**PERCEIVED FACTORS AFFECTING HIV VOLUNTARY COUNSELLING AND TESTING UPTAKE AMONG NURSING STUDENT IN ABIA STATE UNIVERSITY**

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**ABSTRACT**

The aim of this study is to investigate the perceived factors that influence the uptake of HIV voluntary counselling and testing among nursing students at Abia State University. The study employed a survey research design and deployed a simple random sampling technique to get the proper sample size. The questionnaire tool was employed to obtain responses, and a total of 232 were confirmed as valid. The study's findings indicate that a significant majority (93.9%) of nursing students do not perceive themselves to be susceptible to HIV infection. Nevertheless, a significant proportion of 58.6% declined to participate in HIV voluntary counselling and testing. The voluntary counselling and testing uptake is influenced by several factors, including partners' safety, awareness of HIV status, prevention of mother-to-child transmission, selection of partners, and the necessity of commencing anti-retroviral medications. Furthermore, factors that are thought to hinder voluntary counselling and testing include a lack of awareness regarding the location of test centres, the belief that the test is not beneficial, low self-confidence, stigma from peers, the first shock of receiving test results, and the influence of one's partner. This study proposes the implementation of awareness programmes among nursing students to promote higher rates of HIV voluntary counselling and testing, as well as to decrease the transmission of HIV infection.

**CHAPTER ONE**

**INTRODUCTION**

* 1. **Background to the study**

HIV is widely recognised as a significant national and global issue and continues to be regarded as a pivotal public health emergency of our era. The World Health Organisation (WHO) estimated in the early 1990s that by the year 2000, around 26 million people would be globally infected, with almost 90% of cases originating from low-income countries (Mariam & Ndikom, 2023). Regrettably, this prognosis has been confirmed as an indisputable reality, as empirical literature has demonstrated a swift escalation in HIV prevalence in low-income nations. These findings provide additional support for the WHO's 2015 estimate, which ranked Nigeria as the second country with the highest disease prevalence and number of AIDS-related fatalities. This information is based on reports from the National Agency for the Control of AIDS (NACA) in 2014, page 18, and a study by Taimi et al. in 2021. Since the onset of the epidemic, about 85.6 million individuals (with a range of 65.0–113.0 million) have contracted the HIV virus, resulting in approximately 40.4 million deaths (with a range of 32.9–51.3 million) due to HIV.

At the conclusion of 2022, the global population of individuals infected with HIV amounted to 39.0 million [33.1–45.7 million]. Approximately 0.7% [0.6-0.8%] of persons aged 15–49 years globally are currently affected by HIV. However, the severity of the epidemic differs significantly across nations and regions. The World Health Organisation (WHO) The African Region continues to experience the highest prevalence of HIV, with approximately 3.2% of adults living with the virus. This region also accounts for almost two-thirds of the global population living with HIV. Africa, as a continent, and Nigeria, as a country, have achieved significant progress in slowing down the transmission of the disease and reducing the number of deaths caused by it (WHO, 2018).

In Nigeria, the majority of new HIV infections, approximately 80%, are attributed to unprotected heterosexual intercourse. The remaining HIV infections primarily occur within critical demographics, including sex workers, males who engage in sexual activities with other men, individuals who inject drugs, and transgender individuals. The issue of HIV disease, prevalence, and death is a worldwide and public health matter. The Joint United Nations Programme on HIV (WHO, 2022) report highlights the need for more action in Africa. At the conclusion of 2016, the report unveiled a worldwide occurrence of 35 million illnesses. The increased prevalence can be ascribed to a larger number of individuals seeking treatment and subsequently experiencing longer lifespans (UNAIDS, 2018). Nevertheless, the cumulative number of fatalities attributed to AIDS throughout this period reached 1.5 million worldwide (UNAIDS, 2018). A particularly disconcerting observation is that sub-Saharan Africa accounted for around 1.5 million fresh cases of HIV worldwide in 2013, and has seen significant mortality due to the disease (UNAIDS, 2018). These statistics have compelled international health organisations and governments of both affluent and impoverished nations to focus their endeavours on combating HIV disease.

The World Health Organisation (WHO) reported a significant decline of 41% in the incidence of new infections in Africa from 2000 to 2014. Nevertheless, it is imperative to further diminish the transmission of HIV (NACA, 2014, p. 13; Yahaya et al., 2014). Although significant progress has been made in wealthy nations to reduce the death rate of this feared illness, the situation is not the same in low- and middle-income countries (LMIC) such as Nigeria (NACA, 2014, p. 13). Furthermore, with the ongoing acceleration of globalisation and immigration, it is imperative to give additional focus to addressing the burden of HIV sickness. Some low- and middle-income countries (LMIC), including Nigeria, Zambia, and Zimbabwe, have implemented a strategy to combat HIV by promoting counselling and testing, particularly among individuals residing in rural areas (Corbett et al., 2006; Matovu & Makumbi, 2007; Miller et al., 2014; Osborn & Obermeyer, 2016; Wringe et al., 2008; Yahaya et al., 2014).

The adoption of HIV testing and counselling is essential for any advancement to be achieved in the prevention and treatment of the illness. Okai and Anaba (2022). Early diagnosis of infected individuals increases the probability of their adherence to the management programme, hence decreasing the chance of disease transmission within their communities. Put simply, the sooner patients get testing and counselling, the greater their likelihood of experiencing an improved quality and duration of life (Ashipala et al., 2018). The distribution of HIV in Nigeria indicates that the sexually active demographic bears a substantial burden of the disease (Odimegwu et al., 2019), with young people comprising a major proportion of this population segment in Nigeria. Surprisingly, there is a scarcity of research conducted to investigate the viewpoint of young people on strategies to effectively reduce the transmission of HIV throughout the country. Despite the fact that some authors have demonstrated that expanding Voluntary Counselling and Testing (VCT) services is a crucial method for decreasing the prevalence of HIV, there is less knowledge regarding the current situation (Eremie & Kennedy, Margaret, 2023; Shipanga, Taimi, & Kloppers, 2018). Adeyemi, Kolude, and Abe (2021) conducted a study on university students in north central Nigeria, which uncovered an increasing prevalence of illnesses within this demographic. Despite the youth having a strong understanding of diseases, only a small number actively pursued voluntary counselling and testing (VCT) facilities. Research consistently suggests that addressing the underlying causes of the poor utilisation of Voluntary Counselling and Testing (VCT) can effectively enhance the participation of individuals in VCT services, perhaps leading to a modification in their engagement in risky behaviours (Ayu & Andriyanti, 2020).

* 1. **Statement of problem**

Nigeria has the second largest number of people living with HIV/AIDS globally, and Abia State is ranked eighth in virus prevalence among states in the country (Federal Ministry of Health Nigeria, 2010; National Agency for Control of AIDS, 2012; Hutomo, Pramukti, & Sari, 2023). The epidemic is driven by various factors, such as limited awareness of HIV among a significant portion of the population, a low perception of risk among less than 40% of individuals, predominantly male-driven risky sexual behaviour, and relatively low rates of condom use among women (32.2%) and men (71.1%) (Odimegwu, Adedini, & Ononokpono, 2013). Halid & Ogunlade (2023) emphasised the role of religious and cultural norms in the transmission of the disease, as well as the impact of limited knowledge, inadequate risk perception, and limited access to healthcare. It is worth noting that a significant portion of individuals living with HIV/AIDS and those who contract new infections fall within the age range of 15 to 24 years (Onoja et al., 2020).

According to the sero-prevalence survey, there is a 4.6% prevalence among individuals aged 20-24 years, while those aged 25-29 years have a prevalence of 5.6%. This situation has caused significant devastation to individuals, families, communities, and countries. HIV/AIDS has a significant impact on both the well-being and financial stability of households, in addition to the individuals who are infected. The consequences of this situation can be quite severe, resulting in reduced engagement in formal education among young individuals, as well as a decline in family income due to unemployment, ultimately leading to poverty. Voluntary Counselling and Testing is a significant intervention that plays a crucial role in reducing the transmission of HIV (Adeyemi, Kolude, & Abe, 2021). The information about HIV/AIDS is presented accurately and in a timely manner. It also focuses on promptly providing care and treatment to those affected by HIV, while also promoting behaviour change among those who are not affected. Although the services are being accessed by a relatively small number of people. According to a study conducted among students in various higher institutions in Osun State, it was found that a mere 5% of them were aware of their status (Halid & Ogunlade, 2023). Research has indicated that there is a significant prevalence of risky sexual behaviour among students in Nigerian universities, which increases the likelihood of HIV transmission. There is limited information available regarding the uptake of HCT and the factors associated with it among nursing students in Abia State University. The nursing students at Abia State University exemplify the qualities of students in higher education institutions. In addition, they offer a diverse range of individuals who come from various ethnic and cultural backgrounds in Nigeria. This study aimed to investigate the factors that influence the uptake of HIV voluntary counselling and testing among nursing students in Abia State University.

* 1. **Objectives of the study**
1. To identify the rationale for HIV voluntary counselling and testing uptake among nursing student.
2. To identify perceived factors affecting HIV voluntary counselling and testing uptake among nursing student.
3. To make recommendations that will facilitate HIV voluntary counselling and testing uptake among nursing student.
	1. **Research questions**
4. What are the motivations for HIV voluntary counselling and testing uptake among nursing student?
5. What are the perceived factors militating HIV voluntary counselling and testing uptake among nursing student?
6. What ways can HIV voluntary counselling and testing uptake among nursing students be enhanced?
	1. **Research Hypotheses**

H0: There is no poor HIV voluntary counselling and testing uptake among nursing students..

Ha: There is a poor HIV voluntary counselling and testing uptake among nursing students.

* 1. **Significance of the study**

The results of this study will offer valuable insights into the uptake of HIV voluntary counselling and testing among nursing students at Abia State University. This finding highlights the importance for health care authorities to develop innovative HIV voluntary counselling and testing awareness and modalities. In addition, the study's findings will provide health care providers in Abia state with valuable data to re-evaluate their policies on HIV awareness and testing. This will ultimately contribute to enhancing prevention efforts among nursing students at Abia state university. In addition, the results of this study will help raise public awareness about the importance of practising proper hand hygiene. If implemented correctly, this action will significantly reduce the spread of infections among the public.

* 1. **Scope of study**

This study is conducted and documented within specific parameters. The main focus of this problem is centred around voluntary counselling and testing for HIV. Furthermore, Abia state university is used as the case study. This location was chosen due to its significance to the research problem and its close proximity to the researcher. This suggests that data will be gathered from individuals who are willing to participate at this establishment. Furthermore, it suggests that the conclusions of this study are limited to this specific case and may not be comprehensive enough to be relied upon for significant decision-making. Further research may be necessary. In addition, the study encompasses nursing students at Abia State University. Nevertheless, the study's limitations do not hinder its findings; instead, they contribute to the accuracy and brevity of the results.

* 1. **Operational definition of terms**

**Perceived Factors:** are a cognitive variables that involves the interpretation of sensory information. Various factors, including emotion, motivation, culture, and expectations, can influence our perception.

**HIV Voluntary Counselling and testing:** when a person chooses to undergo HIV/AIDS counselling so that they can make an informed decision about whether to be tested for HIV.

**CHAPTER TWO**

**LITERATURE REVIEW**

**2.1. The prevalence of HIV/AIDS**

According to Jacobi et al. (2020), HIV remains a worldwide concern, impeding the social, economic, developmental, and health conditions of developing nations. Despite the existence of preventative measures and interventions, the prevalence of HIV/AIDS continues to rise, according to the Centres for Disease Control and Prevention (CDC) (2018), because the treatments and interventions do not reach those who could benefit from them. According to the CDC (2020), approximately 37.9 million persons worldwide were living with HIV in 2018, with 61% of those cases originating from SSA. According to a study conducted by NACA between 2017 and 2018, 31,000 adults out of 500,000 who were living with HIV were found to be newly infected annually (NACA, 2020). According to NACA (2020), the prevalence of HIV/AIDS in Nigeria is 7.2%.

However, Jacob et al. (2020) found that Benue has the highest prevalence at 5.7% (95% CI: 5.0–6.3), followed by Rivers at 5.2% (95% CI: 4.6–5.8%), Akwa Ibom at 3.5% (95% CI: 2.9–4.1%), Edo at 3.4% (95% CI: 2.9–4.0%), and Taraba at 3.0% (95% CI: 2.6–3.7%). The lowest HIV prevalence was observed in Jigawa (0.3%), which was consistent with previous estimates. By 2020, 90% of all PLHIV will be expected to be aware of their HIV status, 90% of those diagnosed with HIV infection will be receiving sustained antiretroviral therapy, and 90% of those receiving antiretroviral therapy will have viral suppression, according to UNAIDS (2015). Nigeria failed to meet the UNAIDS-established 90-90-90 target for 2020 (UNAIDS, 2015). According to a 2017-2018 report by NACA (2020), the country reported that 51.7% of adults were on treatment for HIV, 55.6% were aware of their HIV status, and 41.4% had viral load suppression. This study identified factors that contribute to student hesitancy to participate in VCT in order to assist public health initiatives aimed at increasing VCT among Nigerian youth. In order for Nigeria to eradicate the HIV epidemic by 2030 (UNAIDS, 2017b), this is critical. As the disease continues to disproportionately affect youthful populations, the United Nations' pledge to eradicate the AIDS epidemic worldwide by 2030 prioritises AIDS prevention (United Nations General Assembly, 2015). West and Central Africa, which includes Nigeria, has the second-highest prevalence of HIV in comparison to other regions; therefore, it is difficult to eradicate HIV as a public health concern (Khalifa et al., 2019). Jacobi et al. (2020) concluded a pilot study in Nigeria and concluded that HIV-related social, economic, developmental, and health challenges continue to plague developing nations, including Nigeria.

As stated by the United Nations General Assembly (2015), monitoring HIV infections across all populations via VCT is the primary metric for assessing the advancement made in the effort to eradicate the AIDS epidemic. In order to achieve SDG 3 and end the HIV epidemic by 2030, it is critical to have a more comprehensive understanding of the factors that influence youth VCT uptake. Such knowledge could yield substantial evidence that can be utilised to develop and expand services and programmes that are specifically designed to meet the established targets (Gyasi & Abass, 2018). The majority of Nigeria's population had not undergone HIV testing, as evidenced by the 56% achievement rate on the initial 90 of the 90-90-90 United Nations objectives. This could be attributed to the accessibility, acceptability, affordability, and suitability of VCT services (PEPFAR, 2019). The escalating adolescent population in Africa is anticipated to contribute to a growing burden of new HIV infections, which is projected to reach 293 million by 2025. The eradication of the HIV epidemic by 2030 is contingent upon a reduction in infections among this population (Wong et al., 2017). Research conducted in other African nations has demonstrated that despite the growing level of sexual experience among young individuals and their high level of knowledge regarding VCT, their utilisation of these methods remains minimal (Odimegwu et al., 2020; Woldeyohannes et al., 2017).

**2.2. HIV/AIDS Voluntary counselling**

Voluntary counselling consists of an in-depth discussion with a specially trained individual with the goal of assisting you in assisting yourself. Counselling promotes the examination of potential resolutions to one's challenges and the contemplation of the life-altering consequences that may result from particular decisions. The HIV/AIDS counselling offered at VCT sites is confidential and provided at no cost. This implies that without your consent, the counsellor is prohibited from disclosing your result to any third party. You are required to undergo in-person counselling prior to taking the exam. Pre-test counselling encourages you to consider the potential life-altering consequences of undergoing the HIV test in order to ensure that you make an informed decision regarding its administration (Tshivhase, Makuya, & Takalani, 2022).

After completing the examination, you will be provided with post-test counselling. Throughout this counselling session, you will obtain your outcome. It is established that individuals who receive effective pre-test and post-test counselling are more capable of managing their test results, exhibit improved health behaviour, and are more likely to safeguard others against infection. The counselling you may continue to receive after you have determined your result is referred to as "ongoing counselling." Continual counselling facilitates a positive lifestyle for those living with HIV by offering guidance and support pertaining to any challenges that may arise. Obtaining an HIV antibody test is a matter of personal choice. You cannot be compelled to have it.

**2.3. Prevalence of Voluntary counselling and testing**

VCT prevalence is a crucial metric for determining the proportion of the populace that ought to be provided with VCT services. Moshoeu et al. (2017) conducted a cross-sectional study in China to examine the prevalence of utilising any type of HIV testing. The findings revealed that 49.2% and 23.8%, respectively, of the participants had utilised an HIV testing method in the previous year or within their lifespan prior to the study. This finding demonstrates a low prevalence that is comparable to Nigeria, as a study conducted in Nigeria by Adeyemi, Kolude, & Abe (2021) identified confidentiality as an impediment to VCT utilisation. In addition, Hutomo et al. (2023) found that apprehension regarding a breach of confidentiality was a deterrent to undergoing HIV testing. Implementing health education programmes that emphasise the importance of utilising VCT services to prevent HIV is necessary due to the low prevalence.

Furthermore, the authors of a cross-sectional study conducted among educators in Northwest Ethiopia (Lalo, Theodhosi & Breshanaj, 2020) disclosed that 53.6% of the participants had previously undergone HIV testing. Sam-Agudu (2016) found in another cross-sectional study conducted in refugee camps in Eastern Nepal that less than one-third (29%) of the population utilises VCT services. Furthermore, alternative perspectives on the gaps must be considered, according to Osborn and Obermeyer (2016), in order to maximise the utilisation of available resources for expanding the use of VCT services or identifying interventions. Furthermore, it was found in a cross-sectional study of Nigerian adolescents aged 15-39 that 38.0 percent of respondents had utilised HIV testing services in the past (Tianyi et al., 2018). According to a study by Okai and Anaba (2022), 30.6% of tertiary students in Owerri Municipality, Nigeria, had undergone HIV testing. In contrast, Odimegwu et al. (2019) documented a minimal occurrence of VCT in Nigeria. Additionally, Ajayi et al. (2019) conducted a cross-sectional study in two Nigerian universities involving adolescents and adults to ascertain the relationship between HIV risk perception, discussing HIV status with a partner, and the utilisation of HIV testing.

Additionally, Ajayi et al. (2019) investigated the effect that knowing one's partner's HIV status would have on the utilisation of HIV testing. The findings revealed that while gender did not emerge as a determining factor, a mere 50.6% of the research participants had ever undergone an HIV test, with 30.7% having done so within the previous year (Ajayi et al., 2019). Concern regarding contracting HIV, awareness of the partner's HIV status, and discussions with the partners regarding the virus all influenced these. The research conducted by Ajayi et al. provided valuable insights for the present study regarding the prevalence of HIV testing within the previous twelve months. The prevalence of both responses (a) prevalence of having ever undergone an HIV test and b) prevalence of having undergone an HIV test within the past year) was ascertained through the inquiries. Furthermore, they facilitated the examination of the frequency of VCT and the identification of predictors of VCT by utilising the constructs and modifying factors of the HBM. A comparable investigation conducted among young adults and adolescents in Nigeria revealed that a minority of the participants (23.7%) had ever undergone an HIV test, with a mere 12.4% having done so within the previous year (Ajayi et al., 2020). The outcomes mentioned failed to meet the initial 90 percent target set by UNAIDS to eradicate the HIV pandemic by 2030. This necessitates the development and implementation of intensive health education programmes in order to increase utilisation of VCT services.

**2.4. Voluntary counselling and testing as an HIV Prevention Strategy**

The literature was examined for the demographic characteristics of participants in different research, including their age, sex, religion, education and knowledge, and marital status. Ofori (2019) documented that several characteristics, including age, gender, religion, marital status, and education, can influence an individual's inclination to engage in preventive measures against the disease. According to Meka et al. (2020), Voluntary Counselling and Testing (VCT) serves as the initial step in primary prevention strategies, particularly in the prevention of HIV infection. This helps in preventing the transmission of HIV to others, reducing the danger of spreading the virus, and ultimately benefiting the community and public health. The rates of HIV diagnosis and treatment initiation among adolescents and young people aged 15 to 24 are currently low, which presents a substantial challenge to HIV control efforts (Wong et al., 2017).

Despite the crucial role that VCT (Voluntary Counselling and Testing) plays in HIV control, the availability of VCT services in Sub-Saharan Africa (SSA) remains insufficient. Given that Nigeria is situated in an area with the second highest rate of HIV prevalence, VCT services can have a crucial impact on HIV prevention, provided that individuals are aware of these services and are open to utilising the available resources. The study also examined the predictors of voluntary counselling and testing (VCT) based on the perception dimensions of the Health Belief Model (HBM).

**2.5. Predictors for VCT**

**Age**

Age is a significant variable in the Health Belief Model (HBM), as it influences the preventive health behaviours that individuals adopt at different life stages. A multi-level research conducted in six European cities has demonstrated that age has a significant role in influencing HIV testing behaviours. According to the study conducted by Berhan and Berhan in 2015, the model employed in their research indicated a positive correlation between age and the likelihood of engaging in HIV test-seeking behaviours. Furthermore, a research study conducted in Thailand aimed to establish the connections between beliefs about HIV/AIDS and engagement in HIV risk behaviours among young individuals who engage in sexual activities with men. The study discovered a significant correlation between individuals aged 18 to 21 and their involvement in HIV risk behaviours (Johnson et al., 2015).

This outcome is relevant as it can facilitate the creation of customised messaging for this demographic in order to implement strategies aimed at enhancing HIV preventive behaviours. An investigation conducted in Sub-Saharan Africa (SSA) found that the probability of males aged 15 to 24 years undergoing HIV testing was much lower compared to the rest of the population. This indicates the necessity of giving higher importance to HIV programmes targeted at this specific age group in order to enhance their likelihood of undergoing HIV testing in the future (Maina, Kimani, & Anzala, 2016). A cross-sectional study conducted in Tanzania among persons aged 50 and above aimed to determine socio-demographic disparities in HIV testing. The study revealed that older individuals had a lower rate of HIV testing (May & Parrott, 2015). A study conducted in Nigeria revealed that individuals between the ages of 20 and 24 exhibited a greater likelihood of undergoing an HIV test compared to those in the 15-19 age group (Ajayi et al., 2020). A study conducted in Burkina Faso by Moshoeu et al. (2019) aimed to investigate the impact of individual and community factors on the rate of HIV testing. The findings revealed a correlation between HIV testing and both preventive behaviour and age.

**Sex**

Sex is another significant predictor of healthy and preventive behavior uptake in matters related to HIV. A study was conducted by Mudau et al. (2018) using the 2016 Ethiopia Demographic and Health Survey to evaluate the rates of uptake and the determining factors in engagement. The authors found that being a male had a negative association with using HIV counseling and testing services. In a cross-sectional study conducted by Odimegwu & Somefun (2019) in rural Uganda using population-based data, the authors found that more than half of the men and women in the village wrongfully thought the majority of the village population had never been tested for HIV when most of the population across all the villages had been a test for HIV.

Also,Osborn & Obermeyer (2016) found that among the male population who viewed that HIV testing was not normative, was associated with never testing for HIV (AOR = 2.6). A study conducted in Burkina Faso to examine the influence of both individual and community-level determinants of HIV testing uptake discovered that respondents reported that there is an association between sex and HIV testing and preventive behavior. Further analysis showed that one-third of women (36%) stated that they have ever tested for HIV compared to (26%) men (Moshoeu et al., 2017). Also, Gyasi and Abass (2018) found in their study, which was carried out in Kumasi, Ghana, among youth that there was a significant association between VCT utilization and being female. According to Perkins, et al. (2018), 73% of women stated that if an HIV test were offered, they would be very likely to take it while only 68% reported a preceding HIV test, including 47% who were tested over two years earlier. Furthermore, regional disparities in behavioral changes exist between female and male youths. A study conducted by Odimegwu et al. (2020) in Nigeria using the 2013 Nigeria Demographic and Health Survey data showed a protective factor for female youths using condoms during their last sexual encounter was voluntary VCT. Odimegwu et al. (2020) also found that voluntary VCT significantly reduced the likelihood of primary sexual abstinence for females and males, as well as having a single sexual partner for female youths. In a similar study conducted in Nigeria, the uptake of HIV testing services is high in females at 25.4% compared to males at 20.8% (Ajayi et al., 2020). A study conducted in Nigeria byS am-Agudu et al. (2016) to examine the determinants of utilizing VCT among trainee nurses and midwives in public nursing and midwifery training colleges showed that when compared to females, males were less likely to use VCT services.

**Religion**

Religious beliefs and preventative behaviours for HIV prevention often coincide, as certain religious groups discourage its members from engaging in such behaviours. In a cross-sectional study conducted by Sewell et al. (2017), using data from the Ethiopian Demographic Health Survey of 2016, it was found that being Muslim in urban regions and Protestant in rural areas were characteristics that significantly and negatively affected the utilisation of VCT services. Religion is correlated with HIV testing behaviour. In Tanzania, a cross-sectional study conducted by Mtowa et al. (2017) found that the prevalence of other Christians was higher than that of Muslim participants. However, the prevalence of Catholics was lower compared to Muslims. In a recent study conducted by Nigatu et al. (2021), it was found that adherence to the Muslim faith as well as other non-orthodox or protestant religions was associated with a lower likelihood of seeking voluntary counselling and testing (VCT).

**Marital Status**

A study conducted in Katsina, Nigeria revealed that married individuals exhibited a greater likelihood of undergoing HIV testing compared to those who had never been married (Ajayi et al., 2020). A cross-sectional study conducted in Malawi examined the factors influencing HIV testing among males. The study found that marital status was a significant regulator of HIV testing behaviour, with married individuals being more likely to have undergone HIV testing. The study indicates that efforts to prevent HIV should focus on the demographic of young and unmarried individuals. This is considered essential as it represents a significant stride towards attaining the UNAIDS objective of eradicating the HIV pandemic and diminishing its transmission to other individuals within the population (Mandiwa & Namondwe, 2019). An analogous cross-sectional study carried out in Nigeria, utilising data from the Demographic and Health Survey (DHS), demonstrated a favourable correlation between marital status and HIV testing (Nigatu et al., 2021). Nevertheless, a study carried out in Cross-rivers state, Nigeria, unveiled that individuals who were not in a committed relationship were more likely to undergo HIV testing (Odimegwu & Somefun, 2017). In their study done among Ethiopian teenagers, Nigatu et al. (2021) found that being married was positively correlated with the utilisation of voluntary HIV testing and counselling services.

**2.6. Perceived Susceptibility of HIV Infection**

Fu et al. (2018) conducted a study to identify the factors linked to the inclination of college students in China to use VCT services. They discovered that there was a positive correlation between risk perception and the utilisation of VCT services. According to Fu et al. (2018), those who had a greater awareness or strong likelihood of being infected with HIV were more inclined to make use of Voluntary Counselling and Testing (VCT) facilities. A study conducted among college students in the United States demonstrated that unconventional partners were associated with test intention through perceived susceptibility. However, knowledge was not found to be a significant predictor of perceived susceptibility (James et al., 2019).

In addition, Thai, Khumsaen, and Stephenson (2017) did a study aiming to establish the connections between beliefs about HIV/AIDS and HIV risk behaviours among young men who engage in sexual activities with other men. The study revealed a correlation between the perception of being susceptible to HIV and engaging in HIV risk behaviours. A study conducted in Sudan found that the perceived likelihood of being affected was only little linked to the use of VCT services and therefore had limited significance for intervention (Idris et al., 2021). A cross-sectional study conducted in Kano, Nigeria, among young individuals aged 15-24 years revealed that the perceived vulnerability of youth to HIV infection significantly impacts their likelihood of undergoing testing to determine their HIV status (Ofori, 2019).

**2.7. Perceived Severity of HIV/AIDS**

Perceived severity of HIV was associated with HIV testing, according to a study conducted in the United States (Anwuri et al., 2017). Additionally, the authors disclosed that participants who perceived HIV as entailing substantial financial burdens for themselves, their partners, and their families were more inclined to engage in HIV testing. A correlation between the perceived severity of HIV and engagement in risky behaviours related to the virus was also identified in a Thai study conducted by Khumsaen and Stephenson (2017) among Thai men who engage in sexual activity with other men. This data may be utilised in the development of customised messages aimed at promoting higher levels of HIV prevention among young males. (Reeves et al., 2017) A study conducted in Spain to investigate the psychosocial determinants of HIV testing as a function of the decision or change stage regarding this health behaviour found that the decision not to be tested was associated with the perceived severity of HIV. The authors further stated that sociocognitive factors influence the determination of whether or not to undergo HIV testing. According to Reeves et al. (2017), gaining an understanding of these concerns could facilitate the development of interventions that target the psychological determinants that impact HIV testing and increase utilisation of VCT and HIV prevention services.

**2.8. Perceived Benefits of HIV Testing**

Anwuri et al. (2017) investigated the determinants of HIV testing and counselling utilisation among college students in the United States. The researchers discovered a significant correlation between all components of the Health Belief Model (HBM) and students' desire to undergo HIV testing, with perceived benefits being the most influential factor. A UK-based study utilised an online survey to evaluate employers' perspectives on general health checks and HIV testing in the workplace. The findings revealed that employers highly recognised the advantages of voluntary counselling and testing (VCT) (Blake et al., 2018). Anwuri et al. (2017) conducted a cross-sectional study involving 186 college students in the United States. The aim was to discover the factors that influenced voluntary counselling and screening or testing for HIV. The study found that the perceived benefits had the strongest association with HIV testing.

Anwuri et al. (2017) also found that those who viewed HIV testing as advantageous were more inclined to utilise VCT and VCT services. These findings suggest that recognising the impact of perceived advantages on the desire to undergo HIV testing is crucial for developing programmes and interventions that promote the benefits of getting tested for HIV. Fang et al. (2019) conducted a cross-sectional study in China to examine the prevalence of lifetime and past-year HIV testing uptake. Fang et al. (2019) discovered a strong positive correlation between the perceived advantages and the adoption of HIV self-testing among the participants in their study. This underscores the necessity of health education and promotion initiatives. The study done among high school students in Northwest Ethiopia found that the perceived benefits of HIV testing were linked to the intention to actively use VCT services. Ofori (2019) conducted a cross-sectional study in Nigeria to predict the behaviour of young in selected rural communities about voluntary counselling and testing (VCT). The study, which involved 424 youth, found that perceived benefits strongly predicted VCT behaviour. It was said that an increase in the perceived advantages of an individual could have a beneficial impact on their perceived barrier to participating in VCT. This highlights the necessity of developing educational initiatives aimed at raising awareness among young people about the advantages of Voluntary Counselling and Testing (VCT).

A study conducted in Uganda found that couples were motivated to seek voluntary counselling and testing (VCT) services due to perceived benefits, such as preventing illness in their partner or kid, as well as suspicions of infidelity (Jacobi et al., 2020). This is crucial because it will ultimately decrease the number of HIV infections in newborns and children who have not been previously exposed to the virus.

**2.9. Perceived Barriers of HIV Testing**

In a cross-sectional study conducted by Blake et al. (2018) in the United Kingdom, it was found that companies faced perceived obstacles to voluntary counselling and testing (VCT) due to insufficient information about HIV and testing, lack of qualified people to conduct HIV testing, and uncertainty about how to obtain HIV testing kits. The study also found that 57.14% of the companies expressed willingness to incorporate HIV testing as a potential offering in the future. Moreover, according to Blake et al. (2018), a significant majority of 68.37% expressed a desire for additional assistance with workplace HIV testing.

Blake et al. (2018) conducted a study in the United Kingdom to ascertain employers' perspectives on HIV testing in the workplace. The researchers identified perceived obstacles to include low awareness about HIV testing, insufficiently trained personnel responsible for conducting HIV tests, and inadequate understanding of how to get HIV testing kits. In a study conducted by Khalifa (2019), the objective was to assess the level of acceptability of HIV self-testing and counselling (HIVST) among students in two regions of South Africa. According to the authors' findings, less than 50% of the students were unaware of HIVST before participating in the survey, while 75% of the students had undergone an HIV test in the previous year. Although HIV self-testing (HIVST) is not yet prevalent in Nigeria, a study conducted by the Johns Hopkins School of Public Health and Metabiota Nigeria in 2018 demonstrated that it is feasible to enhance access to HIV testing and increase awareness of HIV status among key populations such as men who have sex with men (MSM) and female sex workers (FSW) in Nigeria. An individual's likelihood of adopting a recommended action is significantly influenced by a perceived barrier. An example is a research conducted in China which demonstrated that adopting a more inclusive mindset leads to a higher readiness to undergo voluntary counselling and testing (VCT) (Fu et al., 2018). Furthermore, a research conducted in Eastern Nepal revealed that the presence of stigma around HIV, fear, prejudice, and insufficient awareness regarding VCT services were identified as obstacles hindering individuals from using VCT services in refugee camps (Khatoon et al., 2018). investigations conducted in Ethiopia have shown similar findings to those of the Eastern Nepal study. These investigations found that individuals who experience discrimination from their families and persons with high levels of stigma towards people living with HIV (PLHIV) are much less likely to be willing to get testing (Desta et al., 2017).

Additional research conducted by Desta et al. (2017) in Ethiopia and Rainer et al. (2021) in Zimbabwe revealed that discrimination had a role in individuals' decision to forgo HIV testing. In a study conducted by Abdu et al. (2017) at Wolkite University in Ethiopia, the researchers aimed to identify the characteristics that are linked to voluntary counselling and testing (VCT) for HIV. The researchers discovered that both social stigma and apprehension regarding the outcome of HIV tests were influential variables in the decision to undergo voluntary counselling and testing (VCT). Moreover, additional research conducted by Desta et al. (2017) and Hlongwa et al. (2020) demonstrated that experiencing stigmatisation was a contributing factor in deterring individuals from undergoing HIV testing.

Hlongwa et al. (2020) did a comprehensive analysis of synthesised papers, which revealed several significant obstacles to HIV testing among men in SSA. These barriers include limited understanding of HIV, apprehension about receiving a positive HIV diagnosis, societal discrimination linked to HIV, quality of healthcare providers' services, confidentiality concerns, and the environment of the clinic. The study indicated that both structural and individual variables operate as obstacles to the acceptance of HIV testing among men in Sub-Saharan Africa (SSA). Therefore, community and home-based initiatives in Sub-Saharan Africa (SSA) have the potential to enhance the adoption of HIV testing among men, taking into account the confidentiality issues associated with clinic environments (Hlongwa et al., 2020). Additional obstacles that have been documented to impede the utilisation of voluntary HIV counselling and testing services encompass apprehension about being observed at testing locations, anxiety regarding receiving positive results, and trepidation of adverse repercussions or testing positive for HIV (Cheruiyot et al., 2019; Desta et al., 2017; Hlongwa et al., 2020 & Onyemachi et al., 2021).

Access to testing services is impeded by interconnected obstacles at the individual, healthcare system, and interpersonal levels. The barriers to testing encompassed several factors such as the perceived attitudes of healthcare providers, the location and design of testing facilities, long wait times or inconvenient clinic hours, a low impression of the risk of HIV, poor understanding about HIV, stigma, discrimination, and the fear associated with undergoing a test. In order to achieve the intended effect on a national scale and meet the 90-90-90 targets, it is necessary to implement various interventions that target the obstacles to testing. These interventions aim to increase the number of people getting tested and ensure that those who test positive are connected to appropriate care (Kujawski et al., 2017).

Montgomery et al. (2020) identified several obstacles to HIV testing among women in the rural Dominican Republic. These barriers encompassed a diminished perception of risk, geographical distance or the need for travel, and unease associated with undergoing testing. The study found that women express a readiness to get an HIV test and actively participate in regular healthcare, suggesting that this group could benefit from integrating HIV testing and other activities promoting sexual health into their routine medical treatment (Montgomery et al., 2020). A study conducted by Charles et al. (2019) in Nigeria found that concerns over secrecy and privacy acted as obstacles to the adoption of VCT services. This was ascribed to insufficient and restricted space at the facilities. Yumo et al. (2019) discovered that insufficient privacy posed an obstacle to HIV testing.

**2.10. Indicators for Prompting HIV Testing**

Ayosanmi et al. (2020) conducted a pilot study at Western Illinois University in the United States to investigate the correlation between Health Belief Model (HBM) and HIV testing among international students. The study aimed to determine the specific elements of the HBM that influence the decision to undergo HIV testing. The researchers ran a preliminary test with a group of 18 students and confirmed the reliability and validity of their measurement tool. Despite the authors' completion of the study with 185 participants and their warning regarding the restricted generalizability of the research findings due to the small sample size, they expressed confidence in replicating the results in a wider population. Ayosanmi et al. (2020) identified cues to action as a significant factor influencing students' motivation to undergo HIV testing.

In their study based on the 2016 Ethiopian Demographic and Health Survey, Nigatu et al. (2021) found that characteristics such as education, employment, and wealth are positively associated with individuals' desire to get HIV testing. Fu et al. (2018) aimed to determine the prevalence rate of college students in China who are willing to utilise HIV testing and counselling (VCT) services, as well as identify the obstacles hindering their access and utilisation of such services. The study revealed that a mere 77.9% of college students expressed their willingness to utilise VCT services, which falls short of the 90% target set by the Joint United Nations Programme on HIV/AIDS (UNAIDS) for the year 2020 (UNAIDS, 2015, 2017a, b). Furthermore, the students' inclination to utilise VCT services was linked to factors such as the negative perception and prejudice towards people living with HIV (PLHIV), as well as their awareness of the testing facilities' whereabouts (Fu et al., 2018).

A cross-sectional study conducted in Thailand among men who engage in sexual activity with other males discovered that indicators prompting action for the prevention of HIV were linked to behaviours that increase the risk of contracting HIV (Khumsaen & Stephenson, 2017). In their study done in Ethiopia, Nigatu et al. (2021) discovered a favourable correlation between owning a mobile device, having access to media, and the likelihood of individuals seeking voluntary HIV counselling and testing. A study undertaken in select Sub-Saharan African nations (Kenya, Nigeria, Zambia) utilised demographic and health surveys to examine the correlation between mass media exposure and HIV testing. The findings revealed a notable association, with the exception of Zambia. The results indicated an increase in the proportion of young individuals who had been exposed to media messages and subsequently underwent HIV testing. The researchers proposed implementing ongoing media initiatives to disseminate HIV knowledge among young people, with the expectation that this will ultimately promote HIV testing (Somefun et al., 2019).

The study done in Burkina Faso by Kirakoya-Samadoulougou et al. (2017) aimed to investigate the impact of individual and community-level factors on the uptake of HIV testing. The findings revealed that those who reported significant exposure to media were more inclined to have undergone HIV testing. These findings suggest that being exposed to media information about HIV has an impact on individuals' decision to get tested for HIV and adopt preventive measures (Kirakoya-Samadoulougou et al., 2017). Furthermore, Montgomery et al. (2020) found that among women residing in the rural Dominican Republic, there was a correlation between having previously contracted a sexually transmitted infection (STI) and the utilisation of voluntary HIV testing and counselling services.

**2.11. Perceived Self-Efficacy**

A study conducted in China examined the frequency of individuals' willingness to undergo HIV testing. The results indicated that individuals' belief in their ability to undergo HIV testing was strongly linked to their desire to actually undergo the testing (Wang et al., 2018). Designing and implementing health promotion programmes that specifically aim to enhance the self-efficacy of the public, particularly individuals who have never undergone HIV testing, is crucial. Khumsaen and Stephenson (2017) conducted a study among young men who have sex with men in Thailand. The study found that self-efficacy for AIDS preventive behaviours, which refers to the confidence in refusing sexual intercourse, questioning potential sex partners about HIV preventive behaviours, and using condoms to prevent HIV, was associated with sexual risk behaviours. The researchers proposed that the findings possess the capacity to guide decisions on HIV preventive programmes for adolescents.

**2.12. HIV Voluntary Counselling and Testing: Education, and Knowledge**

Education and understanding of HIV/AIDS and VCT are factors that may be changed and can influence how persons view their risk of HIV and, as a result, their likelihood of seeking VCT services and following recommended actions or behaviours. An extensive investigation carried out in six European cities among males who engage in sexual activities with other men found that educational attainment had a positive influence on the likelihood of getting HIV testing (PEPFAR, 2019). Fu et al. (2018) conducted a cross-sectional study in China which revealed that having information about Voluntary Counselling and Testing (VCT) was linked to the likelihood of college students getting tested for HIV.

Alao (2017) examined the elements that students from the University of Arba Minch in South Ethiopia considered when receiving HIV voluntary counselling and testing (VCT) services. The researchers discovered that the students who had a higher likelihood of being tested for HIV were those who possessed knowledge about HIV, expressed their willingness to undergo voluntary counselling and testing (VCT), were informed about the confidentiality of testing, and were sexually active. Additionally, apprehension regarding obtaining a favourable test outcome, apprehension regarding social exclusion, and a sense of vulnerability acted as barriers to accessing Voluntary Counselling and Testing (VCT). A separate study carried out in Nigeria by Charles et al (2019) revealed that awareness of HIV transmission and the accessibility of Voluntary Counselling and Testing (VCT) services were correlated with the encouragement of HIV testing.

Onyemachi et al. (2021) conducted a study among undergraduate students in Nigeria to investigate the factors that contribute to their decision of not participating in voluntary HIV counselling and testing (VCT), similar to the study conducted at the University of Arba Minch in the South of Ethiopia. The researchers discovered that while most participants were aware of the availability of Voluntary Counselling and Testing (VCT) facilities and recognised the need of knowing their HIV status, their decision not to undergo testing was influenced by factors such as apprehension of receiving a positive test result, lack of knowledge, social stigma, and discrimination. In addition, a research conducted by Wulandari et al. (2019) utilising the 2016 Ethiopian Demographic Survey demonstrated that individuals with a higher level of education were more likely to receive voluntary VCT services. A cross-sectional study conducted in Northwest Ethiopia found a favourable correlation between knowledge about VCT services and the utilisation of VCT services. According to Yumo et al. (2019), individuals who had a higher level of expertise made greater use of VCT services compared to those with a lower level of knowledge. Zangirolami-Raimundo et al (2018) conducted a study in Nigeria to investigate the relationship between risky sexual behaviour and the use of HIV counselling and testing among young people in Jos city, Nigeria. The researchers discovered a correlation between knowledge about accessible HCT services and the utilisation of those services. A separate cross-sectional study carried out in Tanzania involving adults demonstrated that individuals who completed higher education exhibited more engagement in HIV testing compared to those without any formal education (Mtowa et al., 2017).

A study conducted by WHO (2018) revealed a positive correlation between higher education and the encouragement of HIV testing. It is imperative to ensure that HIV education is accessible to indigenous groups and the informal sector, and is presented in the languages that they comprehend most effectively. A cross-sectional study done in Addis Ababa utilised a semi-structured self-administered questionnaire to assess VCT knowledge. The study found that the average score for VCT knowledge was 66%. Moreover, the study conducted by Tshivhase et al. (2022) revealed that students who were enrolled in health science departments possessed nearly three times greater knowledge (AOR = 2.83) regarding techniques for reducing the risk of HIV, compared to students in departments unrelated to health. The study proposed the integration of HIV prevention and control strategies, specifically education on HIV/AIDS, into university programmes, particularly for non-health students. Additionally, it emphasised the need to enhance health institutions to offer youth-friendly voluntary counselling and testing (VCT) services for HIV, along with promoting "know your HIV status" campaigns. These recommendations were put forth by Tshivhase et al. (2022). In addition, a cross-sectional study conducted by Lalo et al. (2020) demonstrated that students in their initial academic year exhibited a lower propensity to utilise VCT services.

The survey yielded evidence indicating that raising awareness about HIV prevention among students, particularly those outside the health sciences field, could lead to a higher utilisation of voluntary counselling and testing services, increased condom usage, and a reduction in the identified barriers associated with stigma (Lalo et al., 2020). Furthermore, a research conducted by Gyasi and Abass (2018) in Kumasi, Ghana, revealed that those who possessed knowledge or awareness of Voluntary Counselling and Testing (VCT) were more inclined to engage in HIV Counselling and Testing (HCT). A study conducted in Nigeria examined the correlation between women's educational attainment and their utilisation of Voluntary Counselling and Testing (VCT) services during Antenatal Care (ANC). The findings revealed that women with a secondary education or above were more likely to seek VCT services and obtain the corresponding results (Sambah et al., 2020). Adeleye and Yalma (2020) did a study to assess the comprehension level of undergraduate students at the University of Abuja in Nigeria on HIV counselling and testing (HCT). The researchers discovered that while 80.4% of the students possessed knowledge about HCT, the utilisation rate of HCT services among students was low, standing at 43.5%. The study found that while students may have knowledge of HCT services, further interventions may be necessary to encourage the utilisation of HCT. Tianyi et al. (2018) aimed to ascertain the factors that prompt HIV testing among students at Benue State University, Nigeria. The researchers discovered that the adoption of voluntary counselling and testing (VCT) was limited among university students due to factors such as the specific educational institution they attended, the age range of the students, and their academic year of enrollment. The authors also discovered a high rate of acceptance among students in utilising VCT services at school. This was attributed to the students' willingness to utilise these services in the presence of their peers, particularly when the services were being provided. This offers a perspective on the determinants influencing voluntary counselling and testing (VCT) for HIV and the measures implemented to enhance the acceptance of HIV testing.

**2.13. Health Belief Theory and Voluntary Counselling and Testing uptake**

The Health Belief Model (HBM) proposes that an individual's perception of their susceptibility to a negative health outcome and the severity of the consequences resulting from their health behaviour, along with their awareness of the benefits of taking action to avoid it, can overcome any potential obstacles and motivate them to take action (Rosenstock, 1974). The HBM was selected for this study due to its efficacy in modifying individuals' health behaviour and its applicability to VCT educational programmes. In addition, HBM can aid in assessing the relationship between constructs and the utilisation of VCT services (Ofori, 2019). In addition, Ofori (2019) presented a comprehensive and concise explanation of the utilisation of the Health Belief Model (HBM) in conjunction with a 30-item questionnaire to evaluate health beliefs and establish a correlation with the utilisation of Voluntary Counselling and Testing (VCT) services.

**The Gap in the Literature**

The literature review shows that there are no current studies conducted in Nigeria that reveal the prevalence of VCT uptake in a Abia state university or that show possible predictors and factors that influence VCT service uptake. Tianyi et al. (2018) conducted a study among healthcare facilities from 10 regions in Nigeria. The study aimed to determine if the healthcare facilities were following the recommended procedures for HIV counseling and testing (HCT) and the impact it may have on how reliable the test results were. Yumo et al. (2019) also conducted a study among children and adolescents in Nigeria between 6 weeks and 19 years old in three health facilities. The purpose of the study was to compare the effectiveness of concurrently implementing blanket-based provider-initiated testing and counseling (bPITC) and targeted provider-initiated testing and counseling (tPITC) with symptom-based diagnostic HIV testing (DHT), getting tested for HIV, case detection and starting ART. The authors found that the number of children/adolescents who received an HIV test showed a significant in the mean, while those who tested positive for HIV did not show a significant increase in the mean monthly number. Also, Although multiple studies have been conducted, including a scoping review, there has not been research conducted on uptake predictors of VCT among nursing students in a Abia state University. This study, therefore, seeks to fill this gap by providing current evidence on the perceived factors affecting VCT uptake in Abia state university amongst nursing students. This study will therefore add to the literature and thereby filling the knowledge gap on the perceived factors affecting voluntary counselling and testing uptake in Abia state University, Nigeria.

**Summary**

HIV continues to be a health problem in Nigeria and though Nigeria has a prevalence rate of 5.7% (NACA, 2022; Jacobi et al., 2020). This review used the Health Belief Model to help interpret findings that play a role in the uptake of HIV testing and counseling. This study will further employe descriptive survey design where data shall be collected from nursing participants in Abia state university using a structured questionnaire. Findings based on this survey study will add to the literature and bridge the knowledge gap. The findings from the study will serve as a clarion call to ending HIV/AIDS BY 2030.

**CHAPTER THREE**

**METHODOLOGY**

**3.1. Research Design**

The study utilised a survey research design to investigate the perceived factors affecting HIV voluntary counselling and testing uptake among nursing students in Abia state university. This method is frequently employed by researchers of varying categories to gain insights into and evaluate emerging trends, perceptions and opinions of a clearly defined population. This research design when tactically deployed has been recorded to yield significantly results.

**3.2. Setting**

Abia State University (ABSU) stands as a beacon of higher education excellence in Nigeria, offering a diverse range of programs across 13 colleges and schools. Established in 1981 as Imo State University, Etiti, it underwent a transformation and was renamed Abia State University in 1991 following the creation of Abia State from the old Imo State. This institution has since played a pivotal role in shaping the educational landscape of the region. ABSU takes pride in its commitment to providing quality education to students from diverse backgrounds. The university offers undergraduate, graduate, and postgraduate programs across various disciplines. Its faculties and departments cover fields such as Medicine and Surgery, Law, Engineering, Business Administration, Computer Science, and Agriculture, among others. This academic diversity ensures that students have ample choices to pursue their passions and career goals. Accredited by the National Universities Commission (NUC) of Nigeria, ABSU adheres to rigorous academic standards, ensuring that its programs meet the highest quality benchmarks. Abia state University has been chosen as a case study owing to the population of students it has and the relevance of this population to the subject under discourse.

**3.3. Target population**

The population of this study constitute of all the nursing students in the nursing department of Abia state university. An estimated 1050 nursing students constitute the population of this study.

**3.4. Sampling**

A study sample is simply a systematic selected part of a population that infers its result on the population. In essence, it is that part of a whole that represents the whole and its members share characteristics in like similitude (Udoyen, 2019). In this study, the researcher used the Taro Yamane Formula to determine the sample size.

**3.5. Sampling technique**

Yamane (1967:886) provides a simplified formula to calculate sample sizes.

ASSUMPTION:

 95% confidence level

 P = .5



n= 1050/1+1050(0.05)2

n= 1050/1+1050(0.0025)

n= 1050/1+2.625

n=289

**3.5. Instruments for data collection**

This is a tool or method used in getting data from respondents. In this study, questionnaires and interview are research instruments used. Questionnaire is the main research instrument used for the study to gather necessary data from the sample respondents. The questionnaire is structured type and provides answers to the research questions and hypotheses therein. This instrument is divided and limited into two sections; Section A and B. Section A deals with the personal data of the respondents while Section B contains research statement postulated in line with the research question and hypothesis in chapter one. Options or alternatives are provided for respondents to express their thoughts.

**3.6. Validity and Reliability of Instrument**

The questionnaire was developed and evaluated for its content and face validity, and subsequently approved by the study supervisor. Ten copies were distributed for the pilot study and subsequently assessed for consistency, resulting in the instrument being deemed reliable.

**3.8. Method of data collection**

The researcher personally distributed the questionnaires nursing students via hard copies and electronic copy using school network groups. A period of seven days was allowed for the completion of the questionnaire for both online and offline respondents.

**3.9. Method of data analysis**

The questionnaire was organised and revised to ensure its completeness. The responses were analysed using frequency count and presented in tables and graphs. The hypothesis was tested using the t-test statistical tool.

**3.10. Ethical consideration**

Authorization to carry out this study was obtained from the appropriate department. A comprehensive explanatory note was affixed to the beginning of the questionnaire to provide guidance for the responders as well as obtain their consent. The collected data were exclusively utilised for scholarly purposes. Furthermore, the confidentiality and anonymity of the participants were upheld.

**CHAPTER FOUR**

**RESULTS**

This chapter presents the summary of data collected using the questionnaire instrument. The questions were analysed using descriptive statistics while the null hypothesis was tested using the t-test.

**Table 4:1. Demographic Presentation**

|  |  |  |  |
| --- | --- | --- | --- |
| **Variables** | **Options** | **Frequency** | **Percent**  |
| Gender | Male  | 126 | 54.3 |
| Female  | 106 | 45.6 |
| Age  | 18-20 | 84 | 36.2 |
| 21-25 | 96 | 41.3 |
| above 25 | 52 | 22.4 |
| Marital status | Married | 20 | 8.6 |
| Single | 212 | 91 |
| Knowledge about HIV VCT | Yes, I do. | 200 | 86.2 |
| No, I do not.  | 32 | 13 |
| Do you consider yourself at the risk of HIV infection? | Yes | 14 | 6.03 |
| No | 218 | 93.9 |
| Will you be Willing to uptake voluntary counselling and testing (VCT) if need be? | Yes  | 96 | 41.3 |
| No  | 136 | 58.6 |
| What HIV testing method would you prefer? | Confidential linked testing | 110 | 47.4 |
| Anonymous testing | 122 | 52.5 |
| What method would you prefer in getting your HIV test result? | Face to face | 98 | 42.2 |
| By telephone | 72 | 31 |
| By letter | 29 | 12.5 |
| Through Relative or partner | 33 | 14.2 |

Field survey, 2024

Data showed in table 4.1 gives a demographical overview of the study participants. A total of two hundred and eighty-nine respondents participated in the study. However, a total of two hundred and thirty-two responses were validated. This figure represents 80% of the total sample size. Of the two hundred and eighty-nine validated responses, 54.3% were male participants while 45.6% were female participants. Amongst the participants 36.2% were aged between 18-20, 41.3% were aged between 21-25 while 22.4% were above 25 years old. A total of 8.6% are married while 91% have single marital status. In the course of the survey, 86.2% have knowledge about HIV voluntary counselling and testing while 13% do not have knowledge of HIV voluntary counselling and testing. A total of 6.03% did consider themselves to be at risk of HIV while 93.9% did not consider themselves to be at risk of HIV infection. A total of 41.3% affirmed that they will be willing to undertake HIV voluntary counselling and testing if there is a need while 58.6% affirmed their rejection for voluntary counselling and testing even if there is a need for it. More so, 47.4% prefer Confidential linked testing as a testing method while 52.5% preferred anonymous testing method. Nevertheless, 42.2% prefer to get their HIV test result through face to face method, 31% prefer telephone method, 12.5% prefer letter method, while 14.2% prefer getting their result through a relative or a partner. Therefore, it can be concluded that the participants in this study have a good knowledge of HIV voluntary counselling and testing (VCT).

**Answers to research questions**

1. What are the motivations for HIV voluntary counselling and testing uptake among nursing student?

**Table 4:2. Motivation for HIV voluntary counselling**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Statement** | **SA** | **A** | **SD** | **D** |
| VCT is important to prevent the transmission of HIV/AIDS. | 96 (41) | 88(37.9) | 22(9.4) | 26(11.2) |
| Both HIV positive and negative persons benefit from VCT. | 102(43.9) | 130(56) | 00 | 00 |
| VCT is important for the safety of partners/others. | 141(60.7) | 91(39.2) | 00 | 00 |
| VCT is needed to know your HIV status. | 210(90.5) | 22(9.4) | 00 | 00 |
| VCT is important for Self-care in future life. | 232(100) | 00 | 00 | 00 |
| VCT can Prevent mother to child Transmission. | 141(60.7) | 33(14.2) | 30(12.9) | 28(12) |
| VCT will help in Choosing partner. | 171(73) | 44(18.9) | 10(4.3) | 7(3) |
| VCT is needed to start antiretroviral treatment. | 121(52) | 66(28) | 22(9.4) | 23(9.9) |

Field survey, 2024

Table 4.2 describes the various reasons why nursing students in Abia state University should consider undertaking HIV voluntary counselling and testing. Respondents (78.9%) agree that VCT is important for the prevention for HIV transmission. Other reasons include mutual benefits (100%), partners’ safety (100%), knowledge of HIV status (100%), mother-to-child transmission (74.2%), choice of partner (91.9%), and need for commencement of anti-retroviral drugs (80%). From the responses, it can be deduced that successful HIV voluntary counselling and testing uptake among nursing students are motivated by various reasons.

1. What are the perceived factors militating HIV voluntary counselling and testing uptake among nursing student?

**Table 4.3: Perceived factors militating HIV voluntary counselling and testing uptake**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Statements on why students avoid HIV voluntary counselling and testing (VCT)** | **SA** | **A** | **SD** | **D** |
| They don’t know where the test is held. | 44 (18.9) | 51 (22) | 76 (32.7) | 61 (26.2) |
| They perceive the test as non-helpful. | 115 (49.5) | 32 (13.7) | 54 (23.2) | 31 (13.3) |
| They trust themselves and their partner not to be at risk. | 232 (100) | 00 | 00 | 00 |
| They don’t want to be stigmatized by other students. | 232 (100) | 00 | 00 | 00 |
| Some cannot contain the shock from the test result. | 96 (41.3) | 88 (37.9) | 22 (9.4) | 26 (11.2) |
| They have not heard about VCT. | 88 (37.9) | 41 (17.6) | 91 (39.2) | 12 (5.1) |
| Some desire to be tested but their partner influence their decision. | 141 (60.7) | 91 (39.2) | 00 | 00 |
| The Cost of services is a turn-off for some students. | 40 (17) | 10 (4.3) | 89 (38) | 93 (40) |

Field survey, 2024

In table 4.3, it can be deduced that there are varying perceived factors affecting HIV voluntary counselling and uptake. Respondents identified factors such as lack of knowledge where test centre is held (40.9% agreed while 59.1% disagreed); test not helpful (63.2% agreed, 36.8% disagreed); self-confidence (100%); stigma from various students (100%); initial shock from result (79.2% agreed while 20.8% disagreed); partner’s influence (100%); and cost of VCT (20.3% agreed, while 78% disagreed).

**Test of hypotheses**

H0: There is no poor HIV voluntary counselling and testing uptake among nursing students.

Ha: There is a poor HIV voluntary counselling and testing uptake among nursing students.

|  |
| --- |
| **One-Sample Statistics** |
|  | N | Mean | Std. Deviation | Std. Error Mean |
| VCT | 232 | 1.5455 | .50000 | .04545 |

|  |
| --- |
| **One-Sample Test** |
|  | Test Value = 6.0 |
| t | df | Sig. (2-tailed) | Mean Difference | 95% Confidence Interval of the Difference |
| Lower | Upper |
| VCT | 98.000 | 231 | .000 | 4.45455 | 4.5445 | 4.3645 |

A one-sample t-test was run to determine whether the score in HIV voluntary counselling and testing uptake was different to the observed score, defined as a average response score of 6.0. Scores from HIV voluntary counselling and testing uptake were normally distributed with a statistically significant difference of 4.45 (95% CI, 0.43 to 0.54), t(231) = 98.00, p = .000. The positive t value in this example indicates that the mean application of forensic accounting is greater than the hypothesized value (6.0) Since p < 0.05, we reject the null hypothesis that the sample mean is equal to the hypothesized population mean and conclude that there is a poor HIV voluntary counselling and testing uptake among nursing students in Abia state university.

**CHAPTER FIVE**

**DISCUSSION OF FINDINGS**

**5.1. Key Findings**

The findings of this study revealed that a higher number of male students from Abia state university took part in the survey. The majority of the study participants do not perceive themselves as being susceptible to HIV infection. While a significant number of students expressed a favourable attitude towards participating in HIV voluntary counselling and testing, a larger number of students expressed their reluctance to undergo VCT. In addition, the study's findings revealed that participants expressed a preference for an anonymous testing method over confidential linked testing. Choosing to undergo voluntary counselling and testing is crucial for preventing the transmission of HIV/AIDS. It not only prioritises the safety of partners but also empowers individuals with awareness of their status and the importance of anti-retroviral drugs for those who are infected.

**5.2. Implication of the Findings**

The results of this study demonstrate the understanding of nursing students at Abia State University regarding HIV infection. This is of utmost importance as understanding the reality of HIV disease and how it spreads can shape the mindset of nursing students when it comes to sexual activities. Additional discoveries from this study revealed that nursing students possess a strong sense of self-assurance regarding their status and do not view themselves as being susceptible to HIV infection. The significance of these findings highlights the importance of conducting thorough testing. It is widely believed that while self-assurance is important for the daily lives of nursing students, having knowledge of one's HIV status through testing is crucial for building a strong foundation of self-confidence. Furthermore, the lack of interest among certain nursing students in participating in voluntary counselling and testing indicates the necessity for additional HIV awareness and a re-evaluation of how HIV results are communicated.

**5.3. Implications of Findings to Nursing**

Based on the findings of this study, certain factors have highlighted the importance of considering the role of nursing profession. The discovery that certain nursing students hold a pessimistic view towards HIV voluntary counselling and testing, influenced by societal stigmatisation, highlights the responsibility of the nursing profession in addressing public attitudes towards individuals living with HIV. Stigmatisation can be classified into two main categories: internal stigma and social stigma. HIV internalised stigma can result in a range of emotional responses, including shame, fear of sharing one's status, feelings of isolation, and a sense of hopelessness. These emotions may hinder individuals from seeking testing and treatment for HIV infection. Social stigma is a harmful social phenomenon. When it comes to individuals living with HIV (PLWH), the impact of social stigma on health outcomes is undeniable. It leads to subpar medication adherence, reduced visit attendance, increased rates of depression, and an overall diminished quality of life. HIV-related stigma diminishes the social worth and standing of individuals living with HIV due to their positive status. Stigma is a result of social dynamics and interpersonal interactions, as it relies on the division between "us" and "them". It is both created and sustained by social structures and interpersonal processes. It is essential for the nursing profession to educate the public about the consequences of HIV stigma.

**5.4. Limitations of the Study**

This study specifically examines the factors that are believed to influence the adoption of HIV voluntary counselling and testing. However, it is important to note that the study is restricted to the specific location of Abia State University. This constraint impedes the generalizability of our findings to a wider audience. Furthermore, this study solely focuses on the perceived factors that influence the uptake of volunteer counselling and testing for HIV. It does not address other related topics, such as the frequency of visits for voluntary counselling and testing or the factors related to gender that may limit testing.

**5.5. Summary of the Study**

This study aimed to investigate the perceived factors that influence the uptake of HIV voluntary counselling and testing among nursing students at Abia State University. This study utilised the survey research design. The study involved a total of 232 students. The results revealed that several variables hinder the voluntary utilisation of counselling services among nursing students at Abia State University. The causes contributing to this issue encompass insufficient awareness regarding voluntary counselling and testing centres, self-assurance in oneself and one's spouse, social stigma, and the influence of one's partner.

**5.6. Conclusion**

HIV, also known as human immunodeficiency virus, is a pathogen that specifically targets and weakens the immune system of the human body. HIV gradually disseminated throughout Africa over the course of several decades, subsequently extending its reach to other regions of the globe. The virus has been present in the United States since at least the mid to late 1970s. Untreated HIV infection can progress to AIDS (acquired immunodeficiency syndrome). Currently, there is no efficacious remedy available. Once individuals acquire HIV, it becomes a lifelong condition. However, with appropriate medical intervention, HIV can be effectively managed. Individuals diagnosed with HIV who receive efficacious HIV therapy can achieve a prolonged lifespan, maintain good health, and safeguard their partners. Nevertheless, although treatment is advised, the initial action is to acquire counselling and undergo testing. Voluntary Counselling entails an individual receiving HIV/AIDS counselling to enable them to make a well-informed choice regarding whether to undertake HIV testing. The study's findings suggest that voluntary counselling and testing is an optimal approach for individuals to ascertain their HIV status and choose the treatment approaches that best suit their preferences.

**5.7. Recommendations**

Based on the findings of this study, the following suggestions are given:

1. There is a requirement for additional awareness regarding the importance of HIV counselling and testing among students and the general public. Implementing this measure will incentivize individuals to voluntarily seek counselling and testing, hence mitigating the transmission of HIV within the general population.
2. This study suggests the need for public awareness and education regarding the social stigma experienced by those living with HIV. The presence of social stigma acts as a barrier to the willingness of individuals to seek and undergo voluntary counselling and testing for HIV. This stigma can have significant negative consequences, including isolation, unemployment, reduced public visibility, and diminished self-confidence. Increasing awareness and understanding of stigma will greatly contribute to altering the unfavourable perception that the general public has towards individuals living with HIV.

**5.8. Suggestions for further studies**

This study proposes the extension of the case study to encompass a broader range of individuals from the general population, rather than solely focusing on students from Abia State University. A substantial sample size can either confirm the conclusions of this study or yield alternative still valuable findings. Additionally, this study suggests taking into account interconnected factors, such as the frequency of voluntary counselling and testing (VCT) visits, as well as the transmission of HIV infection.

**REFERENCES**

Abdu, A. O., Teshome, G., Melese, D. M., Girma, A., Daniel, K., & Agizie A. (2017). Knowledge, attitude, practice, and associated factors of voluntary counseling and testing for HIV/AIDS among Wolkite University students in Ethiopia. Journal of AIDS and HIV Research, 9(5), 98-105. <https://doi.org/10.5897/JAHR2015.0362>

Adeyemi, B., Kolude, B., & Abe, E. (2021). Voluntary Hiv Counselling And Testing Among Medical Doctors And Dentists In Southwestern Nigeria.

Ajayi, A. I., Abioye, A. O., Adeniyi, O. V., & Akpan, W. (2019). Concerns about contracting HIV, knowing partners’ HIV serostatus, and discussion of HIV/STI with sexual partners as determinants of uptake of HIV testing. Journal of Biosocial Science, 51(4), 549-561. <https://doi.org/10.1017/S0021932018000330>

Ajayi, A. I., Awopegba, O. E., Adeagbo, O. A., & Ushie, B. A. (2020). Low coverage of HIV testing among adolescents and young adults in Nigeria: Implication for achieving the UNAIDS first 95. PloS ONE, 15(5), e0233368. <https://doi.org/10.1371/journal.pone.0233368>

Alao, S.A. (2017) Knowledge and Attitude towards HIV/AIDS among Students of Tertiary Institutions in Ilorin Metropolis. An M. Ed Project Submitted to the University of Ilorin Department of Guidance and Couselling.

Anwuri, G. C., Dunn, M. S. & Schulze, F. (2017). Determinants of voluntary HIV/AIDS counseling and testing among community college students in the United States. International Journal of MCH and AIDS, 6(2), 109-120. <https://doi.org/10.21106/ijma.212>

Ashipala, D., Kamenye, E., Muronga, F., & Tooley, Len. (2018). HIV Voluntary Counselling and Testing in Namibia: Status, Successes, and Barriers. Global Journal of Health Science. 11. 162. 10.5539/gjhs.v11n1p162.

Ayosanmi, O. S., Oden, L., Ayosanmi, T., Alli, B., Wen, M., & Johnson, J. (2020). The role of Health Belief Model in HIV screening decision among international students in the United States: A pilot study. International Journal of Translational Medical Research and Public Health, 4(1), 4-12. <https://doi.org/10.21106/ijtmrph.99>

Ayu, S. & Andriyanti, D.. (2020). Voluntary Counselling And Testing (Vct) Services On Hiv/Aids In Private Hospital Of Yogyakarta. Epidemiology and Society Health Review (ESHR). 2. 1. 10.26555/eshr.v2i1.1485.

Beegle, K, Poulin, M and Shapira, G (2015) HIV testing, behaviour change, and the transition to adulthood in Malawi. Economic Development and Cultural Change 63(4), 665–684.CrossRefGoogle Scholar

Berhan, Y and Berhan, AA (2015) Meta-analysis of risky sexual behaviour among male youth in developing countries. AIDS Research and Treatment 2015, 580961.CrossRefGoogle ScholarPubMed

Blake, H., Banerjee, A., & Evans, C. (2018). Employer attitudes towards general health checks and HIV testing in the workplace. Public Health, 156, 34-43. <https://doi.org/10.1016/j.puhe.2017.12.004>

Charles, P.M., Kweka, J.E., Mahande, M.A., Barongo, R.L., Shekalaghe, S., Nkya, M.H., et al. (2019) Evaluation of Uptake and Attitude to Voluntary Counseling and Testing among Health Care Professional Students in Kilimanjaro Region, Tanzania. BMC Public Health, 9, Article No. 128.

Demographic change and HIV epidemic projections to 2050 for adolescents and young people aged 15-24. Global Health Action, 12(1), 1662685.

Desta, W. G., Sinishaw, M. A., & Bizuneh, K. D. (2017). Factors affecting utilization of voluntary HIV counseling and testing services among Teachers in Awi Zone, Northwest Ethiopia. AIDS Research and Treatment. <https://doi.org/10.1155/2017/9034282>

Eremie, M. & Kennedy, M. (2023). University Students's Perception Of Voluntary Counselling And Testing Of Hiv-Aids In Rivers State.

Fu, G., Shi, Y., Yan, Y., Li, Y., Han, J., Li, G., Lin, R., Wang, Y., Fu, Z., Gong, Q., Gan, Y., Wei, J. and Wang, J. (2018). The prevalence of and factors associated with willingness to utilize HTC service among college students in China. BMC Public Health, 18(1050). <https://doi.org/10.1186/s12889-018-5953-0>

Gyasi, R. M., & Abass, K. (2018). Sexual risk behavior and uptake of HIV counseling and testing among youth in metropolitan Kumasi, Ghana. Journal of HIV/AIDS & Social Services, 17(2), 127-145. https://doi.org/10.1080/15381501.2017.1407730

Halid, O. & Ogunlade, T. (2023). A Survey of Voluntary Counselling and Testing Service Uptake in HIV Prevalent Region in Nigeria. Universal Journal of Public Health. 11. 108-115. 10.13189/ujph.2023.110112.

Hutomo, Wahyuni & Pramukti, Iqbal & Sari, Sheizi. (2023). Pengetahuan tentang HIV berhubungan dengan Ketertarikan Mengikuti Voluntary Counselling and Testing pada Pasangan Usia Subur: Penelitian Observasional. Health Information : Jurnal Penelitian. 15. e1116. 10.36990/hijp.v15i3.1116.

Jacobi, C. A., Atanga, P. N., Bin, L. K., Fru, A., Eppel, G., Mbome, V. N., Etonde, H., Bogner, J. R., & Malfertheiner, P. (2020). "My friend with HIV remains a friend": HIV/AIDS stigma reduction through education in secondary schools - A pilot project in Buea, Cameroon. Journal of the International Association of Providers of AIDS Care, 19, 2325958219900713. <https://doi.org/10.1177/2325958219900713>

James, T. G., Cheong, J., & Ryan, S. J. (2019). Sexual risk factors and human immunodeficiency virus testing intention among at-risk college students who have never been tested. Sexually Transmitted Diseases, 46(7), e76-e79. <https://doi.org/10.1097/OLQ.0000000000001000>

Johnson, LF, Rehle, TM, Jooste, S and Bekker, LG (2015) Rates of HIV testing and diagnosis in South Africa: successes and challenges. AIDS 29(11), 1401–1409.

Khalifa, A., Stover, J., Mahy, M., Idele, P., Porth, T., & Lwamba, C. (2019).

Khatoon, S., Budhathoki, S. S., Bam, K., Thapa, R., Bhatt, L. P., Basnet, B., & Jha, N. (2018). Socio-Demographic Characteristics and the utilization of HIV testing and counseling services among the key populations at the Bhutanese refugees' camps in Eastern Nepal. BMC Research Notes, 11(1), 535. <https://doi.org/10.1186/s13104-018-3657-2>

Khumsaen, N., & Stephenson, R. (2017). Beliefs and perceptions about HIV/AIDS, selfefficacy, and HIV sexual risk behaviors among young Thai men who have sex with men. AIDS Education and Prevention, 29(2), 175-190. <https://doi.org/10.1521/aeap.2017.29.2.175>

Kirakoya-Samadoulougou, F., Jean, K., & Maheu-Giroux, M. (2017). Uptake of HIV testing in Burkina Faso: An assessment of individual and community-level determinants. BMC Public Health, 17(1), 1-11. <https://doi.org/10.1186/s12889-017-4417-2>

Kujawski, S., Lahuerta, M., Lamb, M. R., Ahoua, L., Abacassamo, F. & Elul, B. (2017). Informing efforts to reach UNAIDS' 90-90-90 targets: A comparison of characteristics of people diagnosed with HIV in health facilities to the general 130 population of people living with HIV in Mozambique. AIDS Care, 29(8)1062-1066. <http://dx.doi.org/10.1080/09540121.2016.1274367>

Lalo, R., Theodhosi, G., & Breshanaj, A. (2020). Health beliefs and barriers related to HIV prevention and screening among students of the University of Vlora: A cross-sectional study. BMC Public Health, 20(1), 1-10. <https://doi.org/10.1186/s12889-020-09416-8>

Maina, AN, Kimani, J and Anzala, O (2016) Prevalence and risk factors of three curable sexually transmitted infections among women in Nairobi, Kenya. BMC Research Notes 9, 193.

Mariam, Onakoya & Ndikom, Chizoma. (2023). Perception and Uptake of HIV/AIDS Voluntary Counselling and Testing Among Women in Akinyele Local Government Area, Ibadan.. PAN AFRICA SCIENCE JOURNAL. 3. 10.47787/pasj.v3i04.58.

May, AL and Parrott, AC (2015) Greater sexual risk-taking in female and male recreational MDMA/ecstasy users compared with alcohol drinkers: a questionnaire study. Human Psychopharmacology 30(4), 272–275

Meka, A. F. Z., Billong, S. C., Diallo, I., Tiemtore, O. W., Bongwong, B., & NguefackTsague, G. (2020). Challenges and barriers to HIV service uptake and delivery along the HIV care cascade in Cameroon. The Pan African Medical Journal, 36. <https://doi.org/10.11604/pamj.2020.36.37.19046>

Moshoeu, PM, Desmond, K, Nonjabulo, G and Tivani, PM (2019) The use of home-based HIV testing and counselling in low-and-middle income countries: a scoping review. BMC Public Health 19, 132.

Mudau, M, Peters, RP, De Vos, L, Olivier, DH, Davey, D, Mkwanazi, ESet al. (2018) High prevalence of asymptomatic sexually transmitted infections among human immunodeficiency virus-infected pregnant women in a low-income South African community. International Journal of STD and AIDS 29(4), 324–333.

Odimegwu, C and Somefun, OD (2017) Ethnicity, gender and risky sexual behaviour among Nigerian youth: an alternative explanation. Reproductive Health 14, 16

Odimegwu, C. O., Imo, C. K., & Amoo, E. O. (2020). HIV voluntary counseling and testing and behavior changes among youths in Nigeria. Journal of Biosocial Science, 52(3), 366-381. <https://doi.org/10.1017/S0021932019000506>

Odimegwu, C., Adedini, S., & Ononokpono, D. (2013). HIV/AIDS stigma and utilization of voluntary counselling and testing in Nigeria. BMC public health. 13. 465. 10.1186/1471-2458-13-465.

Odimegwu, C., Imo, C., & Amoo, E. (2019). HIV voluntary counselling and testing and behaviour changes among youths in Nigeria. Journal of Biosocial Science. 52. 1-16. 10.1017/S0021932019000506.

Ofori, K. N. (2019). Application of the health belief model to HIV testing and counseling among youth living in selected rural communities in Ghana. International Journal of HIV/AIDS Prevention, Education and Behavioural Science, 5(1), 11-18. <https://doi.org/10.11648/j.ijhpebs.20190501.12>

Okai, G. & Anaba, E. (2022). Voluntary HIV Counselling and Testing Services. Youth. 2. 10.3390/youth2040034.

Onoja, Ali & Sanni, Felix & Abiodun, Olaiya & Onoja, Sheila & John, Shaibu & Oguche, Daniel & Adamu, Imam. (2020). Voluntary Counselling and Testing for HIV Among Allied Workers in Rural Area of Nigeria: Evaluation of Community-Based Interventions. International Journal of Occupational Safety and Health. 10. 73-81. 10.3126/ijosh.v10i1.29190.

Onyemachi, P. , Awa, M. , Ejikem, M. and Enukeme, J. (2021). Prevalence and predictors of non-uptake of HIV voluntary counseling and testing among undergraduates of tertiary institution in Abia State, Nigeria. Open Journal of Statistics, 11, 19-35. https://doi.org/10.4236/ojs.2021.111002

Osborn, M and Obermeyer, CM (2016) Understanding client satisfaction with HIV testing and counselling services: a mixed-methods study in four African countries. AIDS Care 28(6), 689–694.

PEPFAR (2019) Large National Survey Shows Smaller HIV Epidemic in Nigeria than Once Thought and Highlights Key Gaps toward Reaching HIV Epidemic Control.

Perkins, JM, Nyakato, VN, Kakuhikire, B, Mbabazi, PK, Perkins, HW, Tsai, ACet al. (2018) Actual vs. perceived HIV testing norms, and personal HIV testing uptake: A cross-sectional, population-based study in rural Uganda. AIDS and Behaviour 22(2), 616–628.

Ramírez-Ortiz, D., Sheehan, D. M., Ibañez, G. E., Ibrahimou, B., De La Rosa, M., & Cano, M. Á. (2020). Self-efficacy and HIV testing among Latino emerging adults: examining the moderating effects of distress tolerance and sexual risk behaviors. AIDS care, 32(12), 1556–1564. <https://doi.org/10.1080/09540121.2020.1736259>

Reeves, A., Steele, S., Stuckler, D., McKee, M., Amato-Gauci, A. & Semenza, J. C. (2017). National sex work policy and HIV prevalence among sex workers: An ecological regression analysis of 27 European countries. Lancet HIV, 4(3), e134–e40.

Rosenstock, I. M. (1974). Historical origins of the Health Belief Model. Health Education Monographs, 2(4), 328-335. <https://doi.org/10.1177/109019817400200403>

Rosenstock, I. M., Strecher, V. J., & Becker, M. H. (1988). Social learning theory and the health belief model. Health Education Quarterly, 15(2), 175-183. <https://doi.org/10.1177/109019818801500203>

Sam-Agudu, NA, Folayan, MO and Ezeanolue, EE (2016) Seeking wider access to HIV testing for adolescents in sub-Saharan Africa. Paediatric Research 79(6), 838–845.

Sambah, F., Hagan Jr, J. E., Mintah, J. K., Hormenu, T., Ahinkorah, B. O., & Schack, T. (2019). Determinants of HIV testing and counseling utilization among trainee nurses and midwives in the Central Region of Ghana. Clinical Research in Psychology, 2(1), 1-10. <https://doi.org/10.17265/2328-7136/2018.06.009>

Sewell, J, Miltz, A, Lampe, FC, Cambiano, V, Speakman, A, Phillips, ANet al. (2017) Attitudes to and understanding of risk of acquisition of HIV (AURAH) Study Group. Poly drug use, chemsex drug use, and associations with sexual risk behaviour in HIV-negative men who have sex with men attending sexual health clinics. International Journal of Drug Policy 43, 33–43.

Shipanga, V., Taimi, N., & Kloppers, J. (2018). Perceptions of Men With Regard To Human Immunodeficiency Virus (HIV) Voluntary Counselling and Testing, Windhoek. IOSR Journal of Nursing and health Science. 7. 54-59.

Taimi, Nauiseb & Kloppers, Joan & Amakali-Nauiseb, Taimi. (2021). Perceptions of Men With Regard To Human Immunodeficiency Virus (HIV) Voluntary Counselling and Testing, Windhoek. Volume 7. 54-59. 10.9790/1959-0703035459.

Tianyi, F. L., Tochie, J. N., Agbor, V. N. & Kadia, B. M. (2018). Audit of HIV counselling and testing services among primary healthcare facilities in Cameroon: A protocol for a multicentre national cross-sectional study. BMJ Open, 8(3):e020611. <https://doi.org/10.1136/bmjopen-2017-020611>

Tshivhase, S. E., Makuya, T., & Takalani, F. J. (2022). Understanding reasons for low HIV testing services uptake among tertiary students in university in South Africa. HIV & AIDS Review. International Journal of HIV-Related Problems, 21(1), 69-76. https://doi.org/10.5114/hivar.2022.112698

UNAIDS (2018). Understanding Fast-Track. Accelerating action to end the AIDS epidemic by 2030.

Wong, V. J., Murray, K. R., Phelps, B. R., Vermund, S. H., & McCarraher, D. R. (2017). Adolescents, young people, and the 90–90–90 goals: A call to improve HIV testing and linkage to treatment. AIDS (London, England), 31(Suppl 3), S191. <https://doi.org/10.1097/QAD.0000000000001539>

World Health Organization. (WHO). (2016). Testing and Counseling facilities, reported number. https://www.who.int/data/gho/data/indicators/indicatordetails/GHO/testing-and-counselling-facilities-reported-number

World Health Organization. (WHO). (2018). Progress towards the SDGs: A selection of data from world health statistics 2018. https://www.who.int/gho/publications/world\_health\_statistics/2018/EN\_WHS201

World Health Organization. (WHO). (2022). Global HIV Programme. <https://www.who.int/teams/global-hiv-hepatitis-and-stisprogrammes/hiv/strategic-information/hiv-data-and-statistics>

Wulandari, L. P. L., Ruddick, A., Guy, R., & Kaldor, J. (2019). “Self-testing sounds more private, rather than going to the clinic and everybody will find out”: Facilitators and barriers regarding HIV testing among men who purchase sex in Bali, Indonesia. PloS ONE, 14(4), e0214987. <https://doi.org/10.1371/journal.pone.0214987>

Yumo, H. A., Ajeh, R. A., Beissner, M., Ndenkeh, J. N. Jr., Sieleunou, I., Jordan, M. R., Sam-Agudu, N. A. & Kuaban, C. (2019). Effectiveness of symptom-based diagnostic HIV testing versus targeted and blanket provider-initiated testing and counseling among children and adolescents in Cameroon. PLoS One, 14(5):e0214251. <https://doi.org/10.1371/journal.pone.0214251>

Zangirolami-Raimundo, J., Echeimberg, J. D. O. & Leone, L. (2018). Research methodology topics: Cross-sectional studies. Journal of Human Growth and Development, 28(3),356-360. <https://doi.org/10.7322/jhgd.152198>