, infections, stroke, tissue damage, organ failure, severe pain episodes, and premature death, lead to repeated hospitalizations, diminished quality of life, and restricted educational and employment options for the affected individual (Oluwole et al., 2022).

Millions globally are afflicted by this sickness, particularly individuals of South Asian, Mediterranean, Middle Eastern, and African descent (Colombatti et al., 2023). According to World Health Organisation (WHO, 2024). Sickle Cell Disease (SCD) is the most common genetic condition, affecting 0.5-2% of births in Africa, however it is frequently overlooked despite its severity. It is a common adversary that can be beaten via education, early detection, and ongoing efforts to provide the best possible care to primarily poor groups.

SCD is an incurable disease with a high mortality rate that frequently demands lengthy hospital stays because of its severe morbidity. Given the comparatively high prevalence of SCD in Nigeria and its potential to increase, especially in light of the surge in premarital sex and late marriage, preventing SCD in single people residing in metropolitan areas is essential

(Oluwole et al., 2022). Children with sickle cell disease (SCD) may be born as a result of poor partner selection and a lack of genetic screening prior to marriage. This frequently leads to serious illness, many hospital stays, or even infant mortality; some families tragically lose several infants in a brief period of time. Many of these deaths are associated with undiagnosed or untreated sickle cell disease (SCD), according to recent research (Oluwatosin et al., 2022).

Pre-marital screening and genetic counseling, prenatal diagnosis, preconception diagnosis, implantation of normal embryos following in vitro fertilization, and in utero therapy via stem cell transplantation are some strategies for preventing genetic illnesses. However, the only practical way to lessen the disease's effects and enable better use of the resources available in the low-income nations where it is more common is to prevent it by carrier identification and genetic counseling. Premarital screening for SCD diagnosis is helpful in preventing at-risk marriages, which will lower the disease's prevalence. Premarital screening is one of the steps to prevent various health issues that can arise from marriage (Suresh et al., 2023).

Premarital screening is a comprehensive assessment mandated before marriage, encompassing tests for blood-borne infections, infectious illnesses, genetic disorders, and reproductive health (Sidabutar & Hadi, 2024). The objective of the screening is to safeguard couples and their progeny against the risk of chronic diseases.Identifying and addressing risk factors early in the mother's and unborn child's life helps prevent stunting, congenital anomalies, and maternal and newborn mortality (Oluwole, 2022). According to AlOtaiby et al. (2023), healthcare providers can utilize premarital screening as a means to teach and educate couples, equipping them with the necessary information to establish healthy families and ensure the well-being of their offspring.

It is feasible to prevent SCD in young, unmarried individuals who may commence procreation at the earliest opportunity. The prevalence of SCD may be increasing due to insufficient awareness of the disease and a hesitance to undergo screening prior to marriage. This study, therefore, is aimed to assess the relationship between level of awareness and attitude towards willingness to go for premarital sickle cell screening among adult students of University of Benin, Edo state.

1.2 Statement of the problem

The prevalence of SCD may be increasing due to insufficient awareness of the disease and a hesitance to undergo screening prior to marriage (Adigwe et al., 2023). It is a chronic illness that results in significant morbidity, frequently necessitating extended hospital stays and associated with a high fatality rate. According to WHO (2024), the global incidence of sickle cell disease (SCD) escalated from 5.46 million to 7.74 million across all age demographics between 2000 and 2021, accompanied by heightened mortality rates. Notably, sub-Saharan Africa had the greatest mortality rate, with 2,400 SCD patients succumbing in 2021, reflecting a 30.1% increase since 2000. In sub-Saharan Africa, it is the eleventh most common cause of death. According to a different study, Nigeria has the greatest prevalence of sickle cell disease (SCD) worldwide, with 2.3% of individuals having sickle cell disease and 25% of adults carrying the sickle cell gene (Oluwole et al., 2022). Over 300,000 infants with sickle cell disease (SCD) are born each year, mostly in low- and middle-income countries, with the majority of these births occurring in Africa. In Nigeria, where the birth rate of SCD is 20 per 1000 live births, more than 150,000 of these kids are born, and more than 100,000 of them die (Oluwole et al., 2022). Preventing SCD in adult students is crucial given the high prevalence of the disease in Nigeria and its potential to rise, particularly in light of the surge in premarital sex and delayed marriage. Given the current era, premarital sickle cell screening, genetic counseling, and public health campaigns via radio, television, and social media can all help reduce the comparatively high prevalence.

Adherence to sickle cell screening is still low among young individuals in Nigeria, despite improvements in genetic counseling, public health campaigns, and efforts to encourage this preventive procedure. Research indicates that while many people are aware of sickle cell disease (SCD) and the need of premarital screening in preventing it, misconceptions, cultural beliefs, and negative attitudes considerably impede compliance. Additionally, even when adult students are aware of their genotype, cultural pressures and emotional attachment often lead them to disregard genetic compatibility when choosing a spouse. Lack of knowledge about sickle cell disease (SCD) and the stigma associated with genetic testing further deter premarital screening adherence.

The researcher’s personal experience also underscores the urgency of addressing this issue. During the researcher's clinical postings every Thursday at the Children Emergency Ward, at least two to three cases of children under 10 experiencing severe sickle cell crises were consistently observed. These cases highlighted the physical and emotional toll of the disease on both the patients and their families. Similarly, in the researcher’s neighborhood, children suffering from frequent sickle cell crises are a common sight, further emphasizing the consequences of inadequate preventive measures.

These real-life observations and high prevalence of SCD in Nigeria and globally highlight the gap between knowledge and practical adherence to preventive strategies such as premarital screening. Without targeted interventions to address this gap, the burden of SCD will continue to strain healthcare systems and families, perpetuating cycles of suffering and loss. The gap between awareness, attitude, and practice emphasizes how important it is to have a thorough grasp of how awareness, attitudes, and screening behavior interact among unmarried students of the University of Benin in order to effectively address this public health issue.

1.3 Objective of the study

This study seeks to achieve a general objective of knowing the relationship between the level of awareness of sickle-cell disease screening and its compliance among unmarried students of University of Benin.

The objectives of the study include to:

evaluate the level of awareness of premarital sickle-cell screening among unmarried students of University of Benin.

assess the compliance of unmarried students of University of Benin towards premarital sickle cell screening.

determine the relationship between level of awareness and compliance towards premarital sickle cell screening among unmarried students of University of Benin.

1.4 Research Questions

What is the level of awareness of SCD screening among unmarried students of University of Benin?

What is the level of compliance of unmarried students of University of Benin towards premarital sickle-cell screening?

What is the relationship between level of awareness and compliance towards premarital sickle-cell screening among unmarried students of University of Benin?

1.5 Hypotheses

There is no significant relationship between level of awareness and compliance to premarital sickle-cell screening among unmarried students of University of Benin.

1.6 Significance of the study

Findings from this study will provide participants and their family members a better understanding of Sickle cell disease (SCD), its genetic implications and importance of premarital screening in preventing its transmission to the offspring. The findings will help participants with knowledge about their genetic compatibility, enabling them to make informed decisions regarding marriage and family planning, reducing the risk of having children with sickle cell disease. This research will create awareness and educate participants and their family members on one way to prevent the emotional and financial burden associated with managing sickle cell disease in their families - Premarital screening - contributing to healthier future generations within families.

The information provided will serve as tools in nursing practice in identifying gaps in awareness and attitude towards premarital sickle cell screening and develop tailored educational programs that address these gaps, thereby promoting informed decision making among patients. This also help the nurses to provide genetic counselling that will help to guide individuals on the importance of genetic compatibility. The findings can also be used to promote preventive health and to train nurses in genetic health and counseling, equipping them with the knowledge and skills to effectively address awareness and attitudinal barriers. This can contribute to reducing the burden of sickle cell disease, improving public health outcomes, and fostering a culture of prevention.

This study has significant implications for nursing education. The results of this study can help nursing programs incorporate genetic health education, such as sickle cell disease (SCD) and premarital screening, to provide aspiring nurses with the information and abilities needed to deal with these problems. This study provides evidence that can be integrated into nursing education, reinforcing the importance of evidence-based practice in addressing public health challenges such as SCD. Findings can also guide nursing education to prioritize the development of communication and counseling skills, enabling nurses to address sensitive topics like genetic screening effectively.

This study is significant to nursing research in that, it adds to the body of knowledge on sickle cell disease (SCD), awareness, and adherence behaviors, serving as a point of reference for future studies like exploring factors influencing genetic screening behaviors. Research can build on the findings to evaluate the effectiveness of educational programs designed to improve knowledge and attitudes about SCD and genetic screening.

Furthermore, the findings will also benefit society and the nation at large by promoting awareness and adherence to premarital screening which will result to the reduction of SCD prevalence. The results can direct public health initiatives to enlighten people and communities about genetic compatibility, resulting in a society that is better informed, healthier, and more health-conscious. This will lead to an improved economic, as individuals are less likely to be burdened by the physical and emotional toll of managing chronic genetic diseases. Policymakers can use the findings to develop and implement laws or policies mandating premarital genetic screening, ultimately safeguarding the genetic health of the population. This study will enhance the awareness of SCD in the society, helping families avoid financial and emotional stress and promotes stable, healthy family dynamics, which benefit society as a whole.

1.7 Scope of the study

This study is carried out among unmarried undergraduate students on full time programme specifically those in Faculty of Arts in University of Benin Ugbowo Campus, Edo state. It is a tertiary institution located at Ugbowo community between the boundaries of Egor and Ovia North Local Government of Edo state.

The study is limited to unmarried undergraduate students from 200lv to 400lv from the following departments; Department of English and Literature, Department of History and International studies, Department of Linguistics and Department of Philosophy, all within the Faculty of Arts only. It excludes married students, postgraduate students, and those enrolled in other faculties within the university.

1.8 Operational definition of term

Premarital sickle cell screening: Refers to test done by individuals to know their status on the sickle cell genetic trait before going into marriage.

Sickle cell disease; A genetic blood disorder caused by the inheritance of two sickle cell genes (HbSS), characterized by abnormal hemoglobin production, which leads to anemia, pain episodes, and other health complications.

Awareness: Refers to the level of knowledge and understanding of facts, concepts, and practices related to sickle cell disease (SCD) and premarital screening among individuals. In this study, it is measured by the ability of participants to correctly identify information about the hereditary nature, prevention, and implications of SCD.

Compliance: Refers to the extent to which individuals comply with recommended premarital sickle cell screening guidelines and practices. This includes voluntarily undergoing genotype testing before marriage and using the results to guide marital decisions.

Unmarried students: Refer to persons age 18 or above, who are not married and in full time program in the Faculty of Arts, University of Benin.

CHAPTER TWO

LITERATURE REVIEW

This chapter presents review of literature to this work on attitude towards compliance to premarital sickle cell screening. It will be reviewed under the following; conceptual review, empirical review and theoretical review and summary of literature review.

2.1 Conceptual review

Concept of Sickle Cell Disease

The most prevalent inherited blood abnormalities, sickle cell disease and its variations, impact millions of people globally. The term "sickle cell disease" describes a group of common genetic disorders that are identified by the production of aberrant hemoglobin molecules, which give red blood cells a sickle or crescent shape, and are caused by a point mutation in the gene that codes for hemoglobin component beta (HBB) (Tebbi, 2022). There is a 25% risk of having a child with sickle cell disease in each pregnancy when two partners with the trait choose to conceive; the likelihood doubles if one spouse has sickle cell disease and the other is a carrier (Dilli et al., 2024).

Millions globally suffer from this illness, particularly in areas where falciparum malaria is prevalent, as the heterozygous state provides a selection advantage. Consequently, SCD is more common in regions where malaria is or has been endemic, such as sub-Saharan Africa, the Mediterranean, the Middle East, and parts of India and Southeast Asia. According to World Health Organisation (WHO, 2024), in Africa, 0.5–2% of babies have sickle cell disease (SCD), the most common hereditary illness. Because of its many comorbidities, it is considered a potentially lethal sickness with increased fatality rates each year. Annually, around 305,000 neonates with Sickle Cell Anemia (SCA) are born worldwide, with Nigeria bearing the highest incidence of Sickle Cell Disease (SCD), accounting for 50% of new cases (Ezenwosu et al., 2024). Owing to delayed diagnosis and basic preventive measures, between 50 and 90 percent of the 150,000 Nigerian children born annually with sickle cell disease succumb before the age of five. Furthermore, approximately 1,000 newborns are born daily with a heightened risk of sickle cell disease (SCD), rendering it the most prevalent genetic disorder in Africa (WHO, 2024b).

SCD is inherited as an autosomal co-dominant trait. Individuals homozygous for the βS allele exhibit sickle cell anaemia (SCA), whereas individuals heterozygous for the βS allele possess the sickle cell phenotype (HbAS) without having sickle cell disease (SCD). Sickle cell carriers (HbAS) are often asymptomatic but may encounter vaso-occlusive crises under severe hypoxic conditions. Sickle cell trait, which offers protection against severe malaria and is typically benign, contrasts sharply with sickle cell disease, a chronic and debilitating condition that diminishes quality of life, escalates medical resource consumption, heightens economic burden, and invariably leads to premature mortality (Kavanagh et al., 2022). Acute and chronic pain, severe anemia, acute chest syndrome, stroke, and other cardiovascular diseases, as well as an increased vulnerability to infectious diseases (including malaria), pregnancy complications, and maternal mortality, are all related to sickle cell disease, which is caused by malformed, sickle-shaped red blood cells that obstruct capillaries and prevent tissue oxygen delivery. The most common type of sickle cell illness, sickle cell anemia (SCA), is characterized by significant organ deterioration, unpredictable pain flare-ups, and chronic hemolytic anemia (Elendu et al., 2023).

Sickle cell disease, as one of the haemoglobin disorders, can be effectively decreased by carefully balancing management and prevention initiatives. Particularly in endemic, underdeveloped nations like Nigeria, preventing the inheritance of a double sickle cell gene is far more beneficial than providing sickle cell disease patients with medical therapy. According to Dilli et al., (2024), premarital screening, or testing for hemoglobinopathy before getting married or having children, is one way to prevent the birth of children with sickle cell disease (SCD), which is a significant public health goal.

Concept of Premarital screening

One of the main preventive strategies to lower the prevalence of some genetic illnesses and STDs is Premarital screening, or PMS. Premarital screening literally means tests done before marriage. Marriage should be addressed from a health perspective, particularly with relation to their previous and present medical issues and the necessity of premarital screening, since it is an important life stage and often seen as a major turning point for many people.

Premarital screening behavior is one area of concern as we approach the 2030 Sustainable Development Goals (SDGs), which seek to guarantee universal access to sexual and reproductive health care services, such as family planning, information and education, and integration of reproductive health into national strategies and programs (United Nations, 2023). Prospective couples can use the effective premarital screening program to determine whether they are carriers of certain genetic diseases, such as sickle cell disease, thalassemia, or hemophilia. These carriers are typically asymptomatic, but if both partners are carriers, they may infect their children.

In an attempt to reduce the prevalence of genetic disorders and STDs and, consequently, the burden they cause, premarital screening is also used to test for a number of STDs, including hepatitis B and C and HIV/AIDS. This helps couples make informed decisions about their marriage, including potentially ending it, and couples with incompatible PMS findings are usually given therapy sessions. (Al-Shafia et al., 2022). Premarital screening tests and their impact on avoiding high-risk marriages have raised awareness in the healthcare system as a result of the high prevalence of genetic illnesses and inherited diseases worldwide. Premarital screening should be required due to its significance; research indicates that in many nations, such as Indonesia, it is both required and a prerequisite for marriage (Sidabutar & Hadi, 2024).

Unfortunately, premarital screening does not cover all possible genetic diseases, such as congenital heart disease, diabetes mellitus, hypertension, blindness, and unidentified genetic anomalies that could cause major deficits in future generations.

Importance/Benefits of Premarital screening

The associated importance of premarital screening cannot be overly emphasized. Premarital screening has emerged as a vital preventive tool in the fight against genetic and infectious diseases, especially in countries like Nigeria where conditions such as sickle cell disease are highly prevalent. It serves as a gateway to early detection and proactive health decisions, particularly among young adults preparing for marriage.

Additionally, PMS can be used as a tool by health care providers, to inform and educate couples, giving them the information they need to create healthy families and have high-quality children. It is possible to stop the spread of viral diseases like hepatitis B and C and genetic disorders like sickle cell disease (SCD), which will reduce both the public health burden and the expense of treating each patient (Natarajan & Joseph, 2021). The cost of managing sickle cell disease over a lifetime can be overwhelming for many families, premarital screening, therefore, helps preserve not only the physical health of children but also the emotional and financial well-being of families. It also help to reduce the chance of birth abnormalities and maternal and infant mortality, and can help prevent the birth of stunted babies by detecting defects in pregnant moms early.

Beyond genetics, premarital screening promotes responsible decision-making. It encourages couples to approach marriage not just with emotional readiness but also with health awareness. The process often involves counseling, which helps participants understand their results and options in a supportive environment. This education can reduce the stigma associated with conditions like the sickle cell trait and promote better understanding between partners.

Ultimately, premarital screening is a significant step toward empowerment, awareness, and prevention, not merely a medical test. It enables people and couples to look forward to the future with confidence, clarity, and a common dedication to health and wellness.

Premarital screening is still uncommon in most countries, despite its importance. If all couples were aware of its benefits, it may prevent a number of long-term health problems for both partners and their future children (Sidabutar & Hadi, 2024). Therefore, it is important to discuss the factors or determinants associated with premarital screening as a preventative measure for public health concerns.

Factors associated with the adherence to premarital screening

Age: Our decision-making process usually matures with age, which can affect our behavior, especially in relation to our health. Older individuals who are closer to marriageable age are generally more concerned about their future relationships and family planning, making them more likely to seek genotype screening. According to Oluwole et al.'s (2022) findings, older individuals also favor considering additional factors while conducting premarital screening. The degree to which people take premarital screening seriously is typically determined by factors such as maturity, life experience, and proximity to making long-term relationship decisions.

Sex: Sex has a major role in the decision to be screened prior to marriage. Women are far more knowledgeable about premarital health screening than men are, according to a study on university students in Qatar (Al-Shafai et al., 2022). But according to a different study conducted that same year by Alkalbani et al. (2022), men in Oman are more inclined than women to undergo premarital health screenings, which may indicate cultural differences about premarital screening.

Educational level: Research suggests a significant correlation between better health practices and higher education. Third-year college students were more likely than first-year students to support premarital health screening, according to Aga et al. (2021). Additionally, Saudi Arabian research indicates that a person's decision to undergo a premarital health screening is significantly influenced by their level of education (Zedan Zaien et al., 2022).

History of genetic disease: A personal or family history of a genetic condition is one of the factors associated with premarital screening methods. This is corroborated by the results of the AlShafai et al. (2022) study, which shows that individuals or family members with a history of genetic disorders are more likely to choose to have a premarital health screening. This could be the consequence of having previously been exposed to knowledge or a stronger desire to learn more about the condition because of its impact on them and their families, both now and for their future offspring.

Knowledge and attitude: Premarital screening behavior might be influenced by a thorough understanding of premarital screening programs and favorable opinions about them. According to research, some couples decide not to get checked before getting married because they were not aware of the program, even though premarital screening is mandated in Qatar (Al-Shafai et al., 2022).

Government regulations: Government regulations requiring health screening as a prerequisite to submitting marriage forms are associated with premarital screening activities. Policies can improve community access to screening programs and encourage premarital screening behaviors, according to research conducted in Nigeria (Oluwole et al., 2022).

Parental endogamous marriage: Endogamy refers to marriage within one's own family, clan, or ethnic group. Usually, either maternal or paternal cousins get married in such kinds of unions. When it comes to premarital screening, parental relationships frequently have an impact on children's behavior. This is because societies where cousins marry are typically 20 times more likely to have hereditary diseases such sickle cell anemia, hemophilia, thalassemia, and epilepsy. In order to lower the risk of genetic diseases, premarital screening treatments are widely employed. However, studies reveal that consanguineous couples oppose premarital screening for a variety of reasons. One of these explanations is that, because they consider marriage to be a predetermined occurrence, they are willing to assume all the risks associated with having children without first obtaining a premarital health assessment (Gosadi et al., 2021).

2.2 Theoretical review

The Health Belief Model Theory

The theory that applies to this study is the Health Belief Model (HBM). The Health Belief Model (HBM) has been one of the most widely used conceptual frameworks in health behavior research, both to explain change and maintenance of health-related behaviors and as a guiding framework for health behavior interventions.

The HBM was first developed in the 1950s by social psychologists; Godfrey Hochbaum, Irwin Rosenstock, and Stephen Kecels who were working in the United States as Public Health Service workers, in order to understand the failure of people to adopt disease prevention strategies and screening tests for the early detection of disease.

The health belief model asserts that when a person believes he or she is susceptible to a health problem with severe consequences, the person will more likely conclude that the benefits outweigh the barriers associated with changing one's behavior to prevent the problem. The HBM suggests that a person's belief in a personal threat of an illness or disease together with a person's belief in the effectiveness of the recommended health behavior or action will predict the likelihood the person will adopt the behavior.

There are six constructs of the HBM. The first four constructs are the most important or foundation of the HBM. The last two were added as research about the HBM evolved.

> Perceived susceptibility - This refers to an individual's belief about their risk of developing a disease or condition. People who perceive themselves as highly susceptible are more likely to take preventive actions.
>
> Perceived severity - This refers to how serious a person believes a disease and its consequences are. Often, a person considers the medical consequences (e.g death, disability), social impacts (e.g family life, social relationship), and economic impacts (poverty) when evaluating the severity.
>
> Perceived benefits - This refers to an individual’s perception of the effectiveness of a recommended action in reducing the risk of disease or improving health.

Perceived barriers - This refers to the obstacles or challenges that prevent an individual from taking a recommended action. These barriers can be financial, emotional, social, or cultural.

Cue to action - These are external triggers or events that prompt individuals to take action. Cues can be media campaigns, peer influence, health education, or personal experiences.

Self-efficacy - This refers to an individual's confidence in their ability to successfully take preventive action. Higher self-efficacy increases the likelihood of behavior change.

Application of Health Belief Model to this study

The application of Health Belief Model to this study is presented below:

Perceived susceptibility: This refers to how much students believe they are at risk of being a sickle cell carrier (AS genotype) or having children with sickle cell disease (SS genotype). Students who know their genotype and understand how SCD is inherited are more likely to undergo screening while those who believe they are not at risk may see screening as unnecessary and fail to comply.

Perceived severity: This refers to how serious students perceive sickle cell disease to be in terms of health, financial burden, and social implications. If students understand the severe effects of SCD (pain crises, organ damage, early death), they may have a positive attitude toward screening and comply but if they believe SCD is manageable or not life-threatening, they may have a negative attitude and ignore screening.

Perceived benefits: This refers to whether students believe that premarital screening will help them make better marital decisions and prevent future health problems. If students see screening as a way to prevent having children with SCD, they will be more willing to comply and those who believe screening helps in making informed partner choices may have a positive attitude toward it. However, if they feel screening will not change their decision about whom to marry, they may not comply.

Perceived barriers: This refers to the challenges that discourage students from undergoing screening and these can be financial, social, cultural, or emotional barriers. Fear of results i.e discovering AS or SS genotype, may make students avoid screening. Cost of screening may discourage students, especially those from low-income backgrounds. Stigma and discrimination against sickle cell carriers may make some students hide their genotype and avoid screening. Cultural and religious beliefs may cause students to believe that God or fate will determine their children's health, leading to non-compliance.

Cues to action: These are external influences that remind or encourage students to undergo premarital sickle cell screening. These external influences can be University health campaigns on genetic screening, social media awareness programs, personal experience, and family or government influence.

Self-efficacy: This refers to a student’s confidence in their ability to undergo screening and make informed decisions based on the results. If students feel capable of handling the test results and making informed marital choices, they are more likely to comply. But if they lack confidence in facing the results or fear rejection from partners, they may avoid screening.

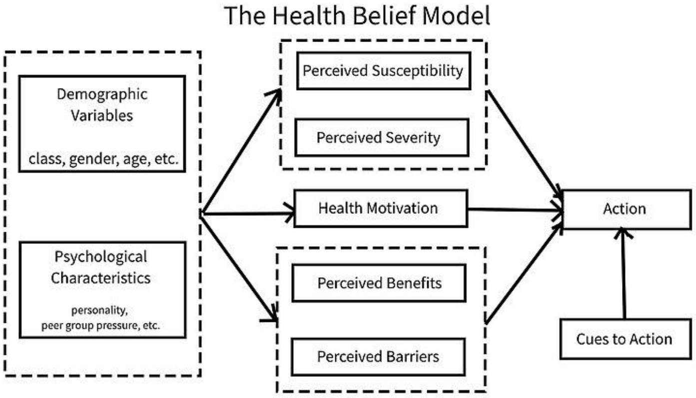

Figure 2.1: Health Belief Model

2.3 Empirical review

Several studies have been conducted both locally and internationally to examine the level of awareness and compliance towards premarital sickle cell screening. This section reviews relevant empirical studies related to the current research.

Awareness of premarital screening

Alkalbani et al. (2022) conducted a cross-sectional study to describe the use of premarital screening tests among 400 university study participants who were selected as prospective future couples. The results showed that 361 (90.3%) of the participants were aware of the availability of premarital screening tests, with the media (46.8%), their course of study (20.3%), and health services (6%) being the top three primary sources of information. Nearly all of the participants (n = 398; 99.5%) knew that the exams should involve both partners. 46.3% of participants (n=185) reported the premarital screening test only comprised blood tests, 33.3% (n=133) claimed it included both blood tests and a physical examination, and 20.5% (n=82) indicated they were unclear. This suggests a solid understanding of premarital screening.

Similarly, Dewi et al. (2024) investigated young adults' perceptions and knowledge of premarital screening at STIKES Bhaki Husada Mulia. Of those polled, 67 had heard of PMS. According to respondents, 37% of their primary sources of information on premarital screening came from academic education (school or university), followed by social media (33%), health services (24%), friends (3%), and television (3%). The overwhelming majority of respondents (73.4% and 82.3%, respectively) believe that PMS may lower the incidence of sexually transmitted infections and genetic diseases. The majority of respondents (58.2%) were aware of a variety of possible locations for PMS testing. This suggests that whereas 54 respondents (68.4%) had strong knowledge, 25 respondents (31.6%) demonstrated weak knowledge.

In a poll conducted in Saudi Arabia by AlOtaiby et al. (2023), 95.1% of participants knew that premarital screening is necessary and mandated by law, while 99.4% of participants were aware of it. The top three sources of information on premarital screening, according to the majority of participants (68.6%), were books and educational publications, friends and family, and the internet and social media. By sex and level of education, participants' knowledge differed statistically substantially. In the Riyadh population, female participants had significantly greater knowledge than male participants. Furthermore, postgraduate or university degrees were held by roughly 12.5% of informed individuals.

According to a different study by Oluwole et al. (2022), 75% of respondents knew that premarital screening should be done before marriage, 72% knew that it prevents having a child with SCD, and more than three-quarters (77.3%) knew that premarital screening could be done to rule out SCD or SCT before marriage. This shows that just 38.3% of respondents were willing to quit a relationship if the results showed genetic incompatibility, despite the fact that 75% of respondents thought premarital screening should come before marriage.

This disconnect between knowledge and action points to social and emotional obstacles to compliance.

Compliance with premarital screening

AlOtaiby et al. (2023) studied Riyadh residents' attitudes and knowledge on premarital screening. Premarital screening should be legally enforced by the government, according to 61.81% of participants, and the majority (96.32%) strongly felt that it was a preventive measure. Surprisingly, most participants said they would not get married if one or both of them were found to have a genetic ailment. Additionally, 88.6% of the sample strongly agreed that it is crucial to prevent couples from getting married in the event of a positive screening, whereas 47.3% of the sample were unclear about the chances of having unaffected children from parents with genetic disease.

In a cross-sectional descriptive study on knowledge, attitudes, and premarital screening practices for sickle cell disease among 300 respondents in an urban Lagos, Nigeria community, Oluwole et al. (2022) found that 72% of respondents believed it was crucial to know one's genotype and 67% believed it was beneficial for everyone to know their genotype before marriage. However, 25% of respondents were neutral, and 38.3% agreed that a couple should discontinue their relationship if their genotypes make them more likely to produce children with sickle cell disease (SCD). This suggests a negative attitude toward premarital screening.

Premarital screening was considered necessary by most participants (89.3%), and 91.8% agreed to do so in the future, according to another study by Alkalbani et al. (2022). Cnundisagreed believes that premarital screening ought to be mandatory before to marriage. In the event of favorable outcomes, over one-third of participants (n=177; 44.3%) agreed that laws and regulations banning marriage should be put into place, while 39% (n=156) were neutral and 16.4% (n=67) disagreed. The majority of participants were willing to take part in a premarital screening program, even though the majority did not finish the test.

Relationship Between Level of Awareness and Compliance Towards Premarital Sickle Cell Screening

The correlation between awareness and compliance is crucial to evaluating the effectiveness of health education in influencing behavior.

A study conducted by Adeyemo et al. (2021) among secondary school pupils in Osun State revealed a high level of knowledge (58.5%) but inadequate control practices (48%) and inconsistent compliance levels.This gap between awareness and action suggests that knowledge alone may not translate into preventive behavior. Similarly, a research by Aboalam et al. (2022) in the Aseer region of Saudi Arabia found that while 87.6% of participants were aware of premarital screening, only 71.4% had participated in it, highlighting a discrepancy between awareness and adherence. The study also showed that willingness to take part in premarital screening programs was strongly correlated with marriage intention and education level.

Oluwole et al. (2022) established a substantial statistical correlation between knowledge levels and the propensity to undergo screening. Nonetheless, they discovered that misconceptions and cultural beliefs diminished the influence of information on behavior, underscoring the necessity of considering sociocultural contexts in awareness initiatives.

According to Ezenwosu et al. (2024), health education considerably increased pregnant women's knowledge of SCD and screening practices. Only 78.7% of respondents were aware that a blood test may identify sickle cell disease (SCD) prior to the intervention; this number rose to 98.9% after the intervention, and 100% of respondents recognized the significance of genotype knowledge, demonstrating how greater awareness can improve compliance.

Notwithstanding these findings, other research, such as those by Bontha et al. (2021) and Dewi et al. (2024), indicate that the relationship between awareness and behavior is frequently influenced by contextual factors, including gender, educational attainment, and previous family history of SCD.

2.4 Summary

In this chapter, the review of literature was discussed under three major subheadings, namely: conceptual review, theoretical review and empirical review. In the conceptual section, the term sickle cell disease and premarital screening was conceptually defined for clarification. The theoretical anchorage of the study was hinged on the Health belief theory which is commonly known as the HB model. The HBM is a great tool for nursing research offering a theoretical framework for helping patients prevent chronic disease/potentially fatal illness such as SCD, or if disease is present, improve quality of life. Some empirical studies were reviewed to establish the knowledge gap of the study. Consequently, a knowledge gap exists - non adherence to premarital screening even with a good knowledge of it. To fill this gap, it is important to investigate the relationship between awareness and compliance to premarital sickle cell screening among unmarried undergraduate students of University of Benin.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

Research methodology entails the plan for conducting the specific steps of a study. This chapter will carefully study the methods and procedures that will be utilized in this research. This is discussed under the following; research design, research setting, target population, sample size, sampling technique, instrument for data collection, validity of instrument, reliability of the instrument, method of data collection, method of data analysis and ethical consideration.

3.2 Research design

A correlational design was used in this study. This design is appropriate for assessing whether and to what degree a relationship exists between awareness of Sickle cell disease and its compliance among unmarried university students.

3.3 Research setting

The study was conducted in University of Benin Ugbowo campus, located in Ovia North East Local Government Area, Benin city, Edo State, Nigeria. University of Benin (UNIBEN) is a government owned tertiary institution. It was founded in 1970 as an institute of technology and then was accorded the status of University by the National Universities Commission on 1st July 1971, and then the name was officially changed to the University of Benin. The institution gives formal training to both undergraduate and postgraduate students exceeding 77,000. The University runs a faculty system and has a total of 13 faculties and of which our area of study, Faculty of Arts is inclusive. The selection of this research setting is deliberate, well suited for the study's objectives based on the diverse students population, age group and their insufficient knowledge of medical conditions and ways to prevent them.

The Faculty of Arts, University of Benin, is one of the existing faculties in the Institution made up of seven departments of different areas of studies which are; English and Literature, Linguistic studies, Foreign Language, French Studies, Philosophy, Religion studies, History, and International studies and diplomacy. This research would be carried out specifically in 4 out of the 9 departments of the Faculty of Arts, University of Benin, Benin City and they include: Department of English and Literature, Department of History and International studies, Department of Linguistics and Department of Philosophy

3.4 Target population

The target population for this research is unmarried undergraduates of Faculty of Arts, University of Benin, which are the 200level, 300lv and 400 level students from 4 selected departments out of 7 departments under the Faculty of Arts located at Ugbowo campus which are 2453 students (Academic planning unit, Student Affairs). Faculty of Arts was the ideal selected facility based on their population diversity and their little or no knowledge of medical related issues.

100 level students were excluded from the study because many of them are below the legal adult age of 18 years, which raises ethical concerns regarding informed consent. Also, they are less likely to be in serious relationships or considering marriage.

Table 3.4.1 Study of target population

Academic level	**ENL**	**HIS**	**Linguistics**	**Philosophy**	**Total**
200lv	157	291	262	94	759
300lv	211	416	197	102	774
400lv	240	424	281	92	920
Total	608	1,131	740	288	**2,767**

The total number of the target population are 2,767 students.

3.5 Sample size

Sample size is the number of subjects or participants recruited and to which the study findings will be generalized. The sample size was calculated using the Taro Yamen's formula:

$n = N/ (1 + N (e)^2)$

Where: n = Sample size

N = Population size (2,867)

e = level of precision (0.05)

$n = 2767/ (1 + 2453(0.05^2)$

$n = 2767/ (1 + 2453(0.0025)$

$n = 2767/7.1325$

$n = 350$

Thus, a total of 350 respondents will be selected for this study.

Inclusion criteria

Undergraduates across all academic levels (200level to 400level) in the departments: English and Literature, Linguistic studies, Philosophy, and History & International studies, in Faculty of Arts, University of Benin. 100 level students were excluded from the study because many of them are below the legal adult age of 18 years, which raises ethical concerns regarding informed consent.

Students from the selected departments in faculty of Arts must be unmarried.

Students from the selected departments in faculty of Arts must be of both gender enrolled in the University of Benin.

Students from the selected departments in faculty of Arts, who voluntarily want to participate in the study.

Students from the selected departments in faculty of Arts, who are available during data collection.

3.6 Sampling technique

The students were selected using startified random sampling technique where participants were selected to ensure equal representation of students across different academic levels in the different selected. Stratification was based on the departments in faculty of Arts where students across the academic levels of the selected departments are equally represented. Respondents who meet the inclusion criteria and are willing to participate were recruited for the study.

3.7 Instrument for data collection

Data was collected using a structured, self-administered questionnaire developed by the researcher. The questionnaire consisted of both nominal and Likert scale items. Nominal scale questions will be used to gather demographic such as age, gender, level of study, religion and relationship status. The Likert scale was used to assess levels of awareness and compliance towards Sickle-cell disease premarital screening using a 5-point scale ranging from Strongly Disagree (1) to Strongly Agree (5). The questionnaire consisted of three sections:

Section A: Demographic data

Section B: Awareness of premarital screening

Section C: Compliance with premarital screening

3.8 Reliability of the instrument

Pre testing was done using 10% of the proposed participants, with similar characteristics to the target population but will not be included in the study. 35 students was selected from Faculty of Education, University of Benin, to pretest the reliability of the questionnaire. Corrections was made where necessary and reliability of the questionnaire was confirmed using the Cronbach's alpha test. A minimum reliability coefficient of 0.70 was considered acceptable for this study.

3.9 Validity of the instrument

Face validity: The questionnaire was designed by the researcher with self-constructed questions. In order to ensure that the questionnaire is suitable for the purpose for which it is designed, it was scrutinized by the project supervisor and a statistician. The items was checked to ensure it is related and appropriate for the objectives it is intended for. Corrections made was used to adjust the questionnaire before giving it out.

Content validity: The questionnaire items was developed based on a thorough review of relevant literature and existing studies on sickle cell disease and premarital screening. The questionnaire was then submitted to the project supervisor for evaluation. The items was assessed to ensure that the items sufficiently and appropriately cover the main areas of the study: awareness, perception, and compliance. Corrections made was used to refine the questionnaire before distribution.

Construct validity: This was established to determine whether the questionnaire accurately measures the specific concepts/constructs it is intended to assess. Key constructs such as awareness of Sickle-cell disease screening and compliance was derived from existing behavioral theories and previous research findings. The structure of the questionnaire was reflect these domains. A pilot test was conducted among a small group of proposed respondents, with similar characteristics to the target population. The responses was analyzed to confirm logical consistency and internal alignment between items within each construct, thus supporting the construct validity of the instrument.

3.10 Method of data collection

The questionnaire was distributed using both physical and digital means to ensure a wider reach and increase response rate. Physically, printed copies of the questionnaire was administered directly to 200level - 400level undergraduates of few selected departments in Faculty of Arts, through face to face contact with the researcher and some assistants. Digitally, the questionnaire was converted into an online format using Google Forms, and the link will be shared via WhatsApp class groups. Respondents was approached in their classrooms during break time or in their hostels and given time to complete the questionnaire.

Participation was voluntary, and anonymity will be maintained. The questionnaires was collected on the spot so as to reduce invalid or non responses from respondents.

3.11 Method of data analysis

Raw data was coded, entered and analyzed using the IBM Statistical Package for Social Sciences (SPSS) version 24.0 for Windows. The descriptive and inferential statistics was used. Descriptive statistics include means, frequency and percentages; while the inferential statistics to test the research hypothesis is the Chi-square test of association. The level of significance was set at $p<0.05$.

3.12 Ethical consideration

The research was conducted in accordance with the guidelines of research. Ethical approval was obtained from the ethical committee of the University of Benin through a letter of permission and presentation of research proposal. Permission was gotten from the Faculty of Arts where students volunteered. A detailed explanation of the purpose, content and implication of the study was made known to all eligible participants before their participation. Informed consent of participants was obtained. The participants was given assurance of no harm, confidentiality, no disclosure of information provided as the information obtained was personal and private. The participants was also informed of rights to voluntary consent or decline to participate and withdraw at any time without the risk of incurring any penalty or prejudicial treatment. Name of the participants or any form of identity was not required in the questionnaire and information supplied by the participants will not be traced back to them on the compiled data. A copy of the ethical approval certificate was attached in the appendix.

Plagiarism was avoided as all authors used in this study was appropriately cited both in the body of the work and at the reference page.

CHAPTER FOUR

PRESENTATION OF RESULTS

4.0 Introduction

This chapter presents the results of the study on the relationship between awareness and compliance towards premarital sickle cell screening among unmarried students of the University of Benin. The aim of this study is to assess the level of awareness and compliance towards premarital sickle cell screening, as well as to determine the relationship between these two factors.

Table 4.1a Demographic Data

Variable	Category	Frequency	Percentage (%)
Age	15–19	73	15.5
	20–24	179	51.7
	25–29	90	25.8
	30 and above	7	1.9
Gender	Male	135	38.7
	Female	215	61.3
Level of Study	200 Level	72	20.7
	300 Level	109	31.0
	400 Level	169	48.3
Department	English & Literature	63	18.1

Variable	**Category**	**Frequency**	**Percentage (%)**
	History & International Studies	82	23.3
	Linguistics	72	20.7
	Philosophy	133	38.0
Religion	Christianity	304	85.4
	Islam	39	9.6
	Traditional	7	1.9
	Others (specify)	0	0
Relationship Status	Yes	208	59.5
	No	142	40.5
Awareness of SCD	Yes	350	100
	No	0	0

From the demographic data, the majority of respondents (51.7%) are within the age range of 20–24 years. The gender distribution shows that 61.3% of the respondents are female, while 38.7% are male. In terms of academic level, most of the respondents (48.3%) are in their final year (400 level), followed by 31.0% in their 300 level, and 20.7% in their 200 level. Regarding the departments, the largest group of respondents (38.0%) belong to the Philosophy department, followed by 23.3% from History & International Studies. The majority of respondents (85.4%) identify as Christians, with smaller proportions identifying as Muslim (9.6%) or following traditional beliefs (1.9%). In terms of relationship status, most respondents (59.5%) are currently in a relationship. Furthermore, all respondents (100%) are aware of sickle cell disorder (SCD). However, the 100% awareness rate may reflect basic recognition of the term ‘sickle cell disorder’ rather than deep understanding of its genetic implications.

Table 4.2 Awareness of Sickle Cell Disorder (SCD)

Statement	Strongly Agree	Agree	Disagree	Strongly Disagree	Mean	Remark
Sickle Cell Disorder is a genetic blood disorder.	188 (53.8%)	155 (44.2%)	0	7 (1.9%)	4.50	Positive
Sickle Cell Disorder can be inherited from parents with the AS genotype.	202 (57.7%)	148 (42.3%)	0	0	4.57	Positive
Individuals with Sickle Cell Disorder often experience frequent health crises.	209(59.6%)	127 (36.5%)	7 (1.9%)	7 (1.9%)	4.51	Positive
Sickle Cell Disorder has no cure, only management.	154 (44.2%)	162 (46.1%)	20(5.7%)	13 (3.8%)	4.29	Positive
People with Sickle Cell Disorder should not marry someone with the AS or SS genotype.	255 (73.1%)	88 (25.0%)	0	7 (1.9%)	4.69	Negative
Sickle Cell Disorder can be detected through genetic screening.	295 (55.7%)	148 (42.3%)	7(1.9%)	0	4.54	Positive

The findings in Table 4.2 reveal that most respondents held a positive awareness of sickle cell disorder (SCD). A significant majority (53.8%) strongly agreed that SCD is a genetic blood disorder, and 57.7% strongly agreed that it can be inherited from parents with the AS genotype. These findings suggest a strong understanding of the genetic nature of the disorder.

Furthermore, 59.6% of respondents strongly agreed that individuals with SCD often experience frequent health crises, and 44.2% strongly agreed that there is no cure for SCD, only management. This reflects a solid awareness of the medical challenges associated with the disorder.

Table 4.3 Awareness of Premarital Screening

Statement	Strongly Agree	Agree	Disagree	Strongly Disagree	Mean	Remark
I am aware that premarital screening for genotype is important.	255 (73.1%)	88 (25.0%)	7 (1.9%)	0	4.70	Positive
I know my genotype.	229 (65.4%)	81 (23.1%)	40 (11.5%)	0	4.54	Positive
I believe knowing one’s genotype before marriage is necessary.	269 (76.9%)	81 (23.1%)	0	0	4.76	Positive
My school or church/mosque encourages premarital genotype testing.	195 (55.7%)	148 (42.3%)	7 (1.9%)	0	4.54	Positive
I have received education or awareness on premarital screening.	168 (48.1%)	141 (40.3%)	40 (11.5%)	0	4.35	Positive
I believe premarital screening can help reduce the spread of Sickle Cell Disorder.	249 (71.2%)	140 (28.8%)	0	0	4.71	Positive

The findings in Table 4.3 reveal that most respondents hold a positive awareness of premarital screening. A substantial majority (65.4%) strongly agreed that they know their genotype, and 76.9% strongly agreed that knowing one's genotype before marriage is necessary. This reflects a strong understanding of the importance of genotype testing in the context of premarital screening. Additionally, 73.1% of respondents strongly agreed that premarital screening for genotype is important.

Table 4.4 Compliance with Premarital Screening

Statement	**Strongly Agree**	**Agree**	**Disagree**	**Strongly Disagree**	**Mean**	**Remark**
I have done a genotype test before.	222 (63.4%)	74 (21.1%)	40 (11.5%)	7 (1.9%)	4.4	Positive
I intend to know my partner's genotype before getting married.	262 (75.0%)	88 (25.0%)	0	0	4.75	Positive
If I fall in love with someone with AS/SS, I would consider the risk.	148 (42.3%)	114 (32.7%)	47 (13.7%)	40 (11.5%)	4.04	Positive
I will not proceed with marriage if my partner's genotype is incompatible.	202 (57.7%)	108 (30.8%)	33 (9.6%)	7 (1.9%)	4.44	Positive
I discuss genotype compatibility in relationships.	195 (55.8%)	148 (42.3%)	0	7 (1.8%)	4.54	Positive
I encourage others to do premarital screening.	256 (73.1%)	94 (26.9%)	0	0	4.73	Positive

The findings in Table 4.4 indicate a generally positive attitude toward premarital screening, though actual compliance (those who have undergone genotype testing) remains moderate A significant majority (73.1%) strongly agreed that they encourage others to do premarital screening, and 75.0% strongly agreed that they intend to know their partner’s genotype before marriage. These findings suggest that many respondents recognize the importance of premarital screening and encourage its practice. Additionally, 43.3% of respondents strongly agreed that if they fall in love with someone with the AS or SS genotype, they would consider the risks, and 57.7% strongly agreed that they would not proceed with marriage if their partner's genotype is incompatible. This indicates a strong willingness to prioritize genotype compatibility when making marital decisions.

4.2.0 HYPOTHESIS TESTING

Table 4.2.1 Chi-Square Cross Tabulation Table

Hypothesis	Chi-Square Statistic	P-value	Significant
HO1	0.093	0.067	No

HO1: There is no significant relationship between the level of awareness and compliance towards premarital sickle cell screening among unmarried students of University of Benin ($p > 0.05$).

Conclusion:

Based on the analysis, the null hypothesis (HO1) is retained, since the p-value (0.067) exceeds the 0.05 significance threshold. This indicates that there is no statistically significant association between the level of awareness and compliance toward premarital sickle cell screening among unmarried students of the University of Benin

CHAPTER FIVE

DISCUSSION OF FINDINGS, SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.0 Introduction

This chapter provides a comprehensive discussion of the study findings, implications, limitations, and concludes with recommendations for improving premarital sickle cell screening compliance among unmarried students at the University of Benin. The study aimed to explore the relationship between awareness and compliance toward premarital sickle cell screening. The results of the study are interpreted in light of existing literature and the research objectives, offering insights into the significance of these findings for future policy and practice.

5.1 Discussion of Findings

5.1.1 Awareness of Premarital Screening

The study found that most respondents were aware of the importance of premarital screening for sickle cell disease (SCD). Approximately 75% of participants strongly agreed that knowing one’s genotype before marriage is necessary. This finding supports previous studies indicating a high level of awareness regarding SCD and the importance of premarital screening in reducing its transmission. For example, a study by Oladipo et al. (2022) found that university students in Nigeria exhibited a high level of awareness on Sickle Cell Disease, with the majority recognizing the importance of genotype testing before to marriage. Similarly, Ige et al. (2021) found that students' knowledge of SCD and premarital screening was successfully raised by educational institutions' awareness initiatives.

However, despite this awareness, other studies, such as those by Oyedepo and Udo (2023), suggest that while awareness is high, it does not always translate into compliance. The study's findings show that although the majority of participants acknowledge the significance of genotype testing, more work is required to guarantee that this understanding results in action.. This gap between awareness and action is a critical area for intervention, as educational campaigns must be paired with initiatives that encourage behavior change. However, the 100% awareness rate may reflect basic recognition of the term ‘sickle cell disorder’ rather than deep understanding of its genetic implications. Future studies should differentiate between surface-level and comprehensive awareness.

5.1.2 Compliance with Premarital Screening

Compliance with premarital sickle cell screening was assessed in this study by examining participants' attitudes and behaviors toward undergoing genotype testing and discussing genotype compatibility in relationships. The results indicated that while the majority of respondents expressed a willingness to undergo screening, there were discrepancies in actual compliance. Approximately 75% of participants reported that they intended to know their partner’s genotype before marriage. This is in line with the findings of Adewale et al. (2022), who observed that despite a high level of awareness of premarital screening, university students' compliance remained low because of obstacles like the cost and accessibility of screening services.. Similarly, a study by Folarin et al. (2021) showed that many students were aware of premarital screening, but their capacity to comply was hampered by their limited access to screening providers.

Furthermore, although 57% of respondents strongly agreed that they would not get married if their partner's genotype was incompatible, a sizable portion (9.5%) disagreed, indicating possible sociocultural or financial factors that could affect compliance decisions. This conclusion is corroborated by research by Ayodele et al. (2022), who found that despite knowledge of the dangers of SCD, students may be discouraged from participating in premarital screening due to a variety of factors, including financial constraints, romantic love, and family pressure.

5.1.3 Relationship Between Awareness and Compliance

The statistical analysis using the Chi-square test revealed no significant association between awareness and compliance ($X^2 = 0.093$, $p = 0.067$). This indicates that although most respondents were knowledgeable about sickle cell disorder and premarital screening, this awareness did not necessarily translate into consistent screening behavior. The lack of a significant association is consistent with previous studies, such as those by Ilesanmi and Oyebode (2021), which found that despite widespread knowledge of sickle cell disease, sociocultural constraints and misunderstandings regarding the significance of genotype testing contributed to comparatively poor compliance rates. Similarly, Eke et al. (2022) pointed out that the decision to comply with premarital screening is influenced by a number of factors, including personal views and the availability of resources, even though awareness can influence attitudes.

5.2 Implications of Findings

The findings of this study have several implications for public health policies and interventions related to premarital screening in Nigeria, especially within university settings. The high level of awareness about sickle cell disease and premarital screening suggests that educational campaigns can effectively inform young people. However, the relatively low compliance rate highlights the need for targeted interventions that not only increase awareness but also address the barriers to compliance, such as financial constraints, lack of access to screening services, and socio-cultural pressures. Universities, in collaboration with health organizations, should consider implementing regular, affordable screening programs and campaigns that engage students on both an informational and emotional level.

5.3 Limitation of the Study

Despite its valuable findings, the study is not without limitations. First, the study's reliance on self-reported data might introduce social desirability bias, where respondents provide answers they believe are socially acceptable rather than reflecting their true behaviors. Additionally, the study sample was drawn entirely from Arts departments, which may not represent the awareness or compliance behavior of students from health or science-related disciplines. Thirdly, the study was conducted in a single university, which may limit the generalizability of the findings to other regions or populations. In addition, the study focused only on awareness and compliance, without considering other variables such as the socio-economic status of the students, which could also influence compliance with premarital screening.

5.4 Summary

This study aimed to explore the relationship between awareness and compliance toward premarital sickle cell screening among unmarried students of the University of Benin. The findings indicate that while awareness of sickle cell disorder and premarital screening is high, compliance remains moderate, with significant barriers to full participation. The relationship between awareness and compliance was weak, suggesting that other factors, beyond awareness, play a crucial role in determining whether students follow through with screening.

5.5 Conclusion

The study concludes that although awareness of premarital screening for sickle cell disease is high among unmarried students of the University of Benin, compliance with such screening remains low due to various barriers. These barriers include financial constraints, lack of access to screening services, and socio-cultural influences, which need to be addressed through targeted interventions. According to the Health Belief Model, awareness increases perceived susceptibility, but behavioral action requires both motivation and enabling conditions. Statistical testing confirmed that the relationship between awareness and compliance was not significant, underscoring the influence of other behavioral and contextual factors beyond mere knowledge

5.6 Recommendations

1. **Increase Accessibility:** Universities should collaborate with healthcare providers to offer affordable and accessible sickle cell screening services for students.
2. **Community Engagement:** Educational campaigns should be expanded to address the importance of compliance, not just awareness, and emphasize the health and relationship benefits of premarital screening.
3. **Policy Integration:** Institutions should integrate sickle cell screening into pre-marriage counseling programs to ensure students are better informed and more likely to comply.

5.7 Suggestions for Further Study

Further research could explore the impact of socio-economic factors and cultural beliefs on compliance with premarital sickle cell screening. Longitudinal studies could provide deeper insights into how awareness and compliance evolve over time and whether increased screening services lead to higher compliance rates.

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APPENDIX I

QUESTIONNAIRE

Department of Nursing
Science,

School of Basic Medical
sciences,

University of Benin,

Benin City,

Edo State.

Dear Respondent,

I am a 500 Level student of the department of Nursing, of the above mentioned institution conducting a research study on ‘‘**Relationship Between Awareness and Compliance Towards Premarital Sickle Cell Screening Among Unmarried Undergraduate Students of the University of Benin.**’’ as part of the requirement for the completion of a Bachelor’s Degree in Nursing Science. Kindly and sincerely provide answers to the questions in the spaces provided. Every information provided is highly confidential and strictly for academic purpose. No names are required. You may decide to answer questions that best suits your understanding and for the accuracy in statistics. Please be independent and truthful as possible. Thank you.

Yours faithfully,

Benjamin Blessing Iyobosa.

SECTION A: DEMOGRAPHIC DATA

Kindly tick (✓) the most appropriate option.

Age: ☐ 15–19 ☐ 20–24 ☐ 25–29 ☐ 30 and above

Gender: ☐ Male ☐ Female

Level of Study: ☐ 200 Level ☐ 300 Level ☐ 400 Level

Department: ☐ English & Literature ☐ History & International Studies ☐ Linguistics ☐ Philosophy

Religion: ☐ Christianity ☐ Islam ☐ Traditional ☐ Others (specify): ________

you currently in a relationship? ☐ Yes ☐ No

Have you heard about Sickle Cell Disorder (SCD) before? ☐ Yes ☐ No

SECTION B: AWARENESS OF PREMARITAL SCREENING

Please tick (✓) the option that best reflects your opinion.

Please rate your level of agreement with the following statements. (SD-Strongly Disagree, D-Disagree, A-Agree & SA-Strongly Agree)

S/N	Statement	SA	A	D	SD
8	I am aware that premarital screening for genotype is important.				
9	I know my genotype.				
10	I believe knowing one’s genotype before marriage is necessary.				
11	My school or church/mosque encourages premarital genotype				

S/N	Statement	SA	A	D	SD
	testing.				
12	I have received education or awareness on premarital screening.				
13	I believe premarital screening can help reduce the spread of SCD.				

SECTION C: COMPLIANCE WITH PREMARITAL SCREENING

Please tick (✓) the option that best reflects your opinion.

Please rate your level of agreement with the following statements. (SD-Strongly Disagree, D-Disagree, A-Agree & SA-Strongly Agree)

S/N	Statement	SA	A	D	SD
14	I have done a genotype test before.				
15	I intend to know my partner’s genotype before getting married.				
16	If I fall in love with someone with AS/SS, I would consider the risk.				
17	I will not proceed with marriage if my partner's genotype is incompatible.				
18	I discuss genotype compatibility in relationships.				
19	I encourage others to do premarital screening.				