

# Views and Perceptions of 3<sup>rd</sup> Year Degree Nursing Students Regarding Pre-Exposure Prophylaxis (PrEP) at the Higher Institution of Training in Namibia

Johannes Kefas Katjikuru<sup>1</sup>, Taimi Amakali-Nauseb<sup>2\*</sup> and Esther Kamenye<sup>2</sup>

<sup>1</sup>School of Nursing & Public Health, Alumni, Namibia

<sup>2</sup>Department of Community & Mental Health Nursing Science, School of Nursing & Public Health, Faculty of Health Sciences & Veterinary Medicine, Namibia

## \*Corresponding Author

Taimi Amakali-Nauseb, Department of Community & Mental Health Nursing Science, School of Nursing & Public Health, Faculty of Health Sciences & Veterinary Medicine, Namibia.

Submitted: 2025, Mar 01; Accepted: 2025, Mar 31; Published: 2025, Apr 04

**Citation:** Katjikuru,K.J, Amakali-Nauseb,T., Kamenye, E. (2025). Views and Perceptions of 3<sup>rd</sup> Year Degree Nursing Students Regarding Pre-Exposure Prophylaxis (PrEP) at the Higher Institution of Training in Namibia. *J Nur Healthcare*, 10(2), 01-08.

## Abstract

**Aim:** The purpose of the study was to assess the views and perceptions of the 3<sup>rd</sup> year degree nursing students regarding pre-exposure prophylaxis.

**Background:** Pre-Exposure Prophylaxis is a drug administration approved human immunodeficiency virus prevention tool that reduces the risk of infection by greater than 90%. Despite the success of Pre-Exposure Prophylaxis, there remain barriers to PrEP uptake rooted in stigmatized perspectives shared by health professionals, patients and the community at large.

**Method:** A qualitative, explorative, descriptive and contextual research design was used. The target population was 3<sup>rd</sup> year degree nursing students. Using face to face individual in-depth interviews, a sample size of sixteen 3<sup>rd</sup> year degree nursing students was selected using purposive sampling method and were analysed using the thematic analysis.

**Results:** The following themes emerged: 3<sup>rd</sup> year degree nursing students' views regarding Pre-Exposure Prophylaxis; 3<sup>rd</sup> year degree nursing student's perceptions regarding Pre-exposure Prophylaxis and the factors that hinder to seek Pre-Exposure Prophylaxis services.

**Conclusions:** The 3<sup>rd</sup> year degree nursing students have positive views and perceptions.

**Keywords:** HIV, Perceptions, Pre- Exposure Prophylaxis, Preventative Measures

## 1. Introduction

Ever since the first cases in 1981, the Human Immunodeficiency Virus (HIV) and Acquired Immune Deficiency Syndrome (AIDS) continues to pose significant social, economic, and developmental challenges for many countries worldwide. As a consequence, an estimated 35.3 million people were living with HIV in 2012 (UNAIDS, 2013) [1]. Namibia is one of five countries with the highest prevalence of HIV in the world. For the period 2008-2009, the estimated prevalence among pregnant women was 17.8 %. Of the new infections in Namibia, an estimated 44 % were among young people aged 15- 24 years, of which 77 % are females (MoHSS, 2014). HIV is also considered the primary reason for the dramatic drop in life expectancy, now standing at 48.6 years [1].

Moreover, various preventative strategies have been instigated to reduce the HIV pandemic in Namibia; these include the use of

antiretroviral drugs (ARV), Voluntary Counselling and Testing (VCT), condom use promotion, abstinence, a treatment program for Sexually Transmitted Infections (STIs) and male circumcision (UNAIDS, 2013) [1]. In 1998, the Government of Namibia through the Ministry of Education developed youth-centered programs to raise awareness about STI and HIV prevention. The Window of Hope and My Future is My Choice are among the most important AIDS Prevention and Care Programs that target young people in Namibia. The Window of Hope reaches children at an early age (9 to 14 years) and thus provides an opportunity to form behaviour (including sexual behaviour) before children reach puberty, My Future is My Choice, on the other hand, is a national life skills-based HIV-prevention training program for young Namibians aged between 15 to 24 in the secondary and combined schools (MoHSS, 2014) [2]. However, Window of Hope advocated for the inclusion of sex education in school settings as a compulsory

promotion subject arguing that the knowledge gained under such a scenario would be taken more serious compared to when such classes are offered on voluntary bases as is the case with my future is my choice and Window of Hope. Most recently on the HIV/AIDS global health arena, HIV Pre- Exposure Prophylaxis has been introduced, whereby HIV exposed negative individuals receive antiretroviral medications to prevent HIV Infection. This is an alternative way of reducing the rate at which new HIV infections occur. This can be used without the agreement of the male partner, hence are more effective at preventing intra-vaginal transmission of HIV (infection through the vagina). According to WHO (2012), the impressive improvements in the treatability of HIV infection have not been paralleled by similarly remarkable improvements. In the effectiveness of HIV prevention strategies; therefore, more successful approaches are urgently needed. In the last years, the emphasis in the field of research on prevention has shifted to the development of combination prevention packages in which structural, behavioural, and biomedical interventions are put in place.

## 2. The Aim of The Study

The aim of the study was to explore and describe the views and perceptions of the 3<sup>rd</sup> year degree nursing students regarding pre-exposure prophylaxis at the higher institution of training in Namibia.

### 2.1 Objectives of the Study

The research objectives of the study were to:

- Assess the views about HIV and AIDS prevention measures among 3<sup>rd</sup>-year degree nursing students at the higher institution of training in Namibia.
- Assess the perceptions towards Pre-exposure prophylaxis among 3<sup>rd</sup>-year degree nursing students at the higher institution of training in Namibia.
- Assess the knowledge in the availability and effectiveness of Pre-exposure prophylaxis in the prevention of HIV/ AIDs among 3<sup>rd</sup>-year degree nursing students at the higher institution of training in Namibia.

## 3. Materials and Methods

### 3.1 Research Design

A qualitative, exploratory, descriptive and contextual study was conducted. The approach was appropriate since the researchers sought to explore and describe the views and perceptions of the 3<sup>rd</sup> year degree nursing students at the higher institution of training in Namibia, regarding Pre- Exposure Prophylaxis. Brink, Van der Walt & Van Rensburg, 2018 further stated that qualitative methods focus on the qualitative aspects of meaning, experience from the viewpoint of the research participants in the context in which the action takes place [4].

### 3.2 Population, Sample and Setting

All 3<sup>rd</sup>-year degree nursing students at the higher institution of training in Namibia, make up the target population. This study adopted a non-probability purposive sampling method which is usually more convenient and economical and allows for the study

of populations when they are not amenable to probability sampling, or when the researcher is unable to locate the entire population (Brink et al., 2018) [3]. A total of sixteen 3<sup>rd</sup> year nursing students were interviewed during. Interviews were conducted until data saturation.

This study was carried out in one of the lecture rooms at the higher institution of training in Namibia. The choice for selecting the lecture rooms was that it was easily accessible, and the 3<sup>rd</sup> year degree nursing students were attending their clinical simulations. The appropriate time was negotiated to cater for the researcher and the participants.

### 3.3 Data Collection

Data collection instrument: Data was collected using an individual in-depth-interview guided by interview guide consisting of semi structured open-ended questions, that were followed by probing questions. An audiotape and notebooks were additionally used to record and take notes.

The instruments were pilot tested in an appropriate population of five student respondents in the 3<sup>rd</sup> year degree nursing lecture rooms in the at the higher institution of training in Namibia. The choice for selecting the lecture rooms in the School of Nursing, was that it was easily accessible and the 3<sup>rd</sup> year degree nursing students were attending their clinical simulations. The students who participated in the pilot study did not form part of the formal study group. The data obtained was analysed and help was sought by the researcher in identifying the feasibility of the study and the quality of the questions prepared.

Data was collected using an in-depth- interview guide consisting of semi structured open-ended questions, that were followed by probing questions. An audiotape and notebooks were additionally used to record and take notes. The level of data saturation was determined by the researcher based on the responses the researcher was getting from the participants. A total of sixteen participants were interviewed. Transcripts were prepared and detailed report compiled for final presentation.

### 3.4 Data Analysis

Data were analysed by the researcher through thematic analysis which involves transcribing the recorded data from the interviewed participants. Analysis of data in qualitative studies, therefore, involves an examination of text rather than the numbers considered in quantitative studies [3].

### 3.5. Rigour

Trustworthiness of the study was determined by implementing the criteria based on the model of Lincoln and Guba (2011). The four criteria which are as follows:

**Credibility:** Ensures that there should be confident in the truth of the data and the interpretation. The researcher applied engagement until the scope of the data was adequately covered.

**Dependability:** The researcher ensured dependability by maintaining a record of all research activities and documenting all

data collected and analysing the procedures throughout the study. **Confirmability:** The researcher ensured the confirmability of this research project by the safekeeping of raw data with the purpose of allowing the integrity of research results to be scrutinised and followed up on.

**Transferability:** The researcher addressed the concept of transferability by providing sufficient contextual information about the topic to the participants. From a qualitative perspective, transferability is primarily the responsibility of the one who seeks to generalise the findings of a study.

3.6 Ethical Considerations

The researcher obtained permission from the higher institution of training in Namibia to conduct the research. When permission was granted, the researcher arranged further with the lecturers responsible for the 3<sup>rd</sup> year degree nursing students for permission and to be introduced to them. The study was strictly voluntary; the participants were given assurance that they are free to ask questions and may withdraw from the study at any time. All participants were assured of privacy, anonymity and confidentiality, they were

allocated with numbers during the interviewing process, and no real names or identification occurred.

4. Results  
4.1 Presentation of Findings

The findings are presented based on the themes identified during the data analysis process. This section presents the findings and results concerning views and perceptions of 3<sup>rd</sup> year degree nursing students regarding Pre-Exposure Prophylaxis. The information was gathered through an in-depth interview.

4.2 Description of the Participants

All participants were 3<sup>rd</sup> year degree nursing students, recruited purposively from their clinical simulation lecture rooms in at the higher institution of training in Namibia. The participants were those who agreed upon to participate willingly in this study.

4.3 Themes and Sub-themes

The study findings are reported according to the identified themes and sub-themes which have been described in a table form below.

Main Themes	Sub - Themes
3rd year degree nursing students views regarding Pre- Exposure Prophylaxis.	Positive views on Pre- Exposure Prophylaxis. Negative views on Pre-Exposure Prophylaxis.
3rd year degree nursing student’s perceptions regarding Pre-exposure Prophylaxis.	Positive perceptions on Pre- Exposure Prophylaxis.
Factors that hinder to seek Pre- Exposure Prophylaxis services.	Stigmatization. Side effects of Pre-Exposure Prophylaxis. Lack of knowledge about the availability and effectiveness of Pre-Exposure Prophylaxis.

Table 1: Themes and Sub-themes

5. Discussion

The findings are presented based on the themes identified during the data analysis process This section presents the findings and results concerning views and perceptions of 3<sup>rd</sup> year degree nursing students regarding Pre-Exposure Prophylaxis.

Findings

The study findings are reported according to the identified themes and sub-themes which have been described below.

Theme 1: 3<sup>rd</sup> Year Nursing degree student’s views regarding Pre- Exposure Prophylaxis

To provide efficient and effective Pre-Exposure Prophylaxis services, it is imperative to not only ascertain if the service users are satisfied with the care received from nurses and other health providers, but also the degree of too which initial views and expectations are being met. Views and Perceptions of 3<sup>rd</sup> year degree nursing students that are in the service for caring for those who might need the services in the public health setting were assess. It is quite a challenge for student nurses as they are not well acquainted with Pre-Exposure Prophylaxis services at that stage yet. However, on an account of distinct reasons, student nurses have different perceptions regarding the provision of Pre-Exposure Prophylaxis services. Views on providing Pre-Exposure

Prophylaxis which have been constructed in the following sub-themes.

Positive views on Pre-Exposure Prophylaxis

Majority of participants in this study had shown positive views regarding the provision of Pre-Exposure Prophylaxis services during the interviews.

*“PrEP is medication that is given to prevent HIV, if you know your partner is HIV positive you can get PrEP. I will be interested in PrEP “,*

*“Those people that are having partners and don’t know their status must use PrEP “.*

*“In general PrEP is important and useful, the most important thing is its given for prevention. Some people on PrEP to prevent infection unknowingly”.*

From this theme, it can be concluded that 3<sup>rd</sup> year nursing students have a positive view about Pre-Exposure Prophylaxis and regard it as a very important and beneficial health service because it helps individuals to protect themselves from HIV and enables them to make the right choices for the future. However, despite the availability and affordability of such services, the uptake by 3rd year degree nursing students remains very low. This finding harmonizes with the positive views emerged from a study conducted in Nigeria by Jack-Ide,, Amiegheme, & Ongutubor,

(2016). This studies fairly made the same findings that most nurses do their utmost best to care for and provide available services that are aimed at HIV prevention in the public health services.

### Negative views on Pre- Exposure Prophylaxis

Stigmatization and low level of knowledge and skills about the preventative method itself as well as less understanding of Pre-Exposure Prophylaxis related issues lead to negative views. Relatively negative comments related to Pre-Exposure Prophylaxis as a preventative method in the fight for HIV prevention didn't came out from the 3<sup>rd</sup> year nursing students. It was clear that they understand the importance of educating and promoting the programmes of MoHSS in the fight for HIV/AIDS.

*"Some people use PrEP to promote unprotected sex".*

Only one out of the six participants interviewed, has ever referred a follow student who prick herself for Pre-Exposure Prophylaxis, thus indicating the confusion amongst 3<sup>rd</sup> year nursing students between Post-Exposure Prophylaxis (PEP) and Pre-Exposure Prophylaxis (PrEP).

*"Yes, it was at ANC and my follow student prick herself and she was panicking, and I referred her to get PrEP, she took it for 28 days and she was tested negative afterwards ".* responded to a question on patient referral.

These study findings equate with the findings made by the study conducted in South Africa by Chetty (2013) [9]. This study uniformly found that nurses who were working with psychiatry patients needed training in the difference between Post- Exposure Prophylaxis and Pre-Exposure Prophylaxis to be able to cope and manage patients that are on Pre-Exposure Prophylaxis due to their mental state of mind.

### Theme 2: 3<sup>rd</sup> Year Nursing Degree Student's Perceptions Regarding Pre-Exposure Prophylaxis.

Most of the research participants in this study had positive perceptions regarding Pre-Exposure Prophylaxis and have shown during the interviews. Although students are aware of the benefits of HIV Counselling and Testing, factors such as cultural beliefs, fear of being tested positive, fear of being stigmatized in the community hinder those who might need the services to seek health services. Knowing one's HIV negative status can serve as a strong motivating factor to remain negative, particularly for those people who may otherwise assume it is too late to adopt safer sexual practices. For people who test positive, services like provision of Pre-Exposure Prophylaxis can link them to options for treatment when and where they exist, to care, and to support. Just as important, it allows for adopting preventive measures. By knowing their positive status, HIV positive individuals may become more motivated to adopt a healthier lifestyle that improves their health status and slows down the progression from HIV infection to symptomatic HIV diseases and full-blown AIDS.

### Positive Perceptions on Pre-Exposure Prophylaxis

*"In case of rape and women abuse, some people are married but are severely abused, they need PrEP to protect them from abusive partners and husbands. The mentally challenged people, they don't*

*really have control it will be helpful to give them PrEP, even if they get HIV they will not be able to take the medication correctly."*

The above statement by the participant demonstrated positive perceptions regarding Pre -Exposure Prophylaxis as a preventative method towards HIV/AIDS. HIV and AIDS remains a concern for all Namibians from all walks of life because it is the greatest socio-economic developmental challenge, and hence its importance for all Namibians to work collaboratively in response to this pandemic (MoHSS, 2014) [2]. As reported by MoHSS (2014), Namibia has a generalized HIV epidemic, with HIV primarily being transmitted during heterosexual sexual activity, thus increasing the need for health care workers to double their efforts in all areas of health to provide the much-needed services to the high-risk populations.

Other positive responses regarding Pre-Exposure Prophylaxis were given by interviewee # 06, stating: "they, they really need help and prevention, that's all."

*"PrEP is for those that are dating positive people".*

*"I think it's a good think to used, its recommended. Something that need to be used, yes, you can use PrEP".*

These findings harmonize with the positive perceptions emerged from a study conducted in Nigeria by Jack-Ide et al., (2016).

### Theme 3: Factors that hinder to seek Pre-Exposure Prophylaxis services

Participants felt that services such as distribution of ARVs should be introduced within their communities to improve access since sex workers fail to go for drug refills at the health facilities due to lack of money for transport. Participants also proposed establishing several drug distribution outlets in the community to make it easier for those high-risk groups to access service s without prejudice. The high-risk groups include MSM, Prostitutes and Bisexual men. Participants also stated, sometimes being a student nurse makes them doubt if they seek PrEP services themselves whether it will be handled with confidentiality as the possibility of being stigmatized is high.

### Stigmatization

Participants shared their experiences and thoughts with respect to barriers that prevented some people from accessing health services. Related factors to social, behavioural, and cultural issues were identified as barriers to seek HIV preventative services that are offered by the public health system. According to MoHSS (2014), most of the people who are tested through routine Voluntary Counselling Testing are females (69%). This statement is further supported by the statistics of the 2010 National Testing Day event which indicate that more females than males were tested in most of the regions (92% of the regions), including the Khomas Region.

*"People think as you are using PrEP you are HIV positive".*

The same sentiments were raised by interviewee # 01 who says, *"Stigma? (laugh), maybe my partner will be stigmatized but I will be fine"* responding to a question on how they will perceive stigma related to using Pre-Exposure Prophylaxis.

*"Okay, when in the community, many people will think you are*



*having HIV and start distancing from you”.*

### **Side effects of Pre-Exposure Prophylaxis**

The reasons stated for non-adherence are broad, reflecting the wide variety of populations and settings in which services related to PrEP has been seek. Common qualitative reasons for poor adherence included participant low risk perception, side-effects, perceived stigma and dosing regimen incompatibility. These findings are consistent with reports from individual which note that start-upside effects are frequent and may have influenced adherence. However, the Bangkok Tenofovir Study reported that nausea and vomiting were start-up symptoms which abated after the first couple of months. Recent modelling suggests weekly oral dosing with controlled release formulations may lead to improved adherence implying that long-acting PrEP formulations may provide some solutions to poor acceptability of current dosing regimens. Eakle, Gomez, Naicker, Bothma, Mbogua, Cabrera Escobar, (2017) all medication has side effects, and this should be emphasised to the communities even during normal treatments, not only necessary to anti-retroviral treatment and drugs.

*“I had lot of them when I was on PEP, nausea and vomiting, yellow eyes, pale face”.*

*“Constipation, vomiting, some nausea and body weakness”.*

Different studies have highlighted nausea and vomiting as the most experienced side effects of PrEP. During the interview process the researcher realized that most of the participants were mentioning side effects that they know and has studied and not necessary their own experience.

### **Lack of Knowledge about the Availability and Effectiveness of Prep**

Namibia has a generalised HIV / AIDS epidemic with HIV primarily spread heterosexually. Unfortunately, most Namibians do not know their HIV status, which is a gateway to care and treatment for those people who are HIV positive and a key area to reach the ones who are negative with prevention messages. It is of vital importance that Primary Health Care services strengthen their community outreach services to reach more remote areas. Namibia is a country with a small population that is spread over vast distances, which makes the limited preventative services that are available inaccessible to some population segments (MoHSS, 2014) [1]. During the process of data collection, it become clear to this researcher that the participants were unaware where exactly Pre – Exposure Prophylaxis was available, or which department was responsible for Pre – Exposure Prophylaxis dissemination. *“Yeah, just to make it easily available, package and sell in the pharmacies for everybody”*, replied to interviewee # 03 to the question of availability of Pre – Exposure Prophylaxis.

*“I got information about it from the newspapers and news, I also went to the WHO website and read about it”*

More uncertainty about the availability of Pre – Exposure Prophylaxis was confirmed once more by another participant by stating:

*“To be honest, nope! it can be found at the hospital or the clinic for them not to be sold and whether people used it”.*

Understandings of Pre-Exposure Prophylaxis effectiveness emerged as an important barrier to potential and effective use. Although participants were informed that Pre-Exposure Prophylaxis was highly effective when taken regularly, most participants expressed concerns that it provided less than 100% protection and therefore was ‘insufficient’ to prevent HIV transmission on its own. Some participants felt that PrEP used in isolation was ‘too much’ of a risk. The impact of the media on HIV knowledge is strongly evident as people who used the media platforms had higher odds of reporting high HIV knowledge levels compared to those not using the media. Participants who listened to the radio or watched news had some idea about Pre-Exposure Prophylaxis. A study conducted in South Africa by Eakle et al., 2017 support the above-mentioned view by stating that, media remains the most valuable partner in public health sector [16].

Pre -Exposure Prophylaxis was not immediately seen as a trusted or beneficial addition to their repertoire of existing risk-reduction practices. Because during their responses, some participants indicated that Pre-Exposure Prophylaxis was not readily available and easily accessible. The findings also highlight how existing risk management strategies in relation to PrEP encompass broad concerns relating to sexual health, relationships, social factors and communities. According to Denton, Othieno, Martinez-Torres, Zou, Krisko, Fleming, and Welch (2011), understanding how to interpret Pre-Exposure Prophylaxis efficacy rates, on their own and in combination with other prevention strategies, proved a stumbling block for the participants and poses a considerable challenge to how health providers support the concept of combination prevention in the context of PrEP [14]. Liu et al., (2014) identify accurate consumer knowledge as key to Pre – Exposure Prophylaxis implementation, in addition to addressing other factors such as stigma, adherence and risk reduction [5]. While the researcher agrees with Liu, researcher findings suggest that the form and delivery of this consumer knowledge, including how health providers understand and communicate this information, needs further attention to support effective Pre – Exposure Prophylaxis use. The researcher identified that there were clear indications that some of the participants are not familiar with the two terms, Post Exposure Prophylaxis (PEP) and Pre-Exposure Prophylaxis (PrEP). Communicating Pre-Exposure Prophylaxis effectiveness in real world settings will be a two-way process that demands clarity on the part of providers and potential users. In addition to supporting providers, negotiating PrEP as a prevention strategy will require improved levels of HIV literacy among sample according to sexual risk behaviour, the researcher findings are only transferrable to broad risk groups and not necessarily to ‘high risk’ individuals. Due to the focus of the study conducted, critical information could have been omitted as only 3rd year nursing students were involved and they might not be readily involved in the referral and implementation of treatment regimes. However, our discussions included consistent and broad descriptions of Pre – Exposure Prophylaxis and methods to promote the services and how easily and readily available these services are to the public.

## 6. Conclusions

This study highlights several findings about 3<sup>rd</sup> year degree nursing student's views and perceptions regarding Pre-Exposure Prophylaxis, and suggested solutions to improve the uptake of HIV testing at the higher institution of training students in Namibia, particularly in Windhoek. As youth and university with at the higher institution of training students are prone to involve themselves in irresponsible behaviour, it will be beneficial if the at the higher institution of training in Namibia, can introduce more adolescent friendly programmes and approaches on and off campus to their students. The findings of this study as described above provide a clear picture regarding Pre-Exposure Prophylaxis as viewed and perceived by 3<sup>rd</sup> year degree nursing students; and the factors associated with low uptake of Voluntary Counselling and Testing among men. The study therefore concludes that efforts need to be intensified to successfully implement HIV prevention programmes especially taking into consideration gender specific needs. Student nurses must be allocated in areas that provide special programmes and critical services. Community nursing should be emphasizes to students, and its importance to primary health care provision.

## Recommendations

The findings of this study solicit several recommendations.

### Re-arrangement in Clinical Practice Allocation

Current knowledge relating to Pre-Exposure Prophylaxis suffers from knowledge gaps. This is particularly important for student nurses to be allocated to areas that need to prepare them for broader knowledge about conditions that contribute to the top causes of death amongst the Namibian population. It is hereby recommended that School of Nursing allocate students more time at primary health care departments, as thus is the backbone of preventive health services.

### Strengthening of Health Education

It is critically important to improve and scale up health education. Students should be encouraged to give proper and in-depth health education services to their communities. Awareness about stigma and discrimination should be created among men since these factors discourage the uptake to seek Pre – Exposure Prophylaxis services. During the study, male students indicated that generally males don't seek health services that much unless forced or accompanies by their female counterparts. The researcher recommends health education that specifically focuses on men, which are facilitated / spearheaded by male students (peers). Furthermore, men should be encouraged to take up the profession of Nursing or Counselling for other men to feel comfortable when visiting testing centres.

### Strategies to Increase the Uptake of HIV Testing

Mobile testing as a strategy, such as home testing and / or mobile community outreach points should be implemented on a larger scale with the purpose of promoting voluntary testing amounts the youth and mostly men. The researcher recommends that men should be enforced to accompany their partners to antenatal visits, where testing can be conducted on the couple. Male student nurses must be encouraged to create a conducive environment

whenever on clinical practice so that follow males can be able to approach them freely to talk about issues that they will find difficult to communicate with a female counterpart. The Ministry of Health and Social Services should therefore develop strategies specifically designed for men to draw their attention to HIV testing services. The higher institution of training in Namibia to ensure consistency must promote confidence in students by allocating them to more sensitive areas like, Voluntary Counselling Testing and ART Clinics. Due to Namibian diverse culture, students should be encouraged to learn each other's cultures in their theoretical settings so that it will be easier for them to execute their practical duties with confidence and cultural background knowledge.

## Limitations

The study was limited to the 3<sup>rd</sup> year degree nursing students at the higher institution of training in Namibia, Windhoek only, therefore data cannot be generalized to other nursing students and campuses of the university.

## Acknowledgement

We wish to thank all the authorities that granted us the permission to conduct this study as well as the 3<sup>rd</sup> year degree nursing students who gave up their time to be involved in this study. Thank you.

## References

1. UNAIDS (2013a). UNAIDS Report on the Global AIDS Epidemic. UNAIDS: New York.
2. Ministry of Health and Social Services (MoHSS). (2014a). Report of the 2014 National HIV Sentinel Survey. MoHSS: Windhoek.
3. Brink, H., & Van der Walt, C. (2006). Fundamentals of research methodology for health care professionals. Juta and Company Ltd.
4. Ajayi, A. I., Ismail, K. O., Adeniyi, O. V., & Akpan, W. (2018). Awareness and use of pre-exposure and postexposure prophylaxes among Nigerian university students: findings from a cross-sectional survey. *Medicine*, 97(36), e12226.
5. Liu, A., Cohen, S., Follansbee, S., Cohan, D., Weber, S., Sachdev, D., & Buchbinder, S. (2014). Early experiences implementing pre-exposure prophylaxis (PrEP) for HIV prevention in San Francisco. *PLoS medicine*, 11(3), e1001613.
6. Abedin, A. (2011). Knowledge, attitudes and practice survey of family planning among South Asian immigrant women in Oslo, Norway. Unpublished Master Thesis, Department of General Practice and Community Medicine, Faculty of Medicine, University of Oslo, Oslo.
7. Salomo, S. (2015). Experiences of men diagnosed with prostate cancer in the four northern regions of Namibia (Doctoral dissertation, University of Namibia).
8. Burns, E., & Groove, W. (2014). Research method. *Ergonomics*, 32(3), 237-248.
9. Chetty, D., & Hoque, M. E. (2013). Effectiveness of a nurse facilitated cognitive group intervention among mild to moderately-depressed-women in KwaZulu-Natal, South Africa. *African Journal of Psychiatry*, 16(1), 29-34.
10. Creswell, J. W., & Creswell, J. D. (2017). Research design:

- Qualitative, quantitative, and mixed methods approaches. Sage publications.
11. Clement, M. E., Johnston, B. E., Eagle, C., Taylor, D., Rosengren, A. L., Goldstein, B. A., & Seña, A. C. (2019). Advancing the HIV pre-exposure prophylaxis continuum: a collaboration between a public health department and a federally qualified health center in the Southern United States. *AIDS Patient Care and STDs*, 33(8), 366-371.
  12. Cloete, B., Yassi, A., & Ehrlich, R. (2020). Repeat auditing of primary health-care facilities against standards for occupational health and infection control: a study of compliance and reliability. *Safety and health at work*, 11(1), 10-18.
  13. Colbert, J. A. (2012). Preexposure prophylaxis for HIV prevention—Polling results. *New England Journal of Medicine*, 367(15), 462-465.
  14. Denton, P. W., Othieno, F., Martinez-Torres, F., Zou, W., Krisko, J. F., Fleming, E., ... & Garcia, J. V. (2011). One percent tenofovir applied topically to humanized BLT mice and used according to the CAPRISA 004 experimental design demonstrates partial protection from vaginal HIV infection, validating the BLT model for evaluation of new microbicide candidates. *Journal of virology*, 85(15), 7582-7593.
  15. Dictionary, C. (2017). Cambridge advanced learner's dictionary & thesaurus. Retrieved from Cambridge website: <https://dictionary.cambridge.org/dictionary/english>.
  16. Du Plooy-Cilliers, F., Davis, C., & Bezuidenhout, R. (2014). Research Matters. Juta and Company Limited.
  17. Eakle, R., Gomez, G. B., Naicker, N., Bothma, R., Mbogua, J., Cabrera Escobar, M. A., ... & TAPS Demonstration Project Team. (2017). HIV pre-exposure prophylaxis and early antiretroviral treatment among female sex workers in South Africa: results from a prospective observational demonstration project. *PLoS medicine*, 14(11), e1002444.
  18. Ghaffari, M., Gharlipour, Z., & Rakhshanderou, S. (2016). Related factors of the preventing behaviors of HIV/AIDS among young people: Applying the Extended Health Belief Model (EHBM). *International Journal of Pediatrics*, 4(8), 2317-2328.
  19. Hakre, S., Blaylock, J. M., Dawson, P., Beckett, C., Garges, E. C., Michael, N. L., ... & Okulicz, J. F. (2016). Knowledge, attitudes, and beliefs about HIV pre-exposure prophylaxis among US Air Force Health Care Providers. *Medicine*, 95(32), e4511.
  20. Haroun, D., El Saleh, O., Wood, L., Mechli, R., Al Marzouqi, N., & Anouti, S. (2016). Assessing knowledge of, and attitudes to, HIV/AIDS among university students in the United Arab Emirates. *PloS one*, 11(2), e0149920.
  21. Hoth, A. B., Shafer, C., Dillon, D. B., Mayer, R., Walton, G., & Ohl, M. E. (2019). Iowa TelePrEP: a public-health-partnered telehealth model for human immunodeficiency virus preexposure prophylaxis delivery in a rural state. *Sexually transmitted diseases*, 46(8), 507-512.
  22. Imp, B., Allen, E., Volk, J., Bhowmick, T., & PrEP Medical Student Research Group. (2017, October). Medical students have limited awareness, knowledge, beliefs, and experiences of pre-exposure prophylaxis (PrEP) for HIV prevention. In *Open forum infectious diseases* (Vol. 4, No. Suppl 1, p. S14).
  23. Jack-Ide, I. O., Amiegheme, F. E., & Ongutubor, K. E. (2016). Undergraduate nursing students' mental health and psychiatric clinical experience and their career choice in Nursing: perspectives from the Niger delta region of Nigeria. *J Ment Disord Treat*, 2(2), 116-121.
  24. Jooste, K., & Amukugo, H. J. (2013). Male involvement in reproductive health: a management perspective. *Journal of Nursing Management*, 21(2), 327-338.
  25. Jindal, S. (2013). Awareness about HIV/AIDS in selected pre university colleges in Moodbidri: a cross-sectional study. *Asian Journal of Pharmaceutical and Clinical Research*, 6(SUPPL. 1), 208-210.
  26. Karletsos, D., Greenbaum, C. R., Kobayashi, E., & McConnell, M. (2020). Willingness to use PrEP among female university students in Lesotho. *PLoS One*, 15(3), e0230565.
  27. Khawcharoenporn, T., Chunloy, K., & Apisarnthanarak, A. (2015). HIV knowledge, risk perception and pre-exposure prophylaxis interest among Thai university students. *International journal of STD & AIDS*, 26(14), 1007-1016.
  28. King, N., Brooks, J., & Horrocks, C. (2018). Interviews in qualitative research.
  29. Denzin, N. K., & Lincoln, Y. S. (Eds.). (2011). *The Sage handbook of qualitative research*. sage.
  30. Matthews, R., & Ross, E. (2010). *Research methods: A practical guide for the social sciences*. Pearson Education Ltd.
  31. Mimiaga, M. J., Closson, E. F., Kothary, V., & Mitty, J. A. (2014). Sexual partnerships and considerations for HIV antiretroviral pre-exposure prophylaxis utilization among high-risk substance using men who have sex with men. *Archives of sexual behavior*, 43, 99-106.
  32. Ministry of Health and Social Services (MoHSS). (2010b). *Final Annual Progress Report on the Third Medium Term Plan on HIV and AIDS*. Windhoek.
  33. UGWU, N. I., UGWU, C. N., ONOKA, C. A., & IYARE, F. E. (2015). Knowledge, Perception and Practice of Preventive Lifestyle Against HIV/AIDS Among Students of a Tertiary Educational Institution in South Eastern Nigeria. *Journal of Clinical Research in HIV AIDS and Prevention*, 2(2), 29-38.
  34. O'Byrne, P., Orser, L., & Haines, M. (2020). Active-offer nurse-led PrEP (PrEP-RN) referrals: analysis of uptake rates and reasons for declining. *AIDS and Behavior*, 24(5), 1281-1289.
  35. Oppong, A. K., & Oti-Boadi, M. (2013). HIV/AIDS knowledge among undergraduate university students: implications for health education programs in Ghana. *African health sciences*, 13(2), 270-277.
  36. Polit, D. F., & Beck, C. T. (2008). *Nursing research: Generating and assessing evidence for nursing practice*. Lippincott Williams & Wilkins.
  37. Puro, V., Palummieri, A., De Carli, G., Piselli, P., & Ippolito, G. (2013). Attitude towards antiretroviral pre-exposure prophylaxis (PrEP) prescription among HIV specialists. *BMC infectious diseases*, 13, 1-8.
  38. Rai, Y., Singh, J., Dutta, T., & Tripathi, J. S. (2009). Awareness

- about prevention and transmission of HIV/AIDS among people getting higher education. *Indian J Prev Soc Med*, 40(1), 43-9.
39. Sannathimmappa, M. B., & Nambiar, V. (2019). HIV/AIDS and its Prevention: a cross-sectional study to evaluate knowledge, Awareness, and attitude among medical students. *International Journal of Medical Research & Health Sciences*, 8(8), 110-116.
40. Sekandi, J. N., Sempeera, H., List, J., Mugerwa, M. A., Asimwe, S., Yin, X., & Whalen, C. C. (2011). High acceptance of home-based HIV counseling and testing in an urban community setting in Uganda. *BMC public health*, 11, 1-8.
41. Simon, M. K. (2011). *Dissertation and Scholarly Research: Recipes for Success*. Seattle, Washington: Dissertation Success, LLC.
42. Thigpen, M. C., Kebaabetswe, P. M., Paxton, L. A., Smith, D. K., Rose, C. E., Segolodi, T. M., ... & Brooks, J. T. (2012). Antiretroviral preexposure prophylaxis for heterosexual HIV transmission in Botswana. *New England journal of medicine*, 367(5), 423-434.
43. Trochim, W. M., & McLinden, D. (2017). Introduction to a special issue on concept mapping. *Evaluation and program planning*, 60, 166-175.
44. UNESCO, Y. P. T. (2013). Time to Act now. Why adolescents and young people need comprehensive sexuality education and sexual and reproductive health services in Eastern and Southern Africa.
45. World Health Organization. (2012). Guidance on oral pre-exposure prophylaxis (PrEP) for serodiscordant couples, men and transgender women who have sex with men at high risk of HIV. In Guidance on oral pre-exposure prophylaxis (PrEP) for serodiscordant couples, men and transgender women who have sex with men at high risk of HIV.

**Copyright:** ©2025 Katjikuru, K.J., et al. This is an open-access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.