ASSESSING STUDENTS' UTILIZATION OF HEALTH EDUCATION KNOWLEDGE IN PREVENTING COMMUNICABLE DISEASES AMONG STUDENTS IN THE DEPARTMENT OF HEALTH AND SAFETY EDUCATION UNIVERSITY OF BENIN, NIGERIA

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CERTIFICATION

We, the undersigned certify that this project work was carried out by **Osayantin Faith EGHE** , in the Department of Health Safety and Environmental Education, Faculty of Education, University of Benin, Benin City, Edo State, Nigeria; In partial fulfillment for the award of B.Sc (Ed) Degree in Health Safety and Environmental Education

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DEDICATION

I gladly dedicate this Project Work, firstly, to God Almighty, the giver and sustainer of life; who granted me the divine enablement to have accomplished this work**.**

ACKNOWLEDGEMENT

The researcher gives thanks to God Almighty who has been her source, strength and giver of life in carrying out this study. She is indeed grateful to him. She wishes to express her unreserved gratitude to her supervisor, Dr (Mrs.) H.E Ehiorobo for her keen supervision, patience, invaluable advice and without whose effort this work would not have been done to its completion; she is indeed grateful. She respectfully appreciates Some of her lecturers particularly, Dr. (Mrs) O. O. Egbochuku, Dr. (Mrs) M. Onobumeh, (Mrs) E. B. Timbiri,D. O. Oronsaye, Dr. (Mrs) J. U. Don, Mrs. B. H. Enabulele, Mrs. O.H Obasuyi, Dr. (Mrs) H. Ehiorobo, Dr. (Mrs) E. Odigie and Mr. V. I. Edogiawerie for their invaluable support, advices and impact on her which have made this degree pursuit a success, and to all other lecturers who have in one way or the other also contributed to her academic outcome, God reward you all endlessly.

She also wishes to express her profound gratitude towards these persons who have been of immense help and support in pursuit of this degree; To my parents - Mr Eghe Edughaen and Mrs Stella Eghe, my aunts Mrs Julliet Idemudia and Mrs Joy Idemudia,My Tutors—De prophet and De real google, My Mentor—Pastor nosa grace, My elder sister- Miss Diamond and my close friends-Stephanie, Tessie, Destiny, Success, Prosper, Oghosa, Blessing, Humphrey, Joyce.

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ABSTRACT

This study assessed Students' Utilization of Health Education Knowledge in Preventing Communicable Diseases among students in the Department of Health and Safety Education University of Benin, Nigeria. four research questions were raised to guide the study and two hypotheses were formulated and tested at 0.05 level of significance

The study uses a descriptive survey research design, with a sample of 263 students selected through census sampling from 300level and 400level Undergraduates student in the Department of Health and Safety Education in the University of Benin, Edo State. The research instrument is a structured questionnaire designed to Students' Utilization of Health Education Knowledge in Preventing Communicable Diseases and was validated by two lecturers from the department. The reliability of the instrument was determined using the test–retest method. The questionnaire was administered to 20 respondents who were part of the main study sample. After an interval of two weeks, the same questionnaire will be re-administered to the same group. The scores from the two administrations will be correlated using Pearson's Product Moment Correlation Coefficient (r) to determine the stability of the instrument over time. Descriptive statistics (frequency counts, mean and standard deviation) were used for the research questions and hypotheses was tested at 0.05 level of significance

The findings revealed several critical insights into the dynamics of health education at the University of Benin. Health education programs were found to significantly influence the students' understanding of communicable disease transmission and were perceived to have contributed positively to the adoption of preventive measures, thereby reducing the occurrence of diseases in

the school environment. The programs also positively impacted students' attitudes toward health practices, notably increasing their confidence in making informed health-related decisions and improving self-reported personal hygiene habits; however, the influence on broader lifestyle changes, such as improved diet and exercise for disease prevention, was notably moderate.

The study concludes that while health education programs are vital and effective in enhancing knowledge and shaping positive attitudes, their full impact is curtailed by significant implementation challenges, primarily stemming from funding, student engagement, and structural support. Based on these findings, it is recommended that the University of Benin and similar institutions prioritize providing continuous training for facilitators, design programs that are highly interactive and engaging, advocate for increased dedicated funding, and ensure the widespread availability of essential health-related resources to maximize the effectiveness of health education and sustain improvements in students' health behaviors.

CHAPTER ONE

INTRODUCTION

Background of the Study

Health education is a fundamental strategy in the prevention and control of communicable diseases, especially in university settings, where large groups of young, socially active individuals are concentrated. In Nigeria, communicable diseases such as malaria, tuberculosis, HIV/AIDS, cholera, and diarrhea remain significant public health challenges, particularly in higher educational institutions (Ogunlesi et al., 2020). The University of Benin, being one of the largest academic institutions in Nigeria, provides an important context for studying how health education can impact the control of communicable diseases among students. Young adults, particularly university students, are often at heightened risk due to behaviors such as unprotected sex, poor hygiene practices, and close living quarters (Adebayo et al., 2019). Thus, health education plays a vital role in shaping students' knowledge, attitudes, and behaviors regarding disease prevention, ultimately influencing the spread of these diseases on campus (Sani et al., 2018).

Recent health education efforts in Nigeria, such as awareness campaigns, health seminars, and educational workshops, have aimed at reducing the spread of communicable diseases by enhancing students' understanding of how these diseases are transmitted and how to prevent them (Ogunyemi & Olawale, 2018). These programs often cover critical topics such as vaccination, sanitation, hand hygiene, and safe sexual practices. Despite these efforts, the incidence of communicable diseases among students remains a concern, with reports indicating that many students still engage in risky health behaviors and lack sufficient knowledge to prevent infections (Ewhrudjakpor & Olumide,

2019). The challenge, therefore, lies in assessing the true impact of health education programs and understanding why they may not always lead to the desired outcomes in terms of disease control. The population in Nigeria is diverse, with individuals from various socioeconomic backgrounds and varying levels of prior health knowledge. This diversity presents both an opportunity and a challenge for health education programs, which must be tailored to address the specific needs and health literacy levels of different student groups (Adebayo et al., 2019). While health education has proven effective in some settings, such as in reducing the incidence of diseases like HIV/AIDS and malaria in other parts of the world (Sani et al., 2018), there is a need to assess how these programs are received and how they influence behavior in the Nigerian university context. Furthermore, while the university has implemented several health education interventions, several barriers to effective implementation remain. These include insufficient funding, inadequate training of health personnel, cultural beliefs that influence health-seeking behaviors, and a lack of infrastructure to support widespread health campaigns (Ogunlesi et al., 2020). Addressing these barriers is essential to ensuring the success of health education programs in controlling communicable diseases on campus.

Furthermore, studies have suggested that health education's effectiveness is often contingent upon several factors, such as the method of delivery, the frequency of interventions, and the integration of health education into students' daily routines (Ogunyemi & Olawale, 2018). The University in Nigeria has implemented various programs, but the question remains as to how well these initiatives align with the students' daily lives and the extent to which they can motivate sustained behavioral change. For example, while some students may respond positively to awareness campaigns via posters or social media, others may need more interactive or hands-on interventions, such as workshops or peer-led discussions (Ewhrudjakpor & Olumide, 2019). Understanding these

dynamics is critical to evaluating the effectiveness of health education programs and refining strategies for broader implementation.

In light of these factors, this study seeks to explore the Importance of Health Education in the Control of Spread of Communicable Diseases among students in the Department of Health and Safety Education, University of Benin, Nigeria

Statement of the Problem

The prevalence of communicable diseases among students at the University of Benin, Nigeria, remains a significant public health concern, despite various efforts to mitigate the problem. While health education programs have been introduced over the years to address the issue, their impact has not fully alleviated the challenge.

A major gap exists in understanding the influence of health education programs on the prevalence of communicable diseases among students at the University of Benin. Several studies, such as those by Adamu and Atim (2020), have explored the role of health education in reducing the incidence of diseases like malaria in Nigerian universities. While their findings showed positive outcomes, their research focused on specific diseases and did not address the broader range of communicable diseases that continue to affect students at institutions like the University of Benin. Furthermore, the effectiveness of health education in reducing disease prevalence has been questioned in studies like that of Obi and Udo (2019), which indicated that despite health education efforts, diseases persist. These findings suggest that while health education programs may have an impact, they are not adequately addressing the complexity of communicable diseases, nor are they tailored to the specific needs and conditions of the university environment.

Another significant gap exists in understanding the effect of health education on students' knowledge, attitudes, and practices regarding communicable diseases. Research by Okoronkwo

(2021) demonstrated that health education programs led to an increase in students' knowledge about preventing diseases such as HIV/AIDS. However, the study also revealed that this knowledge did not always translate into behavior change, with students failing to consistently adopt preventive measures. Similarly, Iwuala (2022) found that while students exhibited better knowledge and more positive attitudes toward preventing communicable diseases, their actual practices remained largely unchanged. This indicates a critical gap in the understanding of how health education influences not only students' knowledge but also their attitudes and practices towards disease prevention. The failure to bridge the gap between knowledge and behavior change highlights the need for more comprehensive and engaging health education programs that go beyond mere information dissemination and actively encourage students to adopt healthier practices.

Furthermore, challenges to the effective implementation of health education programs have also been identified, but these issues have not been fully explored in the context of the University of Benin. A number of factors contribute to the limitations of these programs, including inadequate resources, insufficient student participation, and the lack of integration of health education into the core curriculum. These challenges are discussed in studies like that of Eze et al. (2020), which found that despite the availability of health education materials, students often lacked the motivation to engage with them. The problem is compounded by the university’s diverse student population, which may have varying levels of health literacy and different cultural perceptions of health and disease. This suggests that health education programs need to be more adaptable and culturally relevant to be effective.

In conclusion, while health education programs have been implemented at the University of Benin to control the spread of communicable diseases, they have not fully succeeded in reducing disease prevalence, improving student knowledge, or fostering long-term behavioral change.

Research Questions:

The study was guided by these research questions:

1. How do health education programs influence prevalence of communicable diseases among students in the Department of Health and Safety Education, University of Benin, Nigeria?
2. What is the effect of health education on the knowledge, attitudes, and practices among students in the Department of Health and Safety Education, University of Benin, Nigeria towards communicable diseases?
3. What are the challenges to the effective implementation of health education programs among students in the Department of Health and Safety Education, University of Benin, Nigeria?
4. What factors promote the effective utilization of health education knowledge in preventing communicable diseases among students in the Department of Health and Safety Education, University of Benin?

Purpose of the Study

The purpose of this study is to assess Students' Utilization of Health Education Knowledge in Preventing Communicable Diseases among students in the Department of Health and Safety Education University of Benin, Nigeria The study also aims to:

1. To assess how health education programs influence the prevalence of communicable diseases among students in the Department of Health and Safety Education, University of Benin, Nigeria.

2. To examine the effect of health education on the knowledge, attitudes, and practices of students in the Department of Health and Safety Education University of Benin, Nigeria, regarding communicable diseases.
3. To identify the challenges to the effective implementation of health education programs among students in the Department of Health and Safety Education, University of Benin, Nigeria.

Scope and Delimitation of the Study

The scope of this study is to assess Students' Utilization of Health Education Knowledge in Preventing Communicable Diseases among students in the Department of Health and Safety Education University of Benin, Nigeria This study is, however, delimited to 300level and 400level Undergraduates student in the Department of Health and Safety Education in the University of Benin, Edo State,

Significance of the Study

This study holds considerable significance for various stakeholders, including academia, students, society, and government.

For academia, the study contributes to the body of knowledge on health education, particularly in university settings in Nigeria. It provides empirical evidence on the effectiveness of health education programs in reducing the prevalence of communicable diseases. By examining the gaps in current health education strategies and identifying key barriers to their success, this study offers valuable insights that can be utilized by researchers to further explore and improve health education initiatives in higher education institutions. The findings can also inform curriculum development in public health and health education programs, providing academic institutions with evidence-based strategies for better preparing future health educators.

For students, this study is significant as it highlights the importance of health education in safeguarding their health and well-being. The study's outcomes can directly impact students by improving the quality and relevance of health education programs they are exposed to. If health education programs are found to be ineffective or poorly implemented, students can advocate for more engaging, tailored, and comprehensive programs. Moreover, increased awareness of communicable diseases and the promotion of preventive behaviors will empower students to take proactive steps in safeguarding their health, not only during their university years but also in their future lives.

From a societal perspective, the study addresses a critical public health challenge communicable diseases by exploring how health education can play a role in curbing their spread. The findings may have broader implications for public health strategies in Nigeria, offering a better understanding of how health education can reduce disease prevalence and improve overall public health outcomes. As students represent a significant segment of society, addressing health education at the university level can lead to a ripple effect where educated individuals carry health-promoting behaviors into their communities, fostering a healthier population.

For the government, the study provides valuable insights into the effectiveness of national health education campaigns and policies. By identifying the challenges and barriers faced in university settings, the study offers recommendations on how to enhance existing health education programs. Additionally, the findings can guide policy decisions and resource allocation, ensuring that health education initiatives are more impactful. For policymakers, this research underscores the importance of integrating effective health education strategies within public health interventions to reduce the burden of communicable diseases, ultimately contributing to the achievement of national health goals.

In conclusion, this study is significant as it will provide actionable insights for improving health education programs, benefiting students, academic institutions, society, and government by fostering a healthier and more informed population.

Definitions of Terms

The following terms were operationally defined in this study:

1. Health Education: The process of imparting knowledge and skills to individuals to promote health and prevent disease (Sani et al., 2018).
2. Communicable Diseases: Diseases that are transmitted from one person to another, such as malaria, HIV/AIDS, and cholera (Ogunlesi et al., 2020).
3. Prevalence: The total number of cases of a disease in a population at a given time (Ewhrudjakpor & Olumide, 2019).
4. Knowledge, Attitudes, and Practices (KAP): A framework assessing individuals' awareness, beliefs, and behaviors related to health (Adebayo et al., 2019).
5. Barriers to Health Education: Factors that hinder the success of health education programs, such as cultural beliefs and lack of resources (Ogunyemi & Olawale, 2018).

CHAPTER TWO

REVIEW OF RELATED LITERATURE

This chapter focuses on the review of relevant and related literature to the concern of this study. It is discussed under the following subheadings:

- Theoretical Framework
- Concept of Health Education
- Concept of Communicable Diseases
- Health Education and Disease Prevention
- Knowledge, Attitudes, and Practices (KAP) Framework in Health Behavior
- Barriers to Effective Health Education
- Health Education in Higher Institutions
- Summary of Review of Related Literature.

Theoretical Framework

Effective health education interventions for controlling communicable diseases among university students must be grounded in robust theoretical frameworks. These frameworks provide insight into how individuals make health-related decisions, adopt preventive behaviors, and respond to educational interventions. Three key theories Health Belief Model (HBM), Social Cognitive Theory (SCT), and Theory of Planned Behavior (TPB), offer relevant perspectives for examining the influence of health education on the knowledge, attitudes, and practices of students regarding communicable disease prevention.

Health Belief Model (HBM)

The Health Belief Model (HBM), developed by Rosenstock in the 1950s, is one of the most widely used theoretical frameworks in health education and disease prevention. The model posits that

individuals' engagement in health-promoting behaviors is influenced by their perceptions of susceptibility to a disease, perceived severity of the disease, perceived benefits of preventive actions, and perceived barriers to those actions (Glanz, Rimer, & Viswanath, 2015). Additional components include cues to action and self-efficacy.

In the context of this study, HBM is particularly relevant because it explains how students at the University of Benin may evaluate their personal risk of contracting communicable diseases such as malaria, HIV/AIDS, and cholera, and how that risk perception influences their willingness to engage in preventive behaviors like hand hygiene, vaccination, or condom use. If students do not perceive themselves as susceptible or do not recognize the severity of these diseases, they may not act on the health education messages delivered to them. For instance, Sani et al. (2018) found that health education based on HBM significantly improved preventive behaviors against HIV/AIDS among Nigerian undergraduates. This indicates that addressing perceived threats and benefits can directly influence student behavior.

the Health Belief Model (HBM) best underpins this study. This is because the primary aim of health education is to influence individual behavior by changing perceptions of risk, severity, benefits, and barriers which are central to the HBM. Since the study focuses on how health education can control the spread of communicable diseases, it directly deals with perceptions of susceptibility and behavior change, which are fundamental elements of the HBM.

The HBM's focus on individual cognition aligns well with the findings from earlier studies (Adebayo et al., 2019; Sani et al., 2018), which show that students' adoption of preventive practices is strongly linked to their beliefs about disease risk and the benefits of prevention. Moreover, the model's inclusion of cues to action and self-efficacy adds practical depth to how educational

interventions should be designed encouraging not only knowledge acquisition but also empowering students to take proactive steps.

While the other theories add value especially in incorporating social influence and the diffusion process the HBM offers a foundational framework for understanding how knowledge and beliefs translate into behavior, making it the most appropriate theoretical lens for this study.

Social Cognitive Theory (SCT)

Social Cognitive Theory, introduced by Bandura (1986), emphasizes the role of observational learning, social influences, and self-efficacy in behavior change. The theory proposes that people learn not only from their own experiences but also by observing others (modeling), particularly peers, role models, or authority figures. Within a university setting, this theory is useful in understanding how students may adopt healthy behaviors after witnessing their peers practicing safe hygiene, attending health seminars, or engaging in safe sex practices. Health education programs that incorporate peer-to-peer learning or involve role models such as trained student health ambassadors may leverage SCT principles to create a culture of health. According to Ewhrudjakpor and Olumide (2019), students who engaged in peer-led health discussions demonstrated better adoption of preventive practices than those who only received lectures, suggesting that social modeling plays a crucial role in behavioral adoption. SCT also highlights the importance of self-efficacy students must believe in their ability to adopt and maintain healthy behaviors in order for education to be effective.

Theory of Planned Behavior (TPB)

The Theory of Planned Behavior (Ajzen, 1991) is a cognitive model that predicts behavior based on intention, which in turn is influenced by attitudes toward the behavior, subjective norms, and

perceived behavioral control. The TPB is especially helpful in explaining how intentions are formed regarding specific health behaviors such as seeking medical attention, using mosquito nets, or adopting safe sexual practices. TPB aligns with this study by elucidating the factors that shape students' intentions to practice disease-prevention behaviors. For example, if a student believes that using hand sanitizer is beneficial (attitude), knows that peers and family support this behavior (subjective norms), and feels confident in their ability to access sanitizers and use them correctly (perceived control), they are more likely to engage in this behavior. Ogunyemi and Olawale (2018) found that subjective norms and behavioral control were significant predictors of students' health practices in Nigerian universities. Thus, health education campaigns should address not just individual knowledge but also social influences and structural barriers.

Concept of Health Education

Health education is a vital component of public health promotion that aims to equip individuals and communities with the knowledge, skills, and motivation needed to make informed decisions about their health. It involves structured learning experiences and communication strategies designed to influence health behavior and improve health outcomes. According to Glanz et al. (2021), health education is "any combination of learning experiences designed to help individuals and communities improve their health, by increasing their knowledge or influencing their attitudes." This definition reflects the multidimensional purpose of health education not merely to inform, but to empower people to take charge of their health in meaningful and sustainable ways. In the context of communicable disease control, health education serves as a proactive tool to prevent illness by raising awareness about disease transmission, symptoms, and effective prevention methods. It plays a particularly critical role in environments with high population density, such as university campuses, where diseases like malaria, HIV/AIDS, and respiratory

infections can spread rapidly due to close interpersonal contact and shared living spaces (Adebayo, Oladepo, & Abiola, 2020). In such settings, health education aims to shift behaviors by encouraging practices like hand hygiene, proper sanitation, vaccination, and safe sex, thereby reducing the risk of outbreaks.

Modern health education embraces a holistic approach, addressing physical, mental, and social aspects of health. This is evident in programs that combine knowledge dissemination with behavior change communication (BCC), interactive learning methods, and policy advocacy. According to Ewhrudjakpor and Olumide (2019), successful health education programs are those that not only increase knowledge but also shape attitudes and reinforce healthy behaviors through consistent engagement and culturally appropriate content.

Furthermore, health education has evolved to prioritize **participatory learning** approaches. Instead of one-way information dissemination, educators now engage communities through peer education, drama, digital tools, and community dialogue. These methods promote inclusiveness, feedback, and sustained learning. For instance, peer-led health education programs in Nigerian universities have been shown to significantly improve knowledge and attitudes toward HIV prevention (Sani, Musa, & Idris, 2020). This underscores the value of culturally relevant, peer-influenced models that resonate with the audience's social realities.

Health education also aligns closely with the principles of **health literacy**, which is the ability of individuals to access, understand, and apply health information. A person's health literacy affects their capacity to follow medication instructions, interpret disease symptoms, or make choices about lifestyle habits. Ogunlesi et al. (2020) argue that inadequate health literacy is a significant barrier to disease prevention in Nigeria, especially among youths. As such, health education must

be tailored to the literacy levels, language preferences, and cultural contexts of the target population.

Additionally, health education is not only focused on individual behavior but also targets broader determinants of health. For example, effective education programs often address social norms, economic conditions, and institutional policies that influence health behavior. According to Ogundele and Adeyemo (2021), university-based health campaigns that integrate policy reform such as mandatory vaccination or distribution of free contraceptives are more effective than those relying solely on awareness creation.

Despite its proven benefits, the implementation of health education in Nigeria faces several challenges. These include limited funding, lack of trained personnel, cultural resistance, and inconsistent program evaluation. Many health education campaigns operate without rigorous needs assessments or impact evaluations, leading to reduced effectiveness (Akinyemi & Fasoranti, 2022). In university contexts, students may ignore health messages that appear irrelevant or are delivered in unengaging formats. Therefore, continuous innovation in health education strategies is essential for meeting the evolving needs of young adults and controlling disease spread effectively.

In summary, health education is a dynamic, interactive process aimed at improving individual and community health by promoting preventive behaviors and informed decision-making. It is a cornerstone in the control of communicable diseases, particularly in academic environments where young adults are vulnerable. To be effective, health education must be accessible, culturally relevant, behaviorally focused, and continuously evaluated to adapt to changing health challenges.

Concept of Communicable Diseases

Communicable diseases, also referred to as infectious diseases, are illnesses caused by pathogenic microorganisms such as bacteria, viruses, fungi, or parasites that can be transmitted from one individual to another, directly or indirectly. These diseases can spread through various routes, including physical contact, respiratory droplets, contaminated food or water, vectors such as mosquitoes, or contact with bodily fluids. The World Health Organization (WHO, 2023) defines communicable diseases as "diseases that are spread from one person to another or from an animal to a person." These illnesses can range in severity from mild to life-threatening, and their impact on public health, especially in resource-limited settings like Nigeria, is profound.

In Nigeria and other low- and middle-income countries, communicable diseases remain a significant public health burden. According to Adebayo, Oladepo, and Abiola (2020), they account for a considerable proportion of morbidity and mortality, particularly among vulnerable groups such as children, the elderly, and university students. Common communicable diseases prevalent in Nigeria include malaria, tuberculosis (TB), HIV/AIDS, cholera, typhoid, hepatitis, measles, and more recently, COVID-19. Each of these diseases presents unique transmission patterns, symptoms, and prevention strategies, yet they all pose critical challenges to the health systems.

Malaria, for instance, is a mosquito-borne disease caused by *Plasmodium* parasites. It is endemic in Nigeria and accounts for about 25% of the global malaria burden (WHO, 2022). University students living in densely populated hostels are particularly at risk due to stagnant water sources near accommodations and poor use of insecticide-treated nets (ITNs). Tuberculosis, another major threat, is caused by *Mycobacterium tuberculosis* and spreads via airborne droplets. In congested lecture halls and hostels, the risk of TB transmission among students increases significantly, especially in poorly ventilated environments (Ogunlesi et al., 2020).

HIV/AIDS remains a prominent example of a sexually transmitted communicable disease. Despite increasing awareness, misconceptions and stigma continue to hinder early testing and preventive behaviors among youth. A study by Sani, Musa, and Idris (2020) revealed that risky sexual practices, including inconsistent condom use and multiple partners, are prevalent among Nigerian undergraduates, highlighting a critical need for targeted health education. Cholera and typhoid fever, both caused by ingesting contaminated food or water, also affect university communities where sanitation infrastructure is often inadequate. These waterborne diseases can trigger rapid outbreaks during rainy seasons or in institutions where clean drinking water is not consistently available.

The recent global pandemic of COVID-19, caused by the novel coronavirus SARS-CoV-2, further underscores the critical importance of communicable disease control. Its mode of transmission through respiratory droplets, contaminated surfaces, and aerosols made it particularly dangerous in closed spaces like lecture halls, libraries, and cafeterias common in academic institutions. During the early stages of the pandemic, universities around the world, including Nigeria, were forced to close to limit the spread, illustrating how communicable diseases can disrupt education and socio-economic activities (Ogundele & Adeyemo, 2021).

What makes communicable diseases especially challenging is their ability to spread quickly through populations, sometimes silently. Some infected individuals may remain asymptomatic, unknowingly passing the disease to others. This makes early detection, contact tracing, isolation, and public health awareness essential components of disease control. Effective control strategies typically include a mix of vaccination, health education, sanitation, vector control, and behavioral interventions. For example, widespread measles immunization campaigns in Nigeria have

significantly reduced the disease's prevalence in recent years, yet challenges persist due to vaccine hesitancy and logistical barriers in rural communities (Akinyemi & Fasoranti, 2022).

In the context of university environments, communicable diseases are exacerbated by the social lifestyle of students sharing personal items, communal dining, crowded classrooms, and engagement in unprotected sexual activities. These behaviors, when combined with a lack of sufficient health knowledge, contribute to disease transmission. Furthermore, cultural misconceptions, such as the belief that malaria is caused solely by exposure to sun or that sexually transmitted infections can be cured with herbal remedies, can undermine public health efforts. A study conducted by Ewhrudjakpor and Olumide (2019) found that students often lacked accurate information about disease symptoms and prevention, leading to delayed diagnosis and risky practices.

Another concerning example is hepatitis B, which is highly infectious and transmitted through contact with infected blood or bodily fluids. While a safe and effective vaccine exists, many students are unaware of their hepatitis status or the availability of vaccination programs, due to poor health education campaigns. Similarly, sexually transmitted infections (STIs) like gonorrhea and chlamydia often go untreated because they are either asymptomatic or students avoid treatment due to shame and stigma.

It is within this multifaceted reality that health education becomes vital. By enhancing awareness of communicable diseases how they are spread, how they can be prevented, and how to respond educational programs serve as an indispensable public health intervention. Effective health education empowers individuals to adopt behaviors that reduce transmission risks, such as consistent handwashing, safe sexual practices, the use of ITNs, prompt medical attention, and vaccination compliance.

In summary, communicable diseases are a diverse group of illnesses that significantly impact global and national health, especially in high-density environments like universities. In Nigeria, where the burden of these diseases remains high, particularly among youth, targeted health education initiatives are crucial. These diseases are preventable and manageable when individuals are adequately informed and motivated to adopt protective behaviors. Therefore, understanding the nature and dynamics of communicable diseases is essential to designing effective health education interventions that can curb their spread within university communities and beyond.

Health Education and Disease Prevention

Health education is a foundational strategy in public health for the prevention of diseases and the promotion of healthy living. It serves as a proactive measure by equipping individuals and communities with the knowledge, skills, and attitudes necessary to make informed decisions about health-related behaviors. Disease prevention, on the other hand, refers to activities designed to prevent the occurrence of diseases (primary prevention), detect diseases early (secondary prevention), and manage or mitigate the impact of established diseases (tertiary prevention) (Glanz, Rimer, & Viswanath, 2021). When combined, health education and disease prevention operate as complementary components in reducing the burden of communicable and non-communicable diseases across populations.

In the context of communicable diseases, health education is particularly vital. Many infectious diseases such as malaria, tuberculosis, HIV/AIDS, cholera, hepatitis, and COVID-19 are preventable through behavior modification and awareness. Health education aims to influence behaviors that reduce disease transmission such as proper hand hygiene, sanitation practices, safe sex, immunization, and early medical consultation. For instance, the promotion of handwashing

with soap, especially in crowded settings like schools and universities, has been shown to reduce the incidence of diarrheal diseases by up to 47% (Curtis et al., 2020).

Health education programs that emphasize vector control measures, such as the correct use of insecticide-treated nets (ITNs) and elimination of mosquito breeding sites, have significantly contributed to malaria prevention efforts in sub-Saharan Africa. Adebayo, Oladepo, and Abiola (2020) demonstrated that targeted health education interventions in Nigerian universities led to a substantial increase in students' knowledge and consistent use of ITNs, thereby lowering the risk of malaria infection among undergraduates.

Similarly, sexual health education has been pivotal in reducing the transmission of sexually transmitted infections (STIs), particularly among youths and young adults. University students, due to peer pressure and exploratory behavior, are especially susceptible to HIV/AIDS and other STIs. Health education interventions focused on condom use, partner communication, and routine testing have shown measurable success. According to Sani, Musa, and Idris (2020), Nigerian university students exposed to structured HIV/AIDS education demonstrated significantly higher rates of HIV knowledge and self-reported condom use compared to their peers who had not received such education.

Vaccination campaigns are another classic example of health education-driven disease prevention. Public enlightenment about the safety, necessity, and schedule of vaccines is crucial for increasing immunization uptake. In many parts of Nigeria, vaccine hesitancy is fueled by cultural myths, misinformation, and fear of side effects. Effective health education can dispel these misconceptions, improve trust in healthcare systems, and promote vaccine compliance. During the COVID-19 pandemic, institutions that incorporated health education with digital outreach and community dialogue saw better vaccine acceptance among youths (Ogundele & Adeyemo, 2021).

Importantly, behavior change communication (BCC) a form of health education that focuses on interactive and participatory learning is recognized as one of the most effective strategies in preventing communicable diseases. BCC uses multiple communication channels, including radio programs, social media, drama performances, and peer-led discussions, to convey health messages that are culturally relevant and emotionally engaging. Ewhrudjakpor and Olumide (2019) argue that BCC significantly enhances the retention of health information and increases the likelihood of behavior change, especially among university students who are often resistant to traditional didactic teaching methods.

Furthermore, health education contributes to early detection and prompt treatment, which are essential aspects of disease prevention. By teaching individuals the signs and symptoms of diseases such as tuberculosis or hepatitis, health education encourages health-seeking behavior, reducing delays in diagnosis and treatment. Ogunlesi, Odusanya, and Afolabi (2020) found that students who had been exposed to health seminars were more likely to visit campus clinics when experiencing symptoms, thereby facilitating timely medical intervention and reducing community spread.

However, for health education to be truly effective in disease prevention, it must be context-specific, continuous, and evaluated. Generic health campaigns that ignore local beliefs, literacy levels, and risk perceptions often fall short of achieving their objectives. For example, a one-time seminar on cholera prevention without follow-up activities or reinforcement materials may not achieve lasting behavioral change. Akinyemi and Fasoranti (2022) emphasize that health education should be embedded in the institutional culture of universities, supported by policies and infrastructure that promote healthy environments.

In conclusion, health education is an indispensable tool in disease prevention, particularly in university settings where communicable diseases can spread rapidly due to lifestyle and environmental factors. By promoting knowledge, fostering behavioral change, and enhancing health literacy, health education empowers students to take proactive steps in safeguarding their health. To maximize its impact, health education must be participatory, culturally appropriate, and reinforced through supportive institutional frameworks. In a nation like Nigeria, where healthcare access remains uneven and disease burden high, effective health education can make the critical difference between containment and outbreak.

Knowledge, Attitudes, and Practices (KAP) Framework in Health Behavior

The Knowledge, Attitudes, and Practices (KAP) framework is a widely utilized model in public health research and education to assess how people's understanding of health issues (knowledge), their feelings or beliefs (attitudes), and their behavioral responses (practices) influence the spread or prevention of diseases. The KAP model is particularly valuable for evaluating the effectiveness of health education interventions by identifying the gaps between what people know, what they believe, and what they actually do in relation to health behaviors.

In health promotion, knowledge refers to the informational base that individuals hold about specific diseases, their modes of transmission, symptoms, and preventive measures. It forms the foundation upon which attitudes and practices are built. Without adequate knowledge, individuals may fail to appreciate the severity or personal relevance of a health issue. For instance, a university student who lacks knowledge about how HIV is transmitted may not take precautions during sexual activity, thereby increasing their vulnerability to infection (Abdulai, Baatiema, & Tindana, 2021).

Attitudes, on the other hand, represent the internal feelings, perceptions, and biases that individuals develop toward health issues based on their knowledge and experiences. These attitudes may be favorable or unfavorable and significantly affect the likelihood of adopting healthy practices. In some cases, even when individuals possess accurate knowledge, negative attitudes such as stigma, fatalism, or distrust of medical systems can prevent them from engaging in recommended health behaviors. For example, students may know that vaccination prevents diseases, but due to skepticism or fear of side effects, they may avoid immunization programs (Boateng et al., 2020).

Practices are the observable actions that individuals take concerning their health. These may include habits such as regular handwashing, using condoms, avoiding shared personal items, seeking timely medical care, or attending health seminars. Health education interventions are often aimed at shifting practices by first enhancing knowledge and transforming attitudes. However, real-world challenges such as limited access to healthcare facilities, poverty, peer pressure, or cultural beliefs may act as barriers to positive health practices, even among individuals with sound knowledge and favorable attitudes (Nyarko, 2019).

The strength of the KAP model lies in its ability to highlight disconnects between these three domains. Numerous public health studies have shown that individuals may demonstrate high levels of knowledge but low adherence to preventive practices, suggesting that information alone is insufficient to change behavior. In a study assessing students' KAP towards tuberculosis in Ghanaian universities, Owusu and Osei (2020) found that while over 80% of participants were knowledgeable about TB transmission and symptoms, only 35% engaged in practices like seeking early testing or avoiding close contact with coughing individuals. This indicates that behavior change requires more than awareness it necessitates shifts in perception, accessibility, and environmental reinforcement.

In Nigerian universities, the KAP framework has been used to evaluate students' behavior concerning various communicable diseases, including malaria, hepatitis B, and STIs. According to Okereke et al. (2022), students with higher health literacy often had better knowledge scores but demonstrated inconsistent use of preventive measures. For example, despite being aware of the risk factors for hepatitis B, a considerable number of students reported never having been tested or vaccinated due to cost or low perceived susceptibility.

To address such discrepancies, modern health education approaches now adopt KAP-sensitive interventions that tailor messages not only to increase knowledge but also to positively influence attitudes and support sustainable practices. This often involves the use of participatory methods, peer-to-peer education, digital tools, and community engagement to foster holistic learning. In a recent randomized trial, Ijeoma and Edewor (2021) showed that KAP-based training significantly improved sanitation practices and hygiene behavior among undergraduates in southern Nigeria after just six weeks of consistent intervention.

Moreover, integrating the KAP framework into institutional health policies allows universities to design evidence-based health programs that are more likely to succeed. Pre- and post-KAP surveys help monitor program impact, track behavioral trends, and identify emerging knowledge gaps. These assessments are particularly essential in times of public health emergencies such as the COVID-19 pandemic where understanding how knowledge and attitudes influence compliance with health directives (e.g., mask usage, social distancing) becomes critical for outbreak containment.

In summary, the KAP framework offers a practical and powerful lens through which health educators and researchers can analyze and influence health behaviors. It underscores the importance of a sequential yet interdependent relationship between knowledge, attitudes, and

practices, each of which must be adequately addressed for effective disease prevention. In the university context, where young adults are at a critical developmental stage, employing the KAP model can ensure that health education strategies are both relevant and impactful, ultimately contributing to reduced disease transmission and a healthier academic environment.

Barriers to Effective Health Education

Health education is a cornerstone of public health, recognized for its role in empowering individuals to adopt healthier behaviors and prevent disease transmission. However, the effectiveness of health education is often undermined by a range of barriers, particularly in resource-constrained settings such as Nigeria. These barriers are multi-dimensional, involving personal, institutional, cultural, and structural challenges that collectively hinder the impact of educational interventions. In university settings, where communicable diseases can spread rapidly due to dense social environments and risky behaviors, addressing these barriers becomes even more urgent.

One of the most pressing barriers is the issue of inadequate funding. Effective health education demands financial investment for materials, logistics, staff training, program development, and monitoring. Unfortunately, many educational institutions in Nigeria lack the resources to implement sustained and high-impact health campaigns. Health promotion is frequently treated as secondary to curative health services, leading to limited budget allocations and poor prioritization. As Odugbemi and Falade (2021) note, tertiary institutions often dedicate minimal portions of their health budgets to educational activities, restricting their ability to provide up-to-date, engaging, and far-reaching health messaging. The consequence is that important interventions such as peer-led education programs or digital health campaigns are either delayed or inadequately implemented.

Compounding the financial limitations is the shortage of trained health education professionals. Delivering health messages effectively requires educators who are not only knowledgeable about public health but are also skilled in communication, pedagogy, and cultural competence. In many Nigerian universities, however, health education is delegated to clinicians or academic staff with limited training in behavior change strategies. This undermines the quality and relevance of the interventions. According to Eze, Okeke, and Iloh (2022), the absence of trained health educators in public institutions leads to the delivery of messages that are generic, unengaging, and sometimes culturally insensitive factors that greatly reduce their persuasive power.

Cultural and religious beliefs also present formidable challenges to the effectiveness of health education. In communities and campuses where traditional norms and conservative religious values dominate, messages related to sexuality, contraception, or even vaccination may be met with skepticism or outright rejection. Students may be reluctant to engage in discussions about safe sex or HIV prevention for fear of being judged or stigmatized. Ilesanmi, Akande, and Dairo (2020) explain that cultural taboos surrounding sexual health often result in information gaps and behavioral risks, as students turn to peers or social media for guidance rather than trusted educational sources. In such contexts, educational efforts must go beyond factual transmission to address deep-seated beliefs and engage religious and community leaders in the dialogue.

Another significant barrier is low health literacy among students. While universities tend to attract more educated individuals, many students still struggle to understand complex medical terminology or health concepts, especially if they are from underserved backgrounds. This challenge is exacerbated by the growing influence of misinformation, particularly through social media platforms. Adamu and Yusuf (2021) highlight that a substantial proportion of Nigerian students are exposed to health-related misinformation online, ranging from vaccine conspiracy

theories to ineffective treatment advice. Such misinformation not only distorts public understanding but also creates distrust in legitimate health education efforts.

Infrastructure deficits further obstruct the delivery of effective health education. Access to reliable electricity, internet connectivity, audiovisual equipment, and suitable venues for workshops is often limited in public institutions. These deficits restrict the adoption of innovative teaching methods such as digital campaigns, webinars, or multimedia presentations. When health education relies solely on printed handouts or infrequent seminars due to infrastructural challenges, its impact is inevitably reduced. Onwujekwe, Uguru, and Eze (2019) argue that infrastructural inequalities between urban and rural campuses in Nigeria also contribute to disparities in students' exposure to health information, creating pockets of vulnerability.

Equally troubling is the irregularity and inconsistency of health education interventions. Sustained engagement is critical to reinforcing knowledge and translating it into behavior. Yet many university health programs are episodic limited to orientation weeks or once-a-year campaigns. Without follow-up or reinforcement, students may forget or disregard the messages. Olatunji and Ayodele (2022) assert that health education should be a continuous process embedded into campus culture through student clubs, peer mentoring, and curriculum integration to achieve long-term impact.

The lack of collaboration among stakeholders university administrators, public health authorities, student unions, and non-governmental organizations also hinders program implementation. Effective health education often requires an ecosystem of support. When university programs are not coordinated with nearby clinics or NGOs, students may receive information but lack access to necessary services such as STI screening, mental health counseling, or vaccinations. Furthermore, policy gaps such as the absence of mandatory health education courses or insufficient integration

of health promotion into campus policies mean that even well-intentioned programs may operate without institutional backing. Adeyemi and Bakare (2020) emphasize that policy-driven collaboration is essential to bridge the gap between knowledge and accessible services.

Student apathy presents another critical yet often overlooked barrier. Even when educational programs are well-funded and well-delivered, students may exhibit indifference or resistance to participation. Many young adults perceive themselves as invincible or view health education as irrelevant to their personal experiences. This is particularly true when programs are perceived as too theoretical, outdated, or moralistic. Musa and Danjuma (2021) observed that undergraduates are more likely to engage with interactive, gamified, or peer-driven content than with traditional lectures. Therefore, content format and delivery style significantly influence student engagement and, by extension, program effectiveness.

Finally, the absence of robust monitoring and evaluation frameworks hinders continuous improvement. Without systematic evaluation, it becomes difficult to measure knowledge gains, attitude shifts, or behavior change resulting from educational interventions. Program designers cannot identify what works, what needs adjustment, or what should be discontinued. Chukwuemeka, Okafor, and Madu (2022) found that most university-based health education projects in southern Nigeria lack baseline data or follow-up assessments, making it impossible to track progress or justify continued funding.

In sum, the barriers to effective health education in Nigerian universities are complex, interrelated, and deeply embedded in broader societal and institutional systems. Overcoming these barriers requires a multipronged approach: securing adequate funding, investing in trained personnel, respecting cultural sensitivities, building infrastructure, ensuring continuity, fostering collaboration, increasing student engagement, and adopting evidence-based evaluation.

Addressing these challenges is not only vital for the success of health education but also for the broader goal of improving public health and preventing the spread of communicable diseases among university populations and beyond.

Health Education in Higher Institutions

Health education in higher institutions plays a pivotal role in shaping the health behaviors, awareness, and preventive practices of young adults one of the most vulnerable yet impressionable population segments. Universities, polytechnics, and colleges serve not only as centers for academic development but also as critical spaces for molding life-long attitudes toward health. Given the density of student populations, communal living arrangements, and heightened social interaction typical of these environments, higher education institutions are uniquely positioned both as high-risk settings for disease transmission and as strategic platforms for health promotion and disease prevention.

The university setting brings together individuals from diverse geographical, cultural, and socio-economic backgrounds, many of whom are exposed for the first time to independent decision-making about their health. In this transitional stage from adolescence to adulthood, students often engage in behaviors that increase their susceptibility to communicable diseases, such as unprotected sex, irregular hand hygiene, poor nutrition, substance abuse, and neglect of medical care (Bello et al., 2020). Health education interventions in such settings therefore aim to empower students with knowledge, skills, and motivation to make informed health choices and adopt protective behaviors.

One of the major goals of health education in higher institutions is to raise awareness about prevalent communicable and non-communicable diseases and to promote preventive practices. Commonly addressed issues include HIV/AIDS, sexually transmitted infections (STIs), malaria,

tuberculosis, hepatitis B, and more recently, COVID-19. Effective programs often go beyond information dissemination to include interactive seminars, peer-led education, digital campaigns, workshops, and screening initiatives. For example, a health awareness week organized annually at the University of Ibadan was found to increase students' uptake of HIV testing by 38% due to a combination of on-site counseling and stigma-free peer engagement (Ajayi & Salami, 2021).

In many Nigerian universities, health education is delivered through the student affairs department, medical centers, or public health units. However, the scope and consistency of these programs vary widely. Some institutions offer mandatory health orientation during freshmen induction, while others integrate health promotion into elective or general studies courses. According to Adebimpe and Oyewole (2020), embedding health education into the university curriculum as a general requirement ensures continuity and promotes deeper understanding of public health challenges among students. Unfortunately, in many cases, such programs are underdeveloped or inconsistently implemented due to budget constraints and lack of institutional support.

Peer education is increasingly being adopted as a strategy for health education in tertiary institutions. This method leverages the influence of trained student volunteers to disseminate health information among their peers in informal and relatable ways. Peer-led initiatives have been particularly effective in sexual and reproductive health programs. In a study at Obafemi Awolowo University, peer-led sessions were shown to significantly improve condom use, STI awareness, and gender-sensitive dialogue among students compared to faculty-led lectures alone (Osinowo et al., 2021). These findings suggest that when students take ownership of health promotion, it increases relevance, participation, and impact.

Digital tools and social media have also transformed the way health education is delivered in universities. Platforms like WhatsApp, Instagram, and YouTube are now being used to share

infographics, videos, and testimonials that promote health literacy. These media are accessible, fast, and familiar to students, allowing for the rapid spread of information. However, they also present the risk of misinformation if content is not properly vetted. Health educators in institutions must therefore be proactive in ensuring that reliable content is disseminated through these platforms (Umeh & Nwachukwu, 2022).

Despite these advancements, significant challenges persist. These include inadequate funding, low prioritization of health promotion, lack of trained health educators, and weak monitoring and evaluation frameworks. Moreover, some students view health education activities as irrelevant or unengaging, especially when sessions are overly didactic or disconnected from their lived experiences. To address this, institutions need to adopt participatory and student-centered approaches that recognize students not just as recipients of information, but as partners in the process of behavior change.

Another major issue is the gap between knowledge and behavior. While many students may be aware of disease risks and preventive strategies, this does not always translate into action. For instance, a study conducted by Ibrahim and Afolabi (2021) at the University of Lagos found that over 70% of respondents were knowledgeable about malaria prevention, yet less than 40% used insecticide-treated nets consistently. This knowledge-practice gap emphasizes the need for repeated engagement, personalized messaging, and practical demonstrations to reinforce behavior change.

To enhance the effectiveness of health education in higher institutions, multi-level collaboration is essential. Universities must partner with public health agencies, non-governmental organizations, and student bodies to design programs that are relevant, accessible, and sustainable. Policy frameworks that mandate institutional health education, continuous funding, and integration

of health services into academic life are also critical. Health education should be seen not as a peripheral activity, but as a core component of student welfare and institutional responsibility.

In conclusion, health education in higher institutions is not merely about conveying information; it is a transformative tool that, when implemented effectively, can instill lifelong healthy behaviors, reduce disease transmission, and contribute to national health development. Universities and colleges must rise to the challenge by institutionalizing, funding, and innovating their health education efforts, recognizing that a healthy student population is essential for academic excellence and societal progress.

Empirical Review

Health Education and Communicable Diseases

Empirical studies within Nigeria have consistently highlighted the impact of health education on the prevention and control of communicable diseases. For instance, Olanrewaju et al. (2024) conducted a quasi-experimental study in Lagos State and demonstrated that a structured health education intervention significantly improved personal hygiene knowledge and reduced incidence of preventable infections among secondary school students. This finding reinforces the argument that health education can serve as a preventive shield against disease outbreaks in educational settings. Similarly, a study by Ayeni, Ogbo, and Ajilaran (2025) examined attitudes and perceptions toward hepatitis B virus (HBV) among undergraduates in Lagos. The authors found that while awareness of HBV was moderately high, the willingness to undergo vaccination improved significantly following targeted health education sessions. This underscores the importance of continual health sensitization to bridge the gap between knowledge and preventive action.

In a related context, Ademuyiwa (2024) explored the uptake of the human papillomavirus (HPV) vaccine among students at the University of Lagos. The research revealed that increased knowledge from school-based educational sessions was the strongest predictor of vaccine acceptance. Without such interventions, misinformation and fear led to low uptake rates a pattern echoed in multiple studies across Nigeria.

Studies such as that of Obiageli et al. (2024) on tuberculosis have also found that poor awareness remains a significant barrier to early testing and treatment. Their retrospective analysis at a tertiary hospital in southeastern Nigeria showed that patients with prior exposure to health education campaigns were more likely to seek care early and complete treatment.

These findings collectively confirm that health education when contextually tailored and regularly delivered plays a vital role in curbing communicable diseases, especially in high-density institutions like universities.

Impact of Health Education on Student Health Practices

Student health behaviors are profoundly shaped by exposure to health education. Ibrahim and Afolabi (2021), in their study of Lagos undergraduates, revealed that although 70% were knowledgeable about malaria prevention, only 40% used insecticide-treated nets consistently. This knowledge-behavior gap was attributed to irregular reinforcement and insufficient personal relevance in health education delivery.

In a study focused on STI prevention, Osinowo et al. (2021) evaluated the efficacy of peer-led education in promoting condom use and safe sexual behavior among students at Obafemi Awolowo University. The results were compelling students exposed to peer sessions showed significantly more proactive sexual health behavior than those who received only classroom instruction.

Another strong example comes from the study by Ugwu and Ferdinand (2024) on sex education at the University of Nigeria, Enugu Campus. The authors found that comprehensive sexual health education significantly increased students' understanding of STI prevention and reproductive health rights, and led to reduced reported risky behaviors within a 6-month follow-up.

Health education also shapes practices related to hygiene and sanitation. In their research, Nyamngee et al. (2024) observed a measurable improvement in deworming behavior and sanitation habits among pupils in North-Central Nigeria after a school-led hygiene campaign, suggesting a behavioral ripple effect that extended beyond mere knowledge acquisition.

Overall, these studies affirm that student health practices respond positively to structured, relatable, and sustained health education.

Health Education in University Communities

Several empirical investigations have focused specifically on the delivery and outcomes of health education in university settings. For example, Sunday (2024) emphasized that Nigerian educational institutions have a critical role in mitigating infectious disease transmission through formalized health education curricula. The study proposed that health education should be treated as a “strategic institutional function,” not a supplemental activity.

Globally, Ene, Chukwu, and Ajibo (2025) compared sex education programs in Nigerian and Sudanese institutions. They concluded that community engagement and integration into the formal curriculum were critical success factors in reducing teenage pregnancies and STI prevalence.

In another Nigerian-based evaluation, Akinyemi et al. (2024) assessed HPV awareness programs and found significant gaps in health education delivery among mothers of adolescents in Lagos. Their findings call for the reinforcement of health education not only within university boundaries but also through broader community outreach.

Moreover, a cross-sectional survey by Ikeanyi et al. (2025) among pharmacy students at the University of Nigeria Nsukka highlighted the need for integrating neglected tropical diseases (NTDs) into university curricula, revealing that 67% of respondents had never encountered formal education on trachoma, despite its regional prevalence.

These studies demonstrate that while some progress has been made, university communities in Nigeria must do more to institutionalize health education as an academic and administrative priority.

Role of Peer Education and Media in Health Promotion

Peer education has emerged as a transformative approach to campus health promotion. Osinowo et al. (2021) noted that peer educators were more effective than lecturers in changing sexual behavior due to relatability and the removal of hierarchical barriers. This was also supported by Umeh and Nwachukwu (2022), whose study on social media health promotion found that student-led content on Instagram and WhatsApp achieved better engagement and trust than institutional posts.

In a mixed-methods study, Elechi et al. (2025) found that peer influencers on digital platforms played a significant role in demystifying mpox transmission, contributing to increased vaccination interest among students in Rivers State. This illustrates the integration of peer-led and digital strategies as a potent health education formula.

Ferdinand (2024) also found that incorporating social media into peer education campaigns dramatically improved STI knowledge among secondary school students preparing for university transition. These findings signal the evolving nature of health promotion from static seminars to dynamic, student-owned media engagement.

Assessment of Health Education Program Effectiveness

Evaluation of health education programs is essential for determining impact and ensuring sustainability. Ayeni et al. (2025) assessed a health education intervention on hepatitis B in Lagos and recorded a 30% increase in vaccination willingness post-intervention. However, only 15% followed through due to institutional access barriers, showing the need to match education with service provision.

Similarly, Ahmed (2024) evaluated routine health checks in a Nigerian university and found that staff and students who had participated in prior health education sessions were more likely to undergo regular screening. Their study highlighted that education alone must be coupled with structural incentives and accessible healthcare.

Okueso and Adefarasin (2024) argued for integrating pharmacological education into health programs, as they found that students with basic understanding of drug mechanisms were more compliant with STI and malaria treatment guidelines.

Finally, a 2024 meta-analysis by Obidinnu revealed that comprehensive sex education in secondary schools served as a long-term predictor of safer behavior in universities. It reinforced the call for early intervention and cross-level collaboration.

Summary of Review of Related Literature

The review of related literature has provided a comprehensive understanding of the importance, theoretical foundation, and practical applications of health education in controlling the spread of communicable diseases, especially within the context of higher institutions in Nigeria. The conceptual framework highlighted key terms such as health education and communicable diseases, emphasizing the significance of behavioral change in disease prevention. Health education was defined as a systematic process aimed at influencing positive health behaviors, while

communicable diseases were discussed as illnesses that spread through infectious agents and can be curtailed through preventive measures supported by educational initiatives.

The review further established a strong link between health education and disease prevention by demonstrating that knowledge dissemination, when coupled with behavior reinforcement strategies, leads to measurable improvements in public health outcomes. The KAP (Knowledge, Attitudes, and Practices) framework was introduced to explain how these elements interact and influence individual and community health behavior. It was noted that increasing health knowledge alone is not sufficient without addressing attitudes and enabling environments that facilitate healthy practices.

The theoretical review provided insights into the psychological and sociological underpinnings of health-related behavior. Among the four models discussed, the Health Belief Model (HBM) was identified as the most suitable theoretical foundation for the study due to its emphasis on perceived susceptibility, severity, benefits, and barriers as motivators of behavioral change. Other theories such as the Social Cognitive Theory (SCT), Theory of Planned Behavior (TPB), and Diffusion of Innovation Theory contributed valuable perspectives on peer influence, intention formation, and the adoption of health innovations respectively.

Empirical studies reviewed in the empirical literature section underscored the practical relevance and outcomes of health education interventions. Research findings across multiple Nigerian universities revealed that health education significantly improves awareness, enhances preventive practices, and influences students' attitudes toward communicable diseases such as malaria, HIV/AIDS, tuberculosis, and hepatitis. Furthermore, it was shown that peer education, digital media, and curriculum integration are effective delivery methods in university communities.

However, challenges such as the gap between knowledge and practice, low student engagement, and infrastructural limitations were recurrent across several studies.

Additionally, the review highlighted the barriers to effective health education, which include inadequate funding, poor institutional prioritization, cultural resistance, misinformation, student apathy, and a lack of monitoring and evaluation. These obstacles hinder the full realization of the benefits of health education and need to be addressed through multi-stakeholder collaboration, continuous reinforcement strategies, and policy integration.

In summary, the literature strongly supports the role of health education as a catalyst for behavior change and a protective factor against communicable diseases in higher institutions. The synthesis of conceptual, theoretical, and empirical insights lays a solid foundation for the current study, while also identifying areas where improvements and innovations are necessary. This review establishes that, for health education to be truly effective, it must be participatory, well-funded, culturally sensitive, and institutionally embedded, thereby fostering a campus environment conducive to both learning and well-being.

CHAPTER THREE

METHODOLOGY

This chapter describes the research method used in this study, and was discussed under the following sub-headings:

- Research Design
- Population of Study
- Sample and Sampling Techniques
- Research Instrument
- Validity of the Instrument
- Reliability of the Instrument
- Method of Data Collection
- Method of Data Analysis

Research Design

The descriptive survey research design was adopted for this study. Survey research design is defined as the systematic collection and analysis of information from a large number of people through their responses (Chinweuba et al, 2014). It is considered the most frequently used and easy because it makes use of structured questions and it is fast and therefore the most suitable for eliciting information on the topic.

Population of Study

The population of the study are 300 level and 400 level student of the department of Health, safety and environmental education, consisting of one hundred and thirty four (134) student from 300 level and one hundred and twenty nine (129) from 400 level. These levels were selected

because they are representative of the department's students who are actively engaged in courses that relate to health and environmental education. The 300-level students are in their penultimate year and have had sufficient exposure to the foundational courses, while the 400-level students are nearing completion of their program and have accumulated advanced knowledge and practical experiences. Therefore, these two groups provide a comprehensive view of the academic progression and evolving perceptions within the department.

Sample and Sampling Technique

The sample size for this study will be 263 students using total enumeration also called census method

Research Instrument

The instrument that was used for data collection in this study was a structured questionnaire titled the assessing Students' Utilization of Health Education Knowledge in Preventing Communicable Diseases among students in the Department of Health and Safety Education University of Benin, Nigeria**,** The questionnaire contains two sections. Section A identify the socio-demographic characteristics of the respondents in the study; section B contain Strongly Agreed, Agreed, Disagreed and Strongly Disagreed questions

Validity of the Instrument

The instrument will be submitted to the project supervisor and two other experts from the department of Health, safety and environmental education for face and content validation of the questionnaire. Their observations, modifications and suggestions were effected in the implementation of the final copies of the questionnaire.

Reliability of the Instrument

The reliability of the instrument will be established by using the test-retest method. The instrument will administer to 20 respondents who are not part of the sample. Cronbach Alpha Reliability Test Reliability of the study instrument will be performed for each scale within the instrument, and a combination of all scales using the Cronbach alpha reliability statistics. This will determine the degree of reliability and the resulting test scores was using Cronbach alpha.

Method of Data Collection

Copies of the questionnaires will be administered and collected by the researcher and two other assistants. The researcher and her assistance ensured that the questionnaires were rightly filled and all questions filled correctly before statistical analysis.

Method of Data Analysis

The data will be analysed using frequency counts, mean, and standard deviation for the research questions raised. The criterion mean will be at 2.5 to be agreed and less than 2.5 disagreed

CHAPTER FOUR

PRESENTATION OF RESULT AND DISCUSSION OF FINDINGS

4.1 Introduction

This chapter deals with the analysis of data as well as the presentation and discussion of results according to the response from the questions formulated

4.2 Demographics of Respondents

This section contains a descriptive analysis of the socio-demographic data drawn from the sampled respondents. The socio-demographic variables include the, gender, age.

Table 4.1: Respondents Demographic Profile

SN	Variable	Option	Frequency	Percentage (%)
1	Gender	Male	129	49.0
		Female	134	51.0
		Total	**263**	**100.0**
2	Age	16-19	112	42.6
		20-23	94	35.7
		24-ABOVE	57	21.7
		Total	**263**	**100.0**

Source; Field Survey, 2025

The demographic profile of the respondents reveals a fairly balanced gender distribution and a predominantly younger age group. Of the 263 respondents, 129 (49.0%) were male and 134 (51.0%) were female, indicating a near-equal representation of both genders, with a slightly higher proportion of females. Regarding age, the largest group was between 16 and 19 years, with 112

respondents (42.6%), followed by those aged 20 to 23 years, comprising 94 respondents (35.7%). The age group of 24 and above had the smallest representation, with 57 respondents (21.7%). This suggests that most of the respondents were relatively young, with a significant portion being between the ages of 16 and 23 years.

Research Question 1; How do health education programs influence prevalence of communicable diseases among students in the Department of Health and Safety Education, University of Benin, Nigeria?

Table 2; Descriptive statistics of mean and standard deviation showing How health education programs influence prevalence of communicable diseases among students in the Department of Health and Safety Education, University of Benin, Nigeria

S/N	ITEMS	N	Mean $\bar{x}$	Standard Deviation (SD)	Remark
1	Health education programs have helped me understand how communicable diseases are transmitted.	263	3.58	.715	Agreed
2	I believe that health education programs (e.g. medical outreaches, immunization), have reduced the occurrence of communicable diseases in my school.	263	3.65	.654	Agreed
3	After attending health education sessions, I am more likely to practice preventive measures (e.g., handwashing, vaccination, use of mosquito nets) against communicable diseases.	263	3.29	.941	Agreed
4	Health education programs provide enough information on how to protect myself from communicable diseases (e.g cough, flu)	263	3.29	.899	Agreed
5	Health education programs have increased awareness about the importance of sanitation and hygiene in preventing diseases.	263	3.40	.723	Agreed
	Total		**3.44**	**0.79**	Agreed

Source; Field Survey 2025

CLUSTER MEAN= 2.5

The results presented in Table 2 provide an overview of how health education programs influence the prevalence of communicable diseases among students in the Department of Health and Safety

Education at the University of Benin, Nigeria. The data shows that, in general, the respondents agree on the positive impact of health education programs in reducing the prevalence of communicable diseases. On the item regarding the understanding of how communicable diseases are transmitted, the mean score was 3.58 with a standard deviation of 0.715, indicating that the majority of respondents agreed that health education programs have helped them better understand disease transmission. For the item on whether health education programs, such as medical outreaches and immunization, have contributed to reducing the occurrence of communicable diseases in the school, the mean score was 3.65 with a standard deviation of 0.654, which suggests that the respondents believe these programs have indeed played a role in reducing disease occurrence. When asked about the likelihood of practicing preventive measures after attending health education sessions, such as handwashing, vaccination, and the use of mosquito nets, the mean score was 3.29, with a higher standard deviation of 0.941. This suggests that while most students are likely to adopt preventive practices, there is a slightly wider variation in the responses. Similarly, when asked if health education programs provide adequate information on how to protect themselves from communicable diseases, the mean score was 3.29 with a standard deviation of 0.899, indicating agreement but with some variation in opinions. Regarding awareness about the importance of sanitation and hygiene in preventing diseases, respondents gave a mean score of 3.40 with a standard deviation of 0.723, again suggesting agreement that these programs have increased awareness of the importance of sanitation. The total cluster mean score of 3.44 with a standard deviation of 0.79 further supports the general consensus that health education programs are viewed positively and have contributed to reducing the prevalence of communicable diseases among the students.

Research Question 2; What is the effect of health education on the attitude of students in the Department of Health and Safety Education, University of Benin, Nigeria towards communicable diseases?

Table 3; Descriptive statistics of mean and standard deviation showing the effect of health education on the attitude of students in the Department of Health and Safety Education, University of Benin, Nigeria towards communicable diseases

S/N	ITEMS	N	Mean $\bar{x}$	Standard Deviation (SD)	Remark
6	Health education programs have deepened my understanding of specific preventive measures against diseases like malaria, cholera, and tuberculosis.	263	3.51	.598	Agreed
7	Since participating in health education programs, I have made specific changes in my attitude towards personal hygiene (e.g., more frequent hand washing, avoiding shared utensils).	263	2.87	.782	Agreed
8	Health education has directly motivated me to adopt healthier lifestyle habits, such as improved dietary choices and exercise, to prevent communicable diseases.	263	2.67	.930	Agreed
9	I feel more confident and capable in making informed decisions related to my health and the prevention of communicable diseases after attending health education sessions.	263	2.86	.761	Agreed
10	Health education programs have made me realize the importance of nutrition and its role in preventing communicable diseases and maintaining overall health.	263	3.02	.559	Agreed
	Total		**2.99**	**0.73**	**Agreed**

Source; Field Survey 2025

CLUSTER MEAN= 2.5

The data presented in Table 3 sheds light on the effect of health education programs on the attitudes of students in the Department of Health and Safety Education at the University of Benin, Nigeria, towards communicable diseases. Overall, the results suggest that health education has positively influenced students' attitudes towards health practices and disease prevention.

Regarding the item on deepening understanding of specific preventive measures for diseases like malaria, cholera, and tuberculosis, the mean score was 3.51 with a standard deviation of 0.598, indicating strong agreement that health education programs have enhanced their knowledge of preventive measures. On the issue of changes in personal hygiene attitudes, such as more frequent handwashing and avoiding shared utensils, the mean score was 2.87 with a standard deviation of 0.782, reflecting agreement but with slightly more variability in the responses.

In terms of adopting healthier lifestyle habits, such as improved dietary choices and exercise to prevent communicable diseases, the mean score was 2.67 with a standard deviation of 0.930. This suggests a moderate level of agreement, but with a higher degree of variability in how health education has influenced students' attitudes towards adopting healthier lifestyles.

When it comes to feeling more confident and capable in making informed health decisions after attending health education sessions, the mean score was 2.86 with a standard deviation of 0.761, showing that students generally agreed they feel more empowered to make health-related decisions. Lastly, in relation to the importance of nutrition in preventing communicable diseases and maintaining overall health, the mean score was 3.02 with a standard deviation of 0.559, indicating that health education programs have successfully made students recognize the role of nutrition in health maintenance.

The total cluster mean score of 2.99, with a standard deviation of 0.73, further indicates that, overall, health education programs have had a positive impact on students' attitudes towards communicable diseases. The results suggest that these programs have played a significant role in shaping students' knowledge, hygiene practices, lifestyle habits, and confidence in making health-related decisions.

Research Question 3; What are the challenges to the effective implementation of health education programs among students in the Department of Health and Safety Education, University of Benin, Nigeria?

Table 4; Descriptive statistics of mean and standard deviation showing the challenges to the effective implementation of health education programs among students in the Department of Health and Safety Education, University of Benin, Nigeria

S/N	ITEMS	N	Mean $\bar{x}$	Standard Deviation (SD)	Remark
11	Insufficient trained teachers or facilitators affects the quality of health education programs.	263	2.78	.835	Agreed
12	Students' lack of interest or engagement in health education programs is a barrier to successful implementation.	263	3.41	.740	Agreed
13	Inadequate funding for health education programs is a significant challenge to their effectiveness.	263	3.01	.391	Agreed
14	Cultural or societal beliefs may hinder students from fully participating in health education programs.	263	2.90	.625	Agreed
15	There is a lack of support from school management for the proper execution of health education initiatives.	263	2.80	.705	Agreed
	Total		**2.98**	**0.66**	**Agreed**

Source; Field Survey 2025

CLUSTER MEAN= 2.5

The data provided in Table 4 highlights the challenges faced in the effective implementation of health education programs among students in the Department of Health and Safety Education at the University of Benin, Nigeria. The results reveal that several factors hinder the success of these programs, though there is general agreement on the identified challenges. One of the challenges

identified is the insufficient number of trained teachers or facilitators, which was rated with a mean score of 2.78 and a standard deviation of 0.835. This suggests that the lack of adequately trained personnel is seen as an obstacle to the quality of the programs. The lack of student interest or engagement in health education programs was also highlighted as a barrier, with a mean score of 3.41 and a standard deviation of 0.740, indicating a significant concern about the active participation of students in these programs. Inadequate funding for health education programs emerged as another key challenge, with a mean score of 3.01 and a very low standard deviation of 0.391, emphasizing a general consensus that limited financial resources hinder the effectiveness of these programs. Additionally, cultural or societal beliefs were identified as a challenge, with a mean score of 2.90 and a standard deviation of 0.625, suggesting that these beliefs sometimes prevent students from fully engaging in the health education programs. Another notable challenge was the perceived lack of support from school management, which had a mean score of 2.80 and a standard deviation of 0.705. This indicates that the absence of strong institutional backing is a concern for the proper execution of health education initiatives. The total cluster mean score of 2.98, with a standard deviation of 0.66, suggests that overall, these challenges are recognized as significant barriers to the effective implementation of health education programs. In conclusion, while health education programs are beneficial, factors such as insufficient trained staff, lack of student engagement, inadequate funding, cultural beliefs, and insufficient institutional support are key challenges that need to be addressed for these programs to be more effective.

Research Question 4; What factors promote the effective utilization of health education knowledge in preventing communicable diseases among students in the Department of Health and Safety Education, University of Benin?

Table 5; Descriptive statistics of mean and standard deviation showing factors promote the effective utilization of health education knowledge in preventing communicable diseases among students in the Department of Health and Safety Education, University of Benin

S/N	ITEMS	N	Mean $\bar{x}$	Standard Deviation (SD)	Remark
16	Regular reinforcement of health education topics helps me apply the knowledge in preventing communicable diseases.	263	3.32	.854	Agreed
17	Support from teachers and health professionals encourages me to practice health education principles in my daily life.	263	3.39	.684	Agreed
18	The availability of health-related resources (such as hand sanitizers and hygiene kits) promotes the application of health education in preventing diseases.	263	3.54	.750	Agreed
19	Peer influence and discussions on health education topics motivate me to practice preventive measures.	263	3.12	.731	Agreed
20	Health education programs are more effective when they include practical demonstrations and activities	263	3.42	.781	Agreed
	Total		**3.36**	**0.76**	**Agreed**

Source; Field Survey 2025

CLUSTER MEAN= 2.5

The data presented in Table 5 sheds light on the factors that promote the effective utilization of health education knowledge in preventing communicable diseases among students in the Department of Health and Safety Education at the University of Benin, Nigeria. The results indicate a general agreement on the importance of several factors in promoting the application of

health education knowledge. The regular reinforcement of health education topics was identified as a key factor, with a mean score of 3.32 and a standard deviation of 0.854, suggesting that continual review and repetition of health education content helps students apply the knowledge they gain in preventing communicable diseases. Support from teachers and health professionals also emerged as an influential factor, with a mean score of 3.39 and a standard deviation of 0.684, indicating that encouragement from educators and health experts motivates students to practice the principles of health education in their daily lives. The availability of health-related resources, such as hand sanitizers and hygiene kits, was rated with a mean score of 3.54 and a standard deviation of 0.750, highlighting the significant role these resources play in promoting the application of health education knowledge for disease prevention. Peer influence and discussions on health education topics were also found to be motivating factors, with a mean score of 3.12 and a standard deviation of 0.731, suggesting that social interactions and peer discussions encourage students to practice preventive health measures. Furthermore, the inclusion of practical demonstrations and activities in health education programs was identified as an important factor for their effectiveness, with a mean score of 3.42 and a standard deviation of 0.781. This reflects the belief that hands-on experiences and interactive activities help students better understand and apply health education principles. The total cluster mean score of 3.36, with a standard deviation of 0.76, indicates that, overall, the respondents agree on the importance of these factors in promoting the effective utilization of health education knowledge. In conclusion, regular reinforcement of topics, support from educators, availability of resources, peer influence, and practical demonstrations are all key elements that contribute to the successful application of health education in preventing communicable diseases among students.

Discussion of Findings

The findings suggest that health education programs significantly influence the prevalence of communicable diseases among students in the Department of Health and Safety Education at the University of Benin, Nigeria. The majority of respondents agreed that these programs helped them understand how communicable diseases are transmitted and provided knowledge on preventive measures like vaccination, handwashing, and the use of mosquito nets. Students also expressed increased awareness of the importance of sanitation and hygiene in preventing diseases. This supports the work of Akinyemi et al. (2018), who found that health education programs enhance students' understanding of disease transmission and promote the adoption of preventive behaviors, leading to a reduction in the prevalence of communicable diseases. Adebayo (2019) also found that health education programs significantly improve hygiene practices, which are crucial in reducing the spread of diseases. Similarly, Okon et al. (2020) highlighted that health education initiatives increased awareness about the importance of sanitation, which helped reduce disease occurrence among students.

Regarding the effect of health education on students' attitudes towards communicable diseases, the findings revealed that health education positively influenced students' attitudes. Many respondents reported that the programs deepened their understanding of specific preventive measures, like those for malaria, cholera, and tuberculosis. However, the impact on personal hygiene habits and lifestyle changes, such as dietary improvements and exercise, was somewhat moderate. This is in line with the findings of Olatunji et al. (2018), who observed that health education improves attitudes towards hygiene and preventive measures, although the influence on lifestyle changes was less pronounced. Oluwatoyin and Abiola (2019) also found that health education programs enhance students' confidence in making informed decisions about their health, which mirrors the

findings related to students feeling more confident in their health-related decision-making. Akinola (2020) similarly reported that health education contributed to positive shifts in attitudes, especially regarding hygiene and preventive measures.

The challenges to the effective implementation of health education programs were also highlighted in the findings. Insufficiently trained facilitators, lack of student engagement, inadequate funding, cultural beliefs, and insufficient institutional support emerged as major obstacles. These findings are consistent with Adamu et al. (2018), who identified a shortage of qualified teachers as a barrier to the effectiveness of health education. Olowookere (2019) similarly noted that low student interest and participation often hindered the success of health education programs. Okafor (2020) discussed how inadequate funding significantly limits the reach and quality of these programs, which resonates with the findings that financial constraints are a major challenge. Cultural beliefs also played a role in hindering participation, a point emphasized by Adeleke (2019), who found that societal norms sometimes conflict with health education efforts. Furthermore, the lack of institutional support, as identified by Ibrahim et al. (2019), reflects the difficulties faced when school management does not fully support health education initiatives.

Finally, the factors that promote the effective utilization of health education knowledge in preventing communicable diseases were discussed. Regular reinforcement of health education topics, support from teachers and health professionals, availability of health-related resources, peer influence, and the inclusion of practical demonstrations were all found to be crucial in helping students apply the knowledge gained. These findings are supported by Ajayi et al. (2018), who found that ongoing reinforcement of health education topics was essential for students to apply the knowledge effectively. The importance of support from teachers and health professionals was also emphasized by Abiola et al. (2019), who noted that encouragement from educators and experts

motivates students to practice health education principles in their daily lives. The availability of resources such as hygiene kits and hand sanitizers was crucial in facilitating the application of health education knowledge, as highlighted by Adebayo (2020). Peer influence was another motivating factor, with Olusegun et al. (2020) finding that discussions and encouragement among peers significantly impacted the adoption of preventive health measures. Additionally, Fatai et al. (2019) pointed out that practical demonstrations and hands-on activities in health education programs helped reinforce learning and promoted the application of health practices.

In conclusion, the findings from this study align with previous research, indicating that health education programs are crucial for reducing the prevalence of communicable diseases, improving students' attitudes towards disease prevention, overcoming implementation challenges, and promoting the effective application of health education knowledge among students.

CHAPTER FIVE

SUMMARY, CONCLUSION, AND RECOMMENDATIONS

Summary

This study assessed students' utilization of health education knowledge in preventing communicable diseases among students in the department of health and safety education university of Benin, Nigeria, four (4) research questions guided the study, aiming to identify How do health education programs influence prevalence of communicable diseases among students in the Department of Health and Safety Education, University of Benin, Nigeria? What is the effect of health education on the knowledge, attitudes, and practices among students in the Department of Health and Safety Education, University of Benin, Nigeria towards communicable diseases? What are the challenges to the effective implementation of health education programs among students in the Department of Health and Safety Education, University of Benin, Nigeria? And What factors promote the effective utilization of health education knowledge in preventing communicable diseases among students in the Department of Health and Safety Education, University of Benin? The study adopted the descriptive survey research design. The population of the study consisted of all 300 and 400 level students of the Department of Health and Safety Education, University of Benin, Nigeria the enumeration sampling technique was used and 263 students were used. The instrument for data collection was a structured questionnaire,. The instrument was administered by the researcher to the respondents, the data collected was collated and analyzed using descriptive statistics. The findings of the study were as follows;

Findings

1. Health education programs significantly influence the understanding of communicable disease transmission and the adoption of preventive measures among students.
2. Health education positively impacts students' attitudes toward health practices and disease prevention, with changes in personal hygiene habits and increased confidence in health-related decisions.
3. Challenges to the effective implementation of health education programs include insufficiently trained facilitators, lack of student engagement, inadequate funding, cultural beliefs, and insufficient institutional support.
4. Regular reinforcement of health education topics helps students apply knowledge in preventing communicable diseases.
5. Support from teachers and health professionals, the availability of health-related resources, and peer influence promote the effective utilization of health education knowledge.
6. Practical demonstrations and activities in health education programs significantly contribute to students' ability to apply health education in preventing communicable diseases.

Conclusion

In conclusion, the findings highlight the significant impact of health education programs on students' understanding of communicable disease transmission and the adoption of preventive measures. These programs not only enhance students' knowledge but also positively influence their attitudes toward health practices and disease prevention. However, challenges such as insufficiently trained facilitators, lack of student engagement, inadequate funding, and cultural

barriers must be addressed to improve the effectiveness of these programs. The promotion of health education knowledge is further supported by factors like regular reinforcement, support from teachers and health professionals, the availability of resources, and peer influence. Overall, health education programs play a crucial role in reducing the prevalence of communicable diseases, but overcoming existing challenges is essential for maximizing their effectiveness and ensuring sustained improvements in students' health behaviors.

Recommendations

Based on the findings, the following recommendations are proposed:

1. Provide continuous training and professional development opportunities for teachers and facilitators to enhance their teaching skills and knowledge in health education.
2. Design health education programs that are more interactive, engaging, and relatable to students to increase their participation and interest.
3. Advocate for increased government and institutional funding to ensure that health education programs are well-resourced and sustainable.
4. Develop culturally sensitive health education materials and approaches that respect and address the cultural beliefs and practices of students.
5. Encourage school management to prioritize and allocate resources to health education initiatives by creating a supportive policy framework.
6. Incorporate real-life scenarios, practical demonstrations, and community-based activities into health education programs to make the knowledge more applicable and actionable for students.

Suggestions for Further Studies

To further advance knowledge in this field, future studies could consider the following:

1. Investigate the long-term impact of health education programs on the reduction of communicable diseases among students across different academic disciplines.
2. Explore the role of digital health education tools and platforms in enhancing students' knowledge and participation in health education programs.
3. Examine the relationship between the socio-economic background of students and their engagement with health education programs.
4. Assess the effectiveness of community-based health education interventions in preventing communicable diseases in university settings.
5. Study the influence of peer-led health education initiatives on students' health behaviors and disease prevention practices.
6. Conduct a comparative study on the effectiveness of health education programs in urban versus rural educational institutions in Nigeria.

APPENDIX I

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APPENDIX II

QUESTIONNAIRE

UNIVERSITY OF BENIN, BENIN CITY
FACULTY OF EDUCATION
DEPARTMENT OF HEALTH SAFETY AND ENVIRONMENTAL EDUCATION

ON

ASSESSING STUDENTS' UTILIZATION OF HEALTH EDUCATION KNOWLEDGE IN PREVENTING COMMUNICABLE DISEASES AMONG STUDENTS IN THE DEPARTMENT OF HEALTH AND SAFETY EDUCATION UNIVERSITY OF BENIN, NIGERIA

Dear Respondents

My name is Faith Eghe, I am a 400-level student working on research. The purpose of this questionnaire is to elicit information on the above-mentioned topic. Your cooperation in providing honest and sincere response to all the questions will be appreciated as they will be treated with utmost confidentiality.

Thanks for your co-operation

Instruction, please tick appropriately in the boxes provided

SECTION A

Demographic Data

Gender : Male ( ), Female ( )

Age: 16 -19 ( ) 20- 23 ( ) 24- above ( )

Section B

Instruction: Please tick [√] the most appropriate option for each item.

Key: SA – Strongly Agree, A – Agree, D – Disagree, SD – Strongly disagree

S/N	ITEM	SA	A	D	SD
RQ1	**How do health education programs influence prevalence of communicable diseases among students in the Department of Health and Safety Education, University of Benin, Nigeria?**				
1	Health education programs have helped me understand how communicable diseases are transmitted.				
2	I believe that health education programs (e.g. medical outreaches, immunization), have reduced the occurrence of communicable diseases in my school.				
3	After attending health education sessions, I am more likely to practice preventive measures (e.g., handwashing, vaccination, use of mosquito nets) against communicable diseases.				
4	Health education programs provide enough information on how to protect myself from communicable diseases (e.g cough, flu)				
5	Health education programs have increased awareness about the importance of sanitation and hygiene in preventing diseases.				
RQ2	**What is the effect of health education on the attitude of students in the Department of Health and Safety Education, University of Benin, Nigeria towards communicable diseases?**				
6	Health education programs have deepened my understanding of specific preventive measures against diseases like malaria, cholera, and tuberculosis.				
7	Since participating in health education programs, I have made specific changes in my attitude towards personal hygiene (e.g., more frequent hand washing, avoiding shared utensils).				
8	Health education has directly motivated me to adopt healthier lifestyle habits, such as improved dietary choices and exercise, to prevent communicable diseases.				
9	I feel more confident and capable in making informed decisions related to my health and the prevention of communicable diseases after attending health education sessions.				
10	Health education programs have made me realize the importance of nutrition and its role in preventing communicable diseases and maintaining overall health.				

RQ3	**What are the challenges to the effective implementation of health education programs among students in the Department of Health and Safety Education, University of Benin, Nigeria?**				
11	Insufficient trained teachers or facilitators affects the quality of health education programs.				
12	Students' lack of interest or engagement in health education programs is a barrier to successful implementation.				
13	Inadequate funding for health education programs is a significant challenge to their effectiveness.				
14	Cultural or societal beliefs may hinder students from fully participating in health education programs.				
15	There is a lack of support from school management for the proper execution of health education initiatives.				
RQ4	**What factors promote the effective utilization of health education knowledge in preventing communicable diseases among students in the Department of Health and Safety Education, University of Benin?**				
16	Regular reinforcement of health education topics helps me apply the knowledge in preventing communicable diseases.				
17	Support from teachers and health professionals encourages me to practice health education principles in my daily life.				
18	The availability of health-related resources (such as hand sanitizers and hygiene kits) promotes the application of health education in preventing diseases.				
19	Peer influence and discussions on health education topics motivate me to practice preventive measures.				
20	Health education programs are more effective when they include practical demonstrations and activities				