

Knowledge, Attitudes and Practices of Fourth Year Nursing Students Regarding the Care of People Living With HIV/AIDS (PLWH)

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Abstract

Background: Despite some notable significant improve on HIV/AIDS reduction or alleviation, the war against the HIV pandemic is not over as many people are blindly believing nowadays. A countless number of researches have been conducted on nurse's knowledge, attitudes and practices when caring for people living with HIV/AIDS.

Purpose of the study: The study aimed at determining and describing the knowledge, attitudes and practices of fourth year nursing students when caring for people living with HIV/AIDS.

Method: A quantitative study, descriptive in nature was employed in the study. Data was collected using a questionnaire. A total sample size of 76 UNAM fourth year nursing students was used.

Main findings: The overall perceived knowledge of students was good. However there were few drawbacks in the perceived knowledge some students believed that HIV can be transmitted through casual contact (23.7%) and also that it cannot be transmitted through blood transfusion (36.8%). Most students believed that PLWH have the same right to equal treatment as other patients (40.5%). However some students (5.3) believed that PLWH have them selves to blame, other had no sympathy for the misery PLWH go through, (43.4%).

Conclusions: The student nurses showed good general knowledge on HIV related topic, however they lacked in-depth knowledge on HIV mode of transmission. Students portrayed fair attitude towards PLWH as most of them have no sympathy for PLWH and also they showed constant worry of contracting the virus from the patients. The students had good practices when caring for PLWH; however the constant recapping of used needles is of great concern.

Recommendations: UNAM should introduce a HIV/AIDS management module and also to locate nursing students to ART clinics for at least a month starting even from third year to fourth year.

Keywords: Immune Deficiency; Nursing; HIV Discrimination

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Abbreviations: AIDS: Acquired Immune Deficiency Syndrome; ART: Antiretroviral Therapy; ARV: Antiretroviral; CDC: Centre for Disease Control and Prevention; HIV: Human Immunodeficiency Virus; KAP: Knowledge, Attitude and Practice; PLWH: People Living with HIV and AIDS; SPSS: Statistical Package for Social Sciences; STI: Sexually Transmitted Infection; TB; Tuberculosis; UNAIDS: Joint United Nations Program on HIV/AIDS; UNAM: University of Namibia; VCT: Voluntary Counseling and Testing; WHO: World Health Organization.

Introduction

The Namibian ministry of health and social services and the world health organization particularly the UNAIDS has put in place a lot of notable important projects to combat this long term life threatening disease. The introduction of ARVs was and still the most outstanding milestone toward bringing the HIV situation under control [1]. HIV/AIDS acts which advocates for the rights of people living with HIV infection against discrimination and stigmatization are one of the important milestone.

However the discrimination and fear of HIV patients in work place and public or private health system is still notable on daily basis [2]. Suominen et al [3] noted that Medical and nursing staff are the most important groups in the prevention of HIV. It is for the utmost importance that medical and nursing education must include updated information regarding the care of people with living with HIV/AIDS. Adhikari, Gupta, Koshy, Jain, Ghimire, Jnawali, Paneru [4] explains that Effective nursing care by well-trained hands and affectionate heart constitute the backbone of medical intervention in HIV/AIDS, and it further helps in minimizing the fear that nursing students have when caring for PLWHA.

In addition the knowledge and attitudes of students towards caring for people with HIV or AIDS is therefore important, since they will develop into future health professionals, more especially the fourth year students who will be registered into the health profession in a few months' time. According to Pickles, King and Belan an increased education regarding HIV and AIDS to health care workers, it has a reduced negative attitude towards People Living with HIV and AIDS.

Background

According to Suominen, Laakkonen, Lioznov, Polukova, Nikolaenko, Lipiäinen [3] new HIV infections have dropped by 38% since 2001 globally, but there were 2.1 million people newly infected in 2013, and an estimated 22 million people who are not accessing life-saving treatment. Furthermore, there are some countries where the HIV epidemic is growing (such as in Eastern Europe and Central Asia) where the number of people living with HIV has almost tripled (1.7 million people living with HIV in year 2018).

HIV and AIDS has been Namibia's long term battle. During this long term on-going battle, the disease has been known to be the leading cause of death in Namibia. According to the National Strategic Framework for HIV and AIDS Response in Namibia [1] noted that between the year 2011 and 2016 HIV/AIDS claimed a total number of 17000 lives.

According to Haidula [5] about 214 956 Namibians are living with HIV, of which an estimated 17 000 are youths between the ages of 10 and 19. She further states that the main contributing factor which makes it harder for the Namibian country to bring the HIV/AIDS pandemic under control is due to scarce health care workers. The Framework for HIV and AIDS Response in Namibia [1] showed that, public health sector has fewer than two healthcare workers per 1 000 people, with greater gaps in the rural areas. The situation is worsened by an average health worker's attrition rate of 5%.

Problem statement

Namibia is among the top 10 most affected countries from the HIV pandemic, equally so discrimination against people living with HIV/AIDS in Namibia is constantly observed in both private and public health care facilities [2] and such complaints are noticed on daily basis in Namibian local newspapers. Despite the university's interventions of training and equipping the students with necessary knowledge, good practices and positive attitude

towards PLWHA, these complaints against poor practices of nursing students still persist. One of these complaints is noted by The Namibian. The complaints emphasized on poor practices and negative attitudes of UNAM nursing students placed at Katutura Health Centre more especially when withdrawing blood from HIV positive clients.

Poor practice and bad attitude can hamper the quality of care being rendered to patients. According to Stangl, Carr, Brady, Eckhaus, Claeson and Nyblade [6] continuous HIV discrimination can result in low turn up for HIV testing and counseling, identity crisis, and loss of interest to contain the disease. If this happens it might affect the Namibian dream of a HIV/AIDS 2030 free generation.

Research aim

The research was aimed at assessing the knowledge, attitudes and practices of UNAM fourth year nursing students when caring for people living with HIV/AIDS.

Objectives of the study

The objectives of this study were to

- To determine the knowledge of fourth year nursing students when caring for people living with HIV/AIDS
- To determine attitudes of fourth year nursing students when caring for people living with HIV/AIDS.
- To determine practices of fourth year nursing students when caring for people living with HIV/AIDS.
- To describe the knowledge, attitudes and practices of four year nursing student when caring for people living with HIV/AIDS.

Significance of the study

The study was very crucial as it helped in determining whether UNAM fourth year nursing students possessed sufficient knowledge, positive attitudes and good practices when caring for people living with HIV/AIDS. The study also helped to understand whether UNAM curriculum was sufficient in equipping nursing students with sufficient knowledge, sound attitude and good practice when caring for people living with HIV/AIDS.

Conclusion: Though Namibia is doing pretty well on a global level in combating the HIV pandemic, it is however still among the countries which are highly affected as a result of the HIV pandemic. The need for strong adequate and updated information teaching to health care related students will really help in combating this long term battle.

Literature Review

Introduction

Samuels and Drinkwater [6] had shown that HIV has been a growing concern not only to the Health care system but to the economic system of the entire world. More and more increased numbers of people are buried on a daily basis due to HIV related death. A large number of children are being orphaned and left vulnerable to poverty, early child labor; drop out from school

and many other bad habits that they might develop such as prostitution, theft and drug abuse, these makes them more prone to acquiring this deadly disease. Based on the researcher's opinion, alleviation of these problems begins with nurses adopting their main core value of caring and putting them into practices. It is also of utmost importance for the nurses to have good knowledge, positive attitudes and quality practices when caring for PLWH.

Knowledge of students regarding the care of PLWH

Boakye (2018) describes that HIV/ AIDS knowledge is a broad topic which goes from prevention, mode of transmission, HIV pathology, diagnosis, HIV counseling and even HIV treatment. It even extends to one knowing the high risk groups or people who are prone to acquire the virus [4].

Out of common sense, it is believed that all nurses have sufficient knowledge regarding HIV, as they frequently come into contact with HIV related matters. However, previous data showed that nursing students lacked knowledge related to HIV related subjects such as HIV pathology, mode of transmission, treatment regimens and other related topics [4]. One study conducted in Nigeria by Boakye [7] showed that nurses lacked knowledge in critical areas of HIV/AIDS such as counseling and infant feeding.

Similar studies such as that of Greeff, Koen and Deetlefs [8] also showed that nursing students lacked knowledge in HIV related topics. This does not only apply in Southern Africa, but a study conducted in Nigeria by Azodo, Umoh, Ezeja and Ukpebor revealed that student nurses lacked in depth knowledge on HIV related topic.

Nurses attitudes towards PLWH

HIV and AIDS is a matter of concern because the number of cases has increased dramatically over the last ten years [8]. Nursing students need to have appropriate knowledge and positive attitudes about HIV and AIDS because they are the future health care professionals, therefore will play a key role in prevention of spread and care of people with AIDS.

A vast number of researches regarding the attitude and practices of nursing students and registered nurses have long been conducted. However of every result been conducted a similar pattern has been revealed that nurses possess a negative attitude when caring for PLWHA.

One study conducted in Turkey by Kock, Guvenc and Kaplan [9] showed that nursing students have negative attitudes toward people with HIV/AIDS. One might argue that this can only apply to the western world, however similarly to this, a study conducted in South Africa by Greeff, Koen and Deetlefs [8] attitudes of nurses towards HIV positive patients were mostly negative. They further add that the reason behind this was because nurses lacked knowledge regarding HIV transmission as a result they experience negative feeling towards the HIV patient. Bhupendra, Upadhyay, Wavare, Deshpande and Singh [10] further showed that at least 91% of registered nurses felt that relatives should be notified of the patients' status without consent from the patient

him or herself. The above findings contradict with the nursing core values of privacy and confidentiality respectively.

Nurses Practices towards PLWH

Practical skills that nurses possess when caring for PLWHA has been long under study just like attitudes the nurses possess. Most results have shown to be following a similar trend. Majority of the results showed inappropriate and unethical practices by nursing students even Registered Nurses. One study by Bhupendra, Upadhyay, Wavare, Deshpande and Singh [10] demonstrated that more than 91 (93.81%) Registered Nurses emphasized that the charts or files and beds of HIV/ AIDS patients should be marked for medical identification purpose to prevent medical legal hazards. The study further showed that 70% or more nurses have observed others refuse admission, refuse to treat or verbally mistreat patients with HIV/ AIDS and a total of 84 (86.60%) of the participants recapped needles.

In conclusion special skills and knowledge has long been suggested as the prerequisite for rendering quality services in any given profession. Nursing skills, attitude and practices are not an exception to this theory. Nursing attitude and practice are very crucial more especially when caring for PLWH. Boakye [7] noted that Nurses' knowledge may compromise the quality of care and attitudes towards patients living with HIV/AIDS. Compromised nursing care can therefore results in poor nursing care being rendered to these patients. Based on the researcher's knowledge, poor nursing care can result in people feeling being stigmatized based on their status; as a result people develop a mistrust relationship with health care workers. Less people turn up for health care attention, consequently this might result in increased HIV infection, prevalence and incidence rate.

Ngobo and Mchunu [11] emphasized that the main contributing to negative attitude, poor practices and lack of knowledge of student nurses in HIV related fields is due to the fact that HIV and AIDS education and training in nursing suffer from various inadequacies and lack any real formalization in their governance. To a large extend this is true, based on the researchers experience, UNAM curriculum is inadequate to equip a student with adequate knowledge to provide basic care to PLWH. Ngobo and Mchunu [11] further stressed that that much of the HIV and AIDS training currently available is offered only post-diplomat and certificate and there are no clear guidelines exist globally outlining specific competencies for nursing students regarding human immunodeficiency virus and acquired immunodeficiency syndrome (HIV/AIDS).

Research Methodology

Introduction

This chapter outlines the different methods and procedures that were followed in the process of collecting and analyzing the data for this study. Further more this chapter will focus on the research design, the population of the study, the sampling procedures, research instruments, data collection procedures, data analysis techniques and ethical considerations which were employed throughout the project.

Research design

The current study employed a quantitative design, descriptive nature, to try and explain the knowledge, attitudes and practices of nursing students regarding the care of patients living with HIV/AIDS. The researcher chose this method because [7] explains that quantitative design has the ability to establish relationships between variables and causal linkages if they exist. The researcher chose to use this method, because it is the comfortable method to use and it is the easiest way of interpreting results in the descriptive presentations [12].

Qualitative research is conducted when the researcher has little knowledge about a particular phenomenon or the nature of the phenomenon is poorly understood. They are also conducted when one wish to explore the meaning, or describe and provide an in-depth understanding of human experience such as pain, grief, hope or caring. On the other hand quantitative approach focuses on measurable aspects of human behaviors. This research was aimed at measuring the level of knowledge, attitudes and practices of nursing students when caring for PLWH. The measurements collected are quantitative data and explained the relationships between the dependent variables to the independent variables.

A Descriptive design was used; this is because the study was limited to a very short given time. In addition, descriptive design is best to use if one wants to learn about characteristics such as knowledge, attitudes and practices of a particular population.

Population

The population for this study was all fourth year UNAM nursing students. The total number of Fourth year UNAM nursing students was 105.

Sampling method

A simple random sampling was used to select the participants. The researcher opted for this method because, this sampling technique reduces the chance of systematic errors, the methods also minimize the chance of sampling biases, it is Simple, easy and sampling error is easily measured. Taherdoost [13] emphasized that, in simple random sampling, every case of the population has an equal probability of inclusion in sample thus accuracy of representation is maintained, in return this helped to minimize the possibilities of sampling bias. Mohsin concludes that Inferences drawn from sample are generalizable to the population and estimates are also easy to calculate.

Data collection

Study setting: The research was conducted at the University of Namibia main campus and Dr. Hage Geingob campus. However data was collected where ever the suitable participants were found, this included at the hospital or clinical setting provided they were eligible participants who were fourth year nursing students and studying with the University of Namibia.

Data collection tool: A modified questionnaire called Knowledge, Attitudes and Practice (KAP) was used. The KAP questionnaire aimed at assessing the level of knowledge, attitudes and practices

of nurses when caring for PLWH was developed by Huang, Bova, Fennie Williams. The KAP questionnaire has been used among nursing students in Swedish, Tanzania, South Africa and Of all the above studies the instrument was found to be reliable and able to measure that which it was developed for.

The questionnaire had four sections. The first section was made of demographic questions such as age, sex, place of living, marital status and religion. The second section tried to extract the knowledge that which the student nurses possessed on the HIV/AIDS topic. The knowledge scale was based on an instrument developed by Eckstein containing statements about disease presentation, transmission, precaution, and prevention, and scored as True, False or Don't Know.

The third section, section 3, extracted the attitude behaviors of fourth year nursing students when caring for PLWHA. The instrument was developed in such a way that the investigator can pick out the sympathetic attitudes and reframing attitudes of nursing students. A six Likert scale questionnaire adopted from Baokye [7] was used. This is an open available instrument aimed at measuring the Knowledge, Attitude and Practices of nursing students when caring for HIV positive patients. The tool was developed by Eckstein and Froman and Owen. This stool has proved its effectiveness as it was used in many studies such as Baokye [7]. Though the instrument was capable of measuring and obtaining the required data, the questionnaire was modified to fit the context of the current study.

The last section, section 4, was made up of 10 closed ended questions with —YES|| or —NO|| possible answers. The questionnaire consisted of questions relating to universal precautions adherence. These questions measured the practices behaviors that fourth year nursing students had when caring for PLWHA.

The questionnaire was written in English, a language well-spoken and understood by most of the participants. English is also the official language in Namibian schools.

Procedure for data collection: The data was collect during the practical blocks of the fourth year students, thereby it did not influence with the students theoretical learning blocks. Prior to the collection of data, an appointment was made with the clinical instructors to ask permission to collect data form the students. The clinical instructors gave permission to administer the questionnaires to the student during their lunch hour break, thus there was no interfering with clinical work.

Data was collected by the researcher herself and the questionnaires were self-delivered by the researcher. Completed questionnaires were also collected from the participants by the researcher. The researcher was present during the data collection processes for supervision of the participants and to answer any questions that arose. A period of 20 minutes was given to the participants to complete the questionnaire.

Each participant signed a consent form before answering the questionnaire. The questionnaire and the consent form were two different documents and were treated separately. There by ensuring privacy of participants answers. Participants were equally not forced to partaken in the study.

Pilot study: In order to find out the effectiveness of the data collection tool, the tool was administered to ten randomly selected third year UNAM nursing students before the actual investigation or study. According to Planning Research Papers 7, the pilot study, helps the researcher to try out a number of alternative measures and then select those that produce the clearest results for the main study. This helps the main study to be precise on what it intends to measure.

The results from the pilot study were not included in the main study, this is because the pilot study was only be aimed at investigating the feasibility of the proposed study and to detect possible flaws in the methodology and to identify possible problems with the design. Brink, further emphasized that data collected during this study should not be included in the main study, but to be used only for the purpose explained above.

Validity and Reliability

Validity: To insure internal validity, participants were randomly selected using a simple random sampling. The pilot study was conducted to test whether the questionnaire was able to measure that which it was intended to and to test the instruments in terms of clarity. The instrument was also presented to a team of experts, the supervisor, for evaluation of the content validity. To reduce Hawthorne effect in order to promote validity, the researcher built a trusting relationship with the participants by explaining to them the aim of the research and how they will benefit from it [14].

Reliability: There are numerous ways of calculating reliability. The study used the Cronbach's alpha coefficient as the means of measuring the internal consistency reliability. Cronbach's alpha, α (or coefficient alpha), developed by Lee Cronbach in 1951, measures reliability, or internal consistency. SPSS Statistics software was used to calculate the Cronbach's alpha value. Any value above 0.70 was considered acceptable to show a high reliability of the study.

Furthermore, the instrument which was used has been used before by several researchers with the similar research content, and according to the researcher's literature review it has been proven to be effective. In this study, reliability of questionnaires was also ensured by designing structured questions that measured the knowledge, attitude, practice of fourth year nursing students when caring for HIV positive patients [15]. The researcher was also present during the data collection process to answer any questions and give clarity where it was needed.

Research Ethics

Permission to conduct the study: Ethical clearance to conduct the study, the proposal was reviewed by the Health Research committee of UNAM and an ethical clearance letter was issued by the University management.

Respect for person: Individuals were treated autonomously, that they had the right to decide whether or not to participate in the study. Therefore the decision to take part in the study was voluntary. No forms of coercion or penalty for failure to participate were used.

Principle of justice: The random sampling method which was used insured fair selection of the study population and the participants in particular. The participants were selected for the reasons directly related to the research problems and thus no special attention was given to certain person(s) based on their race, social status or academic qualifications.

Beneficence and maleficence: The participants were informed that they will not receive any monetary benefits from participating into the study and that it will not benefit them directly. However findings from the study may help identify gaps and area of improvements in student's knowledge, attitudes and practices when caring for people living with HIV/AIDS. The findings will also benefit the country and nursing training institutions in formulating or revising HIV/AIDS related curriculums to strengthen the competency of future students when caring for people living with HIV/AIDS disease.

The study posed no direct harm to the participants; however, some questions could have evoked some unpleasant emotions from the participants. If that happens participants were allowed on deciding to withdraw from the study or receive counseling or referred for counseling if necessary.

Data Analysis

Introduction

The previous chapter explained the methodology followed by the researcher in conducting the study. Under this chapter the findings from the research based on the data analysis will be presented. The findings are presented in line with the research objectives this study. The results are presented in pie charts, bar graphs and tables for easy interpretation.

The data will be presented according to the data collection tool used. This chapter will present the data following four sections, section A, B, C and D, demographic data, knowledge related results, attitude and practice data respectively.

Section A: Demographic data

Age of respondents: The following figure shows the age of the participants (**Figure 1**).

From the above figure, the majority of the participants were in the age category of 18-23 years 35 people out of 76. The least represented age group is the age from 30 years and above.

Gender of respondents: The figure below illustrates the gender representation in the study (**Figure 2**).

Gender distributions of participants: The majority of the participants were female with a total representation of 75% (57) while the male were only 25% (N=19) represented (**Table 1**) and (**Figure 3**).

The majority of the participants were not married accounting to 63.2% (48). The least represented were the married with only 9.2% (7).

Highest educational qualification of respondents: The figures below shows the frequency table and pie chart of the education level of the participants (**Figures 4 and 5**).

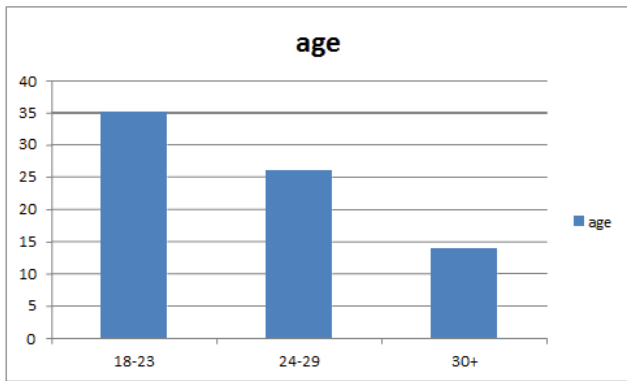


Figure 1 Age distribution of participants.

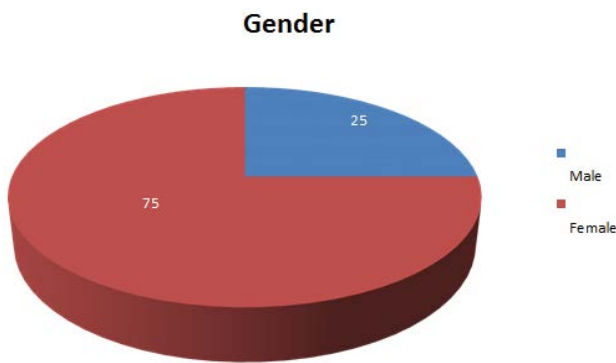


Figure 2 Gender distributions of participants.

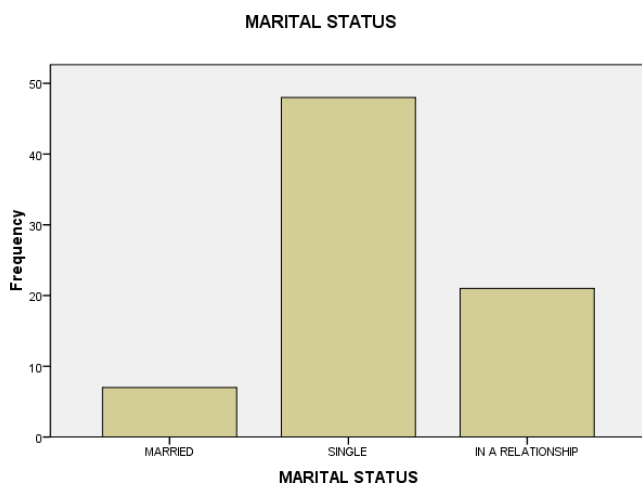


Figure 3 Marital status bar graph.

From the study most of the participants the highest qualification they had was the NSSC results 71.1% (54), and a few fraction of them 5.3% (4) had diplomas (Table 2).

HIV/AIDS Related training: The majority of the participants acquired training in HIV related programs. 51.3% of the participants received training and a handful number of 48.6% (37) received no training (Table 3) and (Figure 6).

Type of training received: Receiving training (Table 4) and (Figure 7).

Table 1 Marital status of respondents, frequency table.

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Married	7	9.2	9.2	9.2
Single	48	63.2	63.2	72.4
In a Relationship	21	27.6	27.6	100.0
Total	76	100.0	100.0	

Table 2 Highest education qualification, frequency table.

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid NSSC	54	71.1	71.1	71.1
Certificate	18	23.7	23.7	94.7
Diploma	4	5.3	5.3	100.0
Total	76	100.0	100.0	

Table 3 HIV/AIDS related training.

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Yes	39	51.3	51.3	51.3
No	37	48.7	48.7	100.0
Total	76	100.0	100.0	

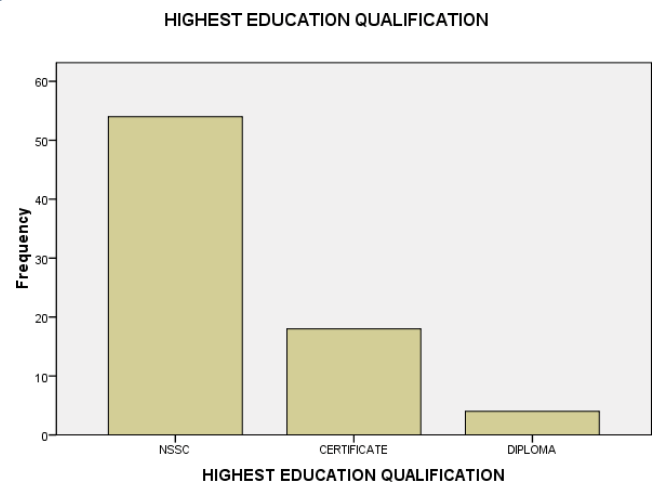


Figure 4 Highest education qualification, bar graph.

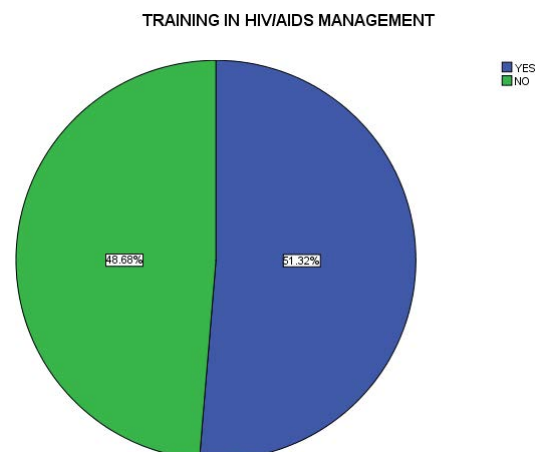
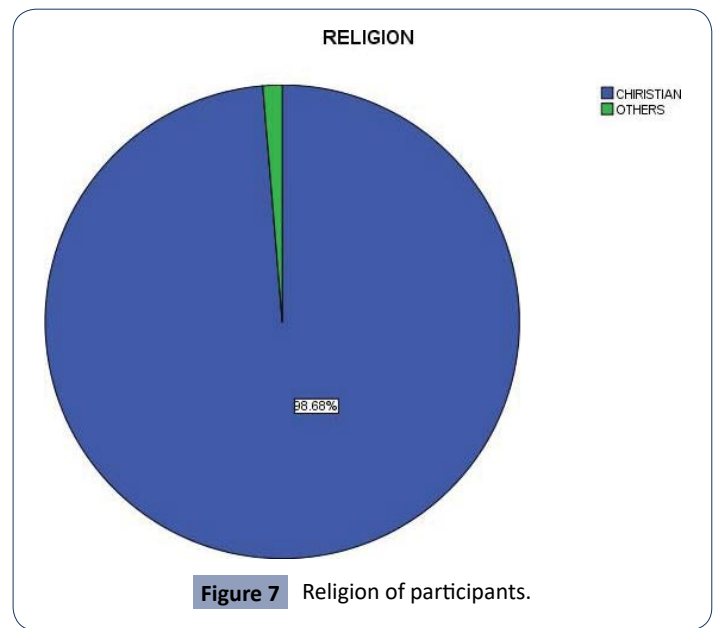
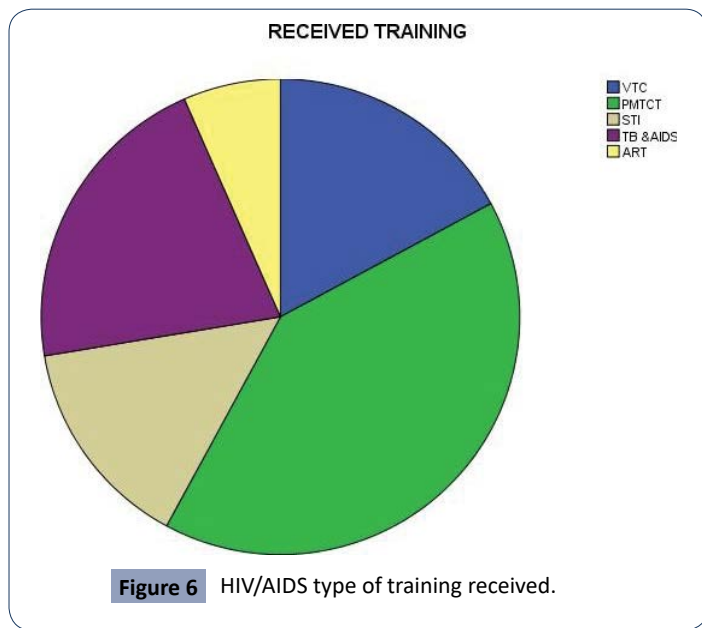


Figure 5 HIV/AIDS Management related training.

Table 4 Religion of participants.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	VTC	13	17.1	17.1	17.1
	PMTCT	31	40.8	40.8	57.9
	STI	11	14.5	14.5	72.4
	TB &AIDS	16	21.1	21.1	93.4
	ART	5	6.6	6.6	100
	Total	76	100	100	



Religion: The figure below shows the religion of the participants (Figure 8).

The majority of the participants were Christian 98.66% and a very small fraction 1 person indicated other religions.

SECTION B: HIV/AIDS-related knowledge of participants

The table below shows the HIV/AIDS related knowledge of the participants (Table 5).

The table above shows the responses of students on various HIV/AIDS knowledge related questions. From the table above most students exhibited sufficient knowledge on HIV related topics. However most of the students disagreed with the importance of advocating for patients with different HIV status, 40% (31) disagreed while and 39% (30) agreed to and 19.7% (15) neither agreed nor disagreed. About 35.5% of the respondents agreed that HIV is highly contagious. A large number of participants knew that HIV can be transmitted to people receiving blood transfusion 55.3% (42), similarly to this about 67.1% (51) knew that HIV cannot be easily transmitted through saliva, sweat and tears.

SECTION C: HIV/AIDS attitude of respondents

The table below shows the HIV/AIDS related attitudes of students when carrying for PLWH (Table 6).

The above table describes the attitude of fourth year nursing students when caring for people living with HIV/AIDS. When asked if HIV/AIDS patients are entitled to confidentiality, even if it puts other people at risk of contracting the disease the majority of participants either agreed 13.2% (10) or strongly agreed 26.3% (20), however a handful fraction of the respondents disagreed 25% (19) or strongly disagreed 11.8% (9) and a few neither agreed or disagreed 23.7% (18). When asked if they sympathetic towards the misery that people living with HIV/AIDS experience, a handful fraction of them showed no sympathy towards these people by strongly disagree 14.5% (11) or just disagree 28.9% (22). While the majority agreed that they show sympathy towards PLWH by agreeing 19.7% (15) or strongly agreeing 10.5% (8) and a few neither agree or disagreed 26.3% (20).

Section D: Practices of nursing students when caring for HIV positive patients

The table below shows the practice of nursing student when caring for people living with AIDS. About 23.7% of participants indicated that they recap needles immediately after using it. About 17.1% of the respondents do not wear gloves when withdrawing blood from the patients (Table 7). 59.2% (45) of the participants indicated that they give health education at each end of the follow up visit, and 34.2% (26) indicated that they do not offer health education to clients at the end of a follow up visit and only 5 students, 6.6%, who indicated not applicable.

Table 5 HIV/AIDS-related knowledge of participants.

HIV/AIDS Knowledge Scale	T	F	DK
1. HIV can be transmitted by casual contact	23.7% (18)	63.2% (48)	13.2% (10)
2. HIV can be transmitted to people receiving blood transfusion	55.3% (42)	36.8% (28)	7.9% (8)
3. The HI virus can easily be killed with disinfectant in the environment	11.8% (9)	77.6% (59)	10.5% (8)
4. HIV is highly contagious	35.5% (27)	51.3% (39)	13.2% (10)
5. HIV/AIDS is characterized by a decrease in T-4 lymphocytes, causing an impaired cellular immunity	56.6% (43)	28.9% (22)	14.5% (11)
6. A person with antibody to the virus is protected against HIV/ AIDS	25% (19)	63.2% (48)	11.8% (9)
7. All pregnant women infected with HIV will have babies born with AIDS	19.7% (15)	76.3% (58)	3.9% (3)
8. Gloves are not necessary when handling body fluids	18.4% (14)	77.6% (59)	3.9% (3)
9. People infected with HIV can be asymptomatic, but still infectious	73.7% (56)	19.7% (15)	6.6% (5)
10. The risk of infection with HIV after an accidental needle stick injury at the workplace is high	60.5% (46)	32.9% (25)	6.6% (5)
11. An individual may be infected with HIV even if he/she tests negative for HIV/AIDS antibodies	48.7% (37)	38.2% (29)	13.2% (10)
12. A person can be infected with HIV for 5 years or more without getting AIDS	64.5% (49)	26.3% (20)	9.7% (7)
13. Gloves and gowns are required for any contact with patients with HIV/AIDS	34.2% (26)	59.2% (45)	6.6% (5)
14. One should suspect the diagnosis of HIV/AIDS in young persons who present with Kaposi's sarcoma	67.1% (51)	21.1% (16)	11.8% (9)
15. To prevent accidental injury, contaminated needles should be recapped immediately after use on patients with HIV/AIDS	25% (19)	71.1% (54)	3.9% (3)
16. HIV can be easily transmitted through saliva, sweat and tears	22.4% (17)	67.1% (51)	10.5% (8)
17. Adherence to antiretroviral treatment is essential to avoid the development of drug resistance	59.2% (45)	28.9% (22)	11.8% (9)
18. HIV-positive patients with a CD4-count <200 should be assessed for antiretroviral treatment	55.3% (42)	32.9% (25)	11.8% (9)
19. Pulmonary TB is classified as a WHO clinical stage 2 condition	48.7% (37)	23.7% (18)	27.6% (21)
20. It is important to advocate for marriage between a positive HIV patient and HIV negative person.	39.5% (30)	40.8% (31)	19.7% (15)

Table 6 HIV/AIDS related attitudes.

HIV/AIDS Attitude Scale	SD	D	N	A	SA
	1	2	3	4	5
1. Most people with HIV/AIDS only have themselves to blame	38.2% (29)	27.3% (21)	21.1% (16)	7.9% (6)	5.3% (4)
2. When admitted to hospital, patients who are HIV- positive should not be put in rooms with other patients	39.5% (30)	17.1% (13)	30.3% (23)	6.6% (5)	6.6% (5)
3. When caring for a person with HIV/AIDS, you need to worry about putting your family and friends at risk of contracting the disease	28.9% (22)	31.6% (24)	21.1% (16)	15.8% (12)	2.6% (2)
4. Patients with HIV/AIDS have the right to the same quality of care as any other patient.	13.2% (10)	19.7% (15)	15.8% (12)	10.5% (8)	40.5% (31)
5. It is especially important to work with patients with HIV/AIDS in a caring manner	13.2% (10)	23.7% (18)	18.4% (14)	17.1% (13)	27.6% (21)
6. Patients with HIV/AIDS should be treated with the same respects any other patient	14.5% (11)	22.4% (17)	15.8% (12)	3.9% (3)	43.2% (33)
7. I am always worried about getting HIV/AIDS from caring for a person with HIV/AIDS in their work environment.	21.1% (21)	30.3% (23)	31.6% (24)	10.5% (8)	6.6% (5)
8. I am sympathetic towards the misery that people with HIV/AIDS experience	14.5% (11)	28.9% (22)	26.3% (20)	19.7% (15)	10.5% (8)
9. Do you think marking the beds and files of HIV infected persons is necessary as the means of identification to prevent staff medical legal hazards?	42.1% (32)	19.7% (15)	19.7% (15)	10.5% (8)	7.9% (6)
10. All patients with HIV/AIDS are entitled to confidentiality, even if it puts other people at risk of contracting the disease	11.8% (9)	25% (19)	23.7% (18)	13.2% (10)	26.3% (20)

Table 7 HIV/AIDS-related practices of participants.

Practice scale	Y	N	N/A
1. I encourage people to get tested and counselled for HIV/AIDS?	78.9% (60)	17.1% (13)	3.9% (3)
2. I often give pre and post HIV counselling when I test my clients for HIV.	50% (38)	32.9% (25)	17.1% (13)
3. I do not give ART adherence counselling to newly diagnosed patients on the day of ART enrolment.	30.3% (23)	60.5% (46)	9.2% (7)
4. I practice universal blood and body fluid precautions at your workplace?	61.8% (47)	28.9% (22)	9.2% (7)
5. The last time you took a blood sample, did you wear gloves?	73.7% (56)	17.1% (13)	9.2% (7)
6. I always wash my hands before examining a patient.	60.5% (46)	30.3% (23)	9.2% (7)
7. I recap needles immediately after using them?	23.7% (18)	69.7% (53)	6.6% (5)
8. I treat blood spills on floors or other surfaces with a disinfectant	55.3% (42)	36.8% (28)	7.9% (6)
9. I only start ART when the patients viral load is less than 1000 copies/ml	33.9% (19)	55.3% (42)	19.7% (15)
10. At the end of each follow up, I give health education to my clients.	59.2% (45)	34.2% (26)	6.6% (5)
11. I treat my clients with respect irrespective of their HIV status.	69.7% (53)	22.4% (17)	6.6% (5)

Conclusion: The data was collected from a total number of 76 participants. Initially the desired sample size was 83. Therefore a response rate of 91.6% was achieved. Among the 76 participants all the participants managed to answer all questions. The results were analyzed using descriptive statistics. For section A, the demographic data was analyzed using the Statistical Package for the Social Sciences, (SPSS). Section B, C and D were analyzed manually. In this chapter different forms of data presentation methods were used; pie charts, tables and bar graphs.

Discussion of Results

This chapter presents the results and the research findings of the study in relation to the aim of the study. The study was aimed at assessing the knowledge, attitudes and practices of UNAM fourth year nursing students when caring for people living with HIV/AIDS. The findings are interpreted in-line with what is already known about the research problem. The research findings will be evaluated and those of other researchers who have published similar works on nurses _knowledge, attitudes, and practices towards people living with HIV/AIDS.

SECTION A: Demographic data age

76 fourth year nursing students took part in the study. The majority of the participants were within the age range of 18-23 years 50% (N=35). 24-29 were 35.5% (N=27) while the least represented age group was that of 30+ years 18.4% (N=14). The median age was 25 years and the modal age was 23 years. The ages of participants were normatively distributed, because the ages of most of the participants fell close to the mean age for the study population.

Gender: Out of the 76 students who returned their completed questions enormous number of female out weight the Male gender, 75% (N=57) and 25% (N=19), respectively. Most of researches conducted previously also showed the same trend. One study on HIV/AIDS knowledge, attitudes and behaviors of student nurses by Ouzouni and Nakakis [16] showed that out of 297 nursing students investigated only 45(16.1%) were male and a tremendous number of more than 80% were females (n=234) were female. This is a very huge gender difference. Similar studies such as that of Ngcobo and Mchunu [11] and Baokye [7] also showed a similar trend. This is not a surprising phenomenon; the cause of this trend can be traced far way back in the eras of early nursing leaders, such as Lavinia Dock and Florence Nightingale, Selanders and Crane [17] describes that these early nursing leaders compounded prejudicial view of men in nursing particularly Nightingale's image of the nurse as subordinate, nurturing, domestic, humble, and self-sacrificing, as well as not too educated, became prevalent in society. One critic by Ross [18] supports this that Nightingale's perception or belief and feminization of the nursing profession into a female only profession have caused a notable insignificant reduced number of males in the nursing profession.

Marital Status: Due to the fact that the population of our studies comprised much of participants between the age ranges of 18-23 and 24-29, subsequently it was found that about 63.2% (N=48) were not in any form of relationship and 26.3% (N=21) were in

relationships. This gave a total amount of 90.8% (N=69) of the unmarried people. Only a fraction of 9.2% (N=7) were married.

Highest qualification, HIV/AIDS related training and type of training received: Because of the age of the participants, the majority of participants their highest qualification was their Namibia Senior Secondary Certificate 71.5% (N=45). The few individuals had either certificates 23.7% (N=18) or Diplomas 5.3% (N=4) in different health related courses. The majority of the students 55.0 (N=41) claims that they received HIV/AIDS related training while 46.1% (N=35) claims to have not received any training in HIV/AIDS related topic. Among those who claim to have received training, about half of them received training in PMTCT, VCT and ART. However it was noted that these trainings they received them during their nursing degree or certificate pursuits. From the results it was demonstrated that people with previous qualification, certificate, in nursing demonstrated high level of good practice when caring for people living with HIV/AIDS.

Religion: The participant's religious affiliation comprised much of Christians. About 98.8% (N=75) were Christians and only 1 student among the responses was in other religious category. According to Rumun [19], the religious affiliation of health care practices is very influential on health care delivery system more especially in HIV/AIDS related disciplines, for example a Jew and other Christian may feel very guilt in advising an individual to use a condom, and they feel that it is very wrong. This might hamper health care delivery.

SECTION B: HIV/AIDS-related knowledge of participants

The overall knowledge in this study was satisfactory. This is similar to the findings that of Baokye [7], Bhupendra, Upadhyay, Wavare, Deshpande and Singh [10], it should be however noted that the above-mentioned studies were carried among registered nurses, but however the results are worth comparing. Similar studies which were conducted on students also showed the similar pattern, studies such as that of Bhupendra, Upadhyay, Wavare, Deshpande and Singh [10] showed that nursing students heard moderate knowledge towards HIV/AIDS related topic. Other study by Ouzouni and Nakakis [16] showed that student nurses have relative knowledge on HIV/AIDS related topic.

Though the students demonstrated sufficient knowledge on HIV/AIDS, it is with quiet interest that most students 23.7% (N=18) believed that HIV can be transmitted through casual contact and about 13.2% (N=10) did not know whether this was true or not. This is also similar even to the study which was conducted by Baokye [7], the study similarly showed that about 30% of that study showed that nurses do not know that HIV cannot be contracted through casual contact. The students exhibited fairly pour knowledge on HIV transmission about 44.3% of the participants did not know that HIV can be easily be transmitted through blood transfusion. This is widely in contrast to the study conducted by Baokye [7]; the study showed that more than 40% knew that HIV can be transmitted through blood transfusion. Subsequently about 35.5% of the participants also thought that HIV/AIDS is highly contagious.

Most of the participants did not know that the risk of contracting HIV after a needle stick injury is very low. The majority about 60.5% really believed that contracting HIV after accidentally pricking themselves is very high. This is very similar with studies by Baokye [7]. Supporting data that there is relatively reduced risk of contracting HIV after a needle stick can be found in article the article by James and Sifris [20]. While the perception of risk may be high in cases of needle stick injuries, recent analyses from the Centers for Disease Control and Prevention (CDC) suggests that the actual risk may be far lower—so low, in fact, that it can now be considered rare [20]. This is a very big knowledge gape. The fear therefore the students have when withdrawing blood form PLWH, can be traced to this point that they do not know how low is the chances of one contracting the virus after a needle stick.

The student demonstrated fairly sufficient knowledge in relation to HIV diagnosis, 67% (N=51) students knew that Kaposi sarcoma is clinical symptom of HIV in children. However this is a very huge knowledge gape, 32.8% of the students did not know that Kaposi sarcoma is a clinical indication of HIV infection in children. Similar studies conducted by Famoroti, Fernandes and Chima [21] showed that permanent nurses also do not know that Kaposi Sarcoma is a clinical symptom of HIV infection. Some other notable knowledge gaps in the study included recapping of used needles about 25% students believed that recapping of contaminated needles helps in needle prick injury. Similar studies by Ngcobo and Mchunu [11] also showed that many health care workers recap needles after using them.

Section C: Nursing attitude when caring for HIV positive patients

Several studies have reported that nurses have negative attitude when carrying for people living with HIV/AIDS. A study conducted by Famoroti, Fernandes and Chima [21] noted some evidence of stigmatization and discrimination in the treatment of PLWHA by HCW in this tertiary hospital in KZN province. Contrary to this, this study has found that the students had positive attitude towards people living with HIV/AIDS. Most of the students agreed to positive statements and disagreed to negative statements towards people living with HIV/AIDS.

Though the nurses had considerable fear of contracting the HIV infection, Majority of the nurses 43.2% (33) and 26.3% (20) strongly agreed with the statements patients with HIV/AIDS have the right to the same quality of care as any other patient_ and patients with HIV/AIDS should be treated with the same respect as any other patient. This is similar with the study conducted by Baokye [7]. However in a study conducted by Bhupendra, Upadhyay, Wavare, Deshpande and Singh [10], the study showed that PLWH it is impossible to be treated equal as the other patients, this is because the nurses will take any precautions to prevent themselves when rendering care to them. Some nurse investigated indicated that they feel very prone and exposed to HIV infection when suturing HIV infected individuals than when doing the same procedure to a HIV negative individual.

Maintaining HIV confidentiality is a very debatable issue more especially when there is a risk of transmitting it to the next

party. From the study about 13.2% (10) and 26.3% (20) agreed or strongly agreed to keeping confidentiality of a person living with HIV even if it puts the life of others in danger. A similar percentage of the participants also strongly agreed or just agreed, 11.8% and 25%, to the above statement.

When asked whether they are sympathetic towards the misery PLWH go through, surprisingly more than half of the participants strongly disagreed this highly in contradiction to other studies such as those of Baokye [7]. It should be noted that the studies conducted by [7] were specialised nurses, dental nursing students, and registered nurses, but they are worth comparing. The mean score of this question was 2.8; this showed that most participants disagreed.

Section D: Practices of nursing students when caring for HIV positive patients

From the study the students exhibited good practice towards people living with HIV/AIDS. The findings of the study are against the findings of Magdi, her findings showed an overall unsatisfying total practice level in nursing students when caring for people living with HIV/AIDS. Though the student nurses showed good practice skills in this study, the number of students who indicated bad practices is of great concern.

In this study about 23.7% students still recaps needles after using them. Needle recapping is a great concern in the health care system and that Injection safety is an important component to keep away from disease which is transmitted by unsafe practice. These results are almost similar with those studies conducted by Baokye [7] which found that some 25.6% of nurses in that study recapped needles after use. The study was also in disagreement to the study done by Chalya, P. L., Seni, J., Mush, M. F., Mirambo, M. M., Jaka, H., Rambau, P. F., Kapesa, A., Ngallaba, S. E., Massinde, A. N. & kalluvya, S. E. [22]. The study by Chalya et al [22] stated that recapping needles is very rare. One study by Afzal [23] showed that the rate of needle stick injury caused by recapping needles in Pakistan is 45%. The same study by Afzal [23] also showed that about 70% of the respondents still recapped needles all the time after use. The cause of this can be attributed to poor knowledge of HIV transmission observed from some student nurses [24-26].

The students also showed that gloves and washing of hands when attending to clients is very important. The majority of the students 60.5% wash their hands before examining patients [27-29]. They also showed that they wear gloves before withdrawing blood from the patients 73.7%. The findings of the results were similar with those of Ho, Ho, Hng, Liu, Jaafar and Lim [24] nurses compliance to hand hygiene practice and knowledge was good.

The practice of nurses towards people living with HIV/AIDS was good with some few mixed bad practices, from other nursing students which were noted. The overall mean of their practice was 1.5 [30-32].

Conclusion

The main objectives of this study were to

- To determine the knowledge of fourth year nursing students when caring for people living with HIV/AIDS.

- To determine attitudes of fourth year nursing students when caring for people living with HIV/AIDS.
- To determine practices of fourth year nursing students when caring for people living with HIV/AIDS.
- To describe the knowledge, attitudes and practices of four-year nursing student when caring for people living with HIV/AIDS.

Base on the data analysis above it can be concluded that these objectives together with the aims were met.

Beginning with the first objective, the overall knowledge of participants was satisfactory; however, some had mixed knowledge or lacked in-depth knowledge on HIV/AIDS transmission. This was mostly observed on the poor answers given when asked on the risk of HIV transmission after a needle stick injury.

Regarding the attitude of the students, the students displayed fair attitude towards people living with HIV/AIDS. Though the students showed no signs of discrimination for PLWH, the majority of students displayed fear of contracting the virus when caring for PLWH. The students further showed no sympathy towards these people. Most importantly students believed that they cannot advocate for marriage between two individuals with different HIV status, either one is positive and the other one is negative.

Fourth year UNAM nursing students have good practice when caring for people living with HIV/AIDS. However, the only downfalls observed were the constant recapping of used needles and a few individuals who do not initiate ART regardless of the viral copies of a positive patient, as some stated that they only initiate ART once the viral load is above 1000 copies.

Therefore, it can be concluded that UNAM fourth year nursing students have a satisfactory knowledge on HIV/AIDS related topic and fair attitude towards PLWH and good practice when caring for people living with HIV/AIDS.

Limitations

Due to the global pandemic of Covid 19, data collection was very challenging as most of the students were not in one place. The

favorable sample size which was needed was 83 students, but only 76 were available. This was due to the reason explained above of the global pandemic of the novel corona virus. Furthermore, the study was only conducted at the University of Namibia and thus the findings cannot be generalized.

However, the study has its own strength as it was the first study of this nature to be conducted at the University of Namibia.

Recommendations

The university curriculum should be revised to include new updated information related to HIV/AIDS. It is also recommended that the university must include the clinical placement of students in ART wards, the current policy at the university allows students to be placed at the clinics for not more than 10 days, just a week and 3 days, for the entire four years of training, they are only placed at ART in their final year.

The University of Namibia should also introduce a specific module or subject specifically for HIV/AIDS management, this will serve as a comprehensive training of the nursing students, and the training will help promote a good delivery of accurate information on HIV/AIDS to the public and to provide proper patient care. This is because there are no known modules in undergraduate studies which talks more about HIV/AIDS, as these types of training can only be found in postgraduate studies.

Future researches are also recommended on topics such as, nurses' knowledge on needle stick injuries, the contributing factors to negative attitudes of nurses towards people living with HIV/AIDS.

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