

Assessment of Knowledge, Attitude, and Practices on HIV/AIDS Patient Care among Clinical Medical Students at KIUTH

Ihato Ivor Twirire

Medicine and Surgery at Kampala International University, Ishiaka Western Campus, Uganda

ABSTRACT

Globally, HIV-related deaths have fallen, most likely due to the intervention of Highly Active Anti-Retroviral Therapy (HAART). New HIV infections have fallen by about 35% since 2016, with approximately 180 000 newly infected in 2021, compared to approximately 270 000 in 2016. The study assessed knowledge, attitude, and practices on HIV/AIDS patient care among clinical medical students at Kampala International University Teaching Hospital (KIUTH). Using a questionnaire as a method of data collection, the descriptive study design included both male and female participants from a population of 322 people. The study showed that there was good knowledge of students on HIV patient care, as all the students knew how HIV is diagnosed at an odds ratio of 1.0 (0.5–4.22) and a p-value of 0.05, although 127 (70.6%) of those who had never taken care of people living with HIV didn't know different HIV ART combinations. The study also showed good student attitudes towards HIV patient care, in which most students were willing to stay near HIV patients and treat them at an odds ratio of 0.7 (0.022–8.05) and a p-value of 0.444, but poor practices, in which only 142 (44.1%) had cared for HIV and 61.7% had never counselled HIV patients at an odds ratio of 1.5 (0.75–7.78) and a p-value of 0.024. In conclusion, the majority of the participants had knowledge, attitude, and practice of HIV patient care among clinical medical students. The study recommends that medical students should be given health education about patient care so as to increase their knowledge and capacity to look after patients. The study recommends that the government decentralise HIV services to low-level health centres so as to bring services closer to people. The study also recommends that there should be outreach to communities to do voluntary testing and counselling for the population to know the people who could be HIV positive but are not yet tested.

Keywords: Assessment, Knowledge, Attitude, Practices, HIV/AIDS Patient, Clinical students.

INTRODUCTION

Medical education is one of the professional trainings that aim to turn a layperson into a professional, a doctor in this context. Transformations in theoretical perspectives and teaching strategies are abounding in medical education in order to produce doctors who are not only knowledgeable and skilled but also behave professionally [1]. Globally, HIV-related deaths have fallen, most likely due to the intervention of Highly Active Anti-Retroviral Therapy (HAART) [2–5]. New HIV infections have fallen by about 35% since 2016, with approximately 180 000 newly infected in 2021, compared to approximately 270 000 in 2016 [6]. Approximately 21.7 million people with HIV were accessing antiretroviral therapy by June 2021, as compared to an estimate of 15.8 million in June 2019 and 7.5 million in 2016 [6]. An estimated 46% of people with HIV had access to treatment, and about 77% of HIV-positive pregnant women had access to antiretroviral medication for the prevention of HIV transmission from mother to

baby [7]. In 2021, an estimated 36.9 million people were living with HIV (including 1.8 million children), with a global HIV prevalence of 0.8% among adults. Around 25% of these same people do not know that they have the virus [8]. The vast majority of people living with HIV are located in low- and middle-income countries, with an estimated majority living in sub-Saharan Africa [9–11]. Among this group, 19.6 million are living in East and Southern Africa, which saw 800,000 new HIV infections in 2021 [6].

In Uganda, as of 2019, the estimated HIV prevalence among adults (aged 15 to 49) stood at 5.9%. Women are disproportionately affected, with 8.8% of adult women living with HIV compared to 4.3% of men [12]. Other groups particularly affected by HIV in Uganda are sex workers, young girls and adolescent women, men who have sex with men, people who inject drugs, and people from Uganda's transient fishing communities [13]. In 2017, Uganda reached a tipping point whereby the number of new

Ihato

infections per year was less than the number of people beginning to receive antiretroviral treatment [13]. However, as of 2020, around 33% of adults living with HIV and 53% of children living with HIV were still not on treatment. Persistent disparities remain around who is accessing treatment, and many people living with HIV experience stigma and discrimination [13]. As medical students become increasingly central points of contact for the clinical care of people living with HIV and AIDS, they must first ensure adequate preparatory education. Sub-Saharan Africa bears the greatest burden, as it sees more than two-thirds of all people infected with HIV [14]. A 2019 survey conducted by HIV support organisations, in partnership with the National Forum of People Living with HIV/AIDS (NAFOPHANU), of people living with and affected by HIV in central and south-western Uganda found stigma, both internal and

Study design

A descriptive cross-sectional study design was employed to conduct this study on university students doing medicine and surgery who are in their clinical years. The design will use a questionnaire as the main tool for collecting both qualitative and quantitative data.

Study setting

The study was conducted at KIUTH. KIUTH is located in the town of Ishaka-Bushenyi municipality, Ishaka division, in Bushenyi district, western Uganda. Its location is approximately 77 kilometres (48 miles) by road, west of Mbarara, the largest city in the sub-region. This location lies approximately 360 kilometres (224 miles) by road, southwest of Kampala, the capital of Uganda and the largest city in that country. The coordinates of Ishaka Bushenyi Municipality are: 0° 32' 40.00"N, 30° 8' 16.00"E (latitude: -0.544445; longitude: 30.137778).

Study population

The study included both male and female KIU clinical medical students rotating at KIUTH. Clinical medical students rotate in four main disciplines: internal medicine, surgery, paediatrics, obstetrics, and gynaecology.

The sample size determination

The sample size is determined using the Kish formula [16]:

$$N = \frac{Z^2 PQ}{d^2}$$

Therefore,

$$n = Z^2 pq / d^2 \quad \text{where}$$

n is the derived size of the population.

Z is the standard deviation at 95% of the degree of confidence which is 1.96

p is the estimated proportion of target population (30%)

q is 1-p which gives the remaining population

www.iaajournals.org

external, to be high. When the study began, more than half (54%) reported experiencing some form of discrimination or prejudice as a result of having HIV [15]. There was a lack of evidence of these behaviours among the medical students at KIUTH. The medical school has a role to play at the institutional level in multifaceted and multilevel stigma reduction strategies. Hence, this study was set out to examine the medical students' knowledge and stigmatising attitude towards providing care to PLWHA. The study evaluates the knowledge, attitudes, and practices of clinical medical students at Kampala International University Teaching Hospital, Uganda, regarding HIV/AIDS patient care. It aims to assess clinical medical students level of knowledge, understanding, attitudes, and practices towards HIV/AIDS patient care at KIUTH.

METHODOLOGY

d is the desired accuracy level (Precision standard error = 0.05)

$$z = 95\% = 1.96$$

$$p = 30\% (0.3)$$

$$q = 1 - 0.3 = 0.7$$

$$d = 0.05$$

$$n = (1.96)^2 \times 0.3 \times 0.7 / (0.05)^2$$

$$= 322.$$

Sampling method

Simple random sampling was used in each of the clusters, whereby the respondents were given the opportunity to participate in the study by picking papers from an enclosed box, and any respondent who picked a paper with a yes on it was allowed to participate. This technique was used to ensure that each member of the target population gets an equal and independent chance of being included in the sample of the study and also to reduce bias.

Inclusion criteria

All clinical medical students in the university who will voluntarily consent to participate in the study during that period

Exclusion criteria

The study will exclude students in community placements, those who were seriously sick, and those who refused to consent to participate in the study.

Independent variables

Knowledge and attitude of university students towards care for HIV patients.

Research instruments

The researcher will use a self-administered questionnaire as a data collection instrument because it's cheap, time-saving, easy to administer, effective, and the best form of obtaining information from the respondents. In this instrument, the researcher will use structured and multiple-choice questions. The questionnaire was made up of four parts: part one: demographic data; part two: questions for assessing

Ihato

knowledge; part three: questions for assessing attitude; and part four: questions for assessing practice in HIV patient care.

Validity and reliability

The questionnaire was pretested at Ishaka Hospital, which equally has students taking care of HIV patients. This was done to check for the effectiveness of the research tool and to check for necessary adjustments prior to administration to the actual respondents.

Data collection procedures and management

The researcher distributed questionnaires together with her research assistant to the respondents who had consented to participate voluntarily and picked up the 'YES' paper from the enclosed box in each faculty. Data management included data editing before leaving the area of study to ensure that there

were no mistakes and any findings could be collected before leaving the area of study.

Data analysis and presentation

The collected data was analysed using the statistical package for social science (SSP) version 20, and the results were presented in the form of tables and figures.

Ethical considerations

A permission letter was obtained from the administration of clinical medicine and dentistry and was presented to the executive director of KIUTH to obtain permission to collect data from the students. Consent was obtained from the respondents before receiving the questionnaire, and they were also informed of their rights. Participants also used initials for purposes of maintaining confidentiality.

RESULTS

Proportion of students who have ever taken care of HIV positive patients

Table 1: showing proportion of students who have ever taken care of HIV positive patients

HIV patient medical care	Frequency	Percentage
Ever cared for HIV patients	142	44.1
Never cared for HIV patients	180	55.9

From table one above, most of the students 180 and 55.9% had never taken care of HIV patients while

at least 142 and 44.1% had ever taken care of HIV patients.

Table 2: Knowledge on HIV care among medical clinical students

Knowledge assessment	Ever cared for PLW HIV (n=142)		Never cared for PLW HIV (n=180)		Odds Ratio	P-value
	Freq	Percent	Freq	Percent		
How HIV Is Diagnosed						
Knew	142	100.0	180	100.0		
Didn't Know	0	0.0	0	0.0	1.0(0.54-4.22)	0.05
Clinical Presentations						
Knew	136	95.8	168	93.3		
Didn't Know	06	4.2	12	6.7	0.5(0.28-8.25)	0.395
Art Side Effects;						
Knew	90	63.4	72	40.0	Ref	
Didn't Know	52	36.6	108	60.0	0.3(0.17-9.12)	0.022
HIV Care training						
Trained	64	45.1	69	38.3	Ref	
Not Trained	78	54.9	111	61.7	0.8(0.25-4.11)	0.402
Art Combination						
Knew	88	62.0	53	29.4	Ref	
Didn't Know	54	38.0	127	70.6	0.6(0.41-2.87)	0.018
Sign; significance 0.05; PLW- People Living with HIV						

The study found that students who had ever taken care of people living with HIV (136.95%) and those

who had never (168.93.3%) knew different clinical representations of HIV, with an odds ratio of 0.5

Ihato

(0.28–8.25) and a p-value of 0.005. This indicates that having knowledge of HIV diagnosis was not a significant factor in HIV patient care among students. The majority of students, both those who had ever taken care of people living with HIV (136.95%) and those who had never (168.93.3%), knew different clinical representations of HIV with an odds ratio of 0.5 (0.28–8.25) and a p-value of 0.005. The study also showed that having knowledge of clinical presentations of HIV was not significantly associated with HIV patient care among medical patients. In conclusion, the study found that having knowledge of HIV diagnosis was not a significant factor in HIV patient care among students. Both those who had ever taken care of people living with HIV (136.95%) and those who had never (168.93.3%) knew different clinical representations of HIV, with an odds ratio of 0.5 (0.28–8.25) and a p-value of 0.005. The study also showed that the majority of the students who had ever taken care of HIV-positive patients knew the

side effects of ART at 90(63.4%), while at least 108 (60.0%) students who never cared for people living with HIV did not know the side effects of ART at an odds ratio of 0.3 (0.17-9.12) and a p-value of 0.022. The study showed that having knowledge on ART side effects was significantly associated with HIV patient care among students. The study showed that the majority of the students, both those who had ever taken care of HIV patients (78, 54.9%) and those who had never taken care of HIV patients (111, 61.7%), had never been trained about HIV care among patients. At odds ratios of 0.8 (0.25–4.11) and a p-value of 0.402, the study showed that being trained about HIV patient care was not significantly associated with the practice. From the study, the majority of the students who had taken care of HIV patients knew about different HIV ART combinations, while at least 127 (70.6%) of those who had never taken care of people living with HIV didn't know different HIV ART combinations.

Students Attitude on HIV Patients Care
Table 3: showing attitude of students in regard to HIV patient n care

Attitude assessment	Cared for PLW HIV(n=142)		Never cared for PLWHIV(n=180)		OR	P-value
	Freq.	Percent	Freq.	Percent	95%CI	<0.05s g
Willing to care for PLW HIV;						
yes	133	93.7	164	91.1	Ref	
No	09	6.3	16	8.9	0.2(0.15-5.55)	0.767
Can stay with PLW HIV						
Yes	112	78.9	172	95.6	Ref	
No	30	21.1	08	4.4	0.7(0.22- 8.05)	0.444
HIV status should be exposed						
; yes	77	54.2	45	25.0	Ref	
No	65	45.8	135	75.0	0.3 (0.10-9.75)	0.041
HIV spread through contact with fluids						
Yes	84	59.2	88	48.9	Ref	
No	58	40.8	92	51.1	0.8(0.50-4.06)	0.007

Sg; significance 0.05; PLWHIV; People Living With HIV.

From table 3 above, the majority of the students, that is, 133 (93.7%) and 164 (91.1%) for those who have ever cared for and never cared for HIV patients, respectively, were willing to care for people living with HIV. At an odds ratio of 0.2 (0.15-0.55) and a p-value of 0.767, the study showed that a positive willingness to care for people living with HIV was not significantly associated with the practice among students caring for HIV patients. The study also showed that the majority of students, both those who had cared for people living with HIV and those who had never cared for people living with HIV, were willing to stay near HIV patients at an

odds ratio of 0.7 (0.022–8.05) and a p-value of 0.444. The study showed that the willingness to stay with people living with HIV among students was not significantly associated with the practice of HIV patient care. In the study, the majority of the students who had ever cared for people living with HIV agreed that their HIV status should be exposed to other working colleagues, while at least 135 (75.0%) of students who had never cared for people with HIV said it was appropriate to share their HIV status with other colleagues. The study showed that the majority of the students who had ever cared for people living with HIV agreed that HIV could

spread through fluids, while at least 92% of those who had never cared for people living with HIV did not agree. The study also showed that the students

attitude towards whether HIV spreads through contact with fluids was significantly associated with HIV patient care.

Student's practices towards HIV patient care.

Table 4: showing students practices towards HIV patient care.

Practice assessment	Care of PLW HIV (142)		Never care for PLWHIV (180)		Odds Ratio (95% CI)	p-value <0.05sg
	Freq.	Percent	Freq.	Percent		
Ever counselled any HIV patient						
Yes	82	57.7	69	38.3	Ref	
No	60	42.3	111	61.7	1.5(0.75-7.78)	0.024
Tested patient for HIV						
Yes	89	62.7	55	30.6	Ref	
No	53	37.3	125	69.4	0.9(0.28-4.25)	0.001
Taken sample for HIV patient;						
Yes	101	71.1	144	80.0	Ref	
No	42	28.9	36	20.0	0.2(0.10-8.89)	0.384
Taken PEP after HIV exposure						
Yes	01	0.7	00	0.0	Ref	
No	141	99.3	180	100.0	0.4(0.001-2.50)	0.555

Sg* significance, less than 0.05; PLW HIV; people Living With HIV.

From Table 4 above, the students were asked if they had ever counselled any HIV patients. The majority of the students who had ever cared for people living with HIV 82 (57.7%) said they had ever counselled HIV patients, while at least 111 (61.7%) who had never cared for people with HIV said they had never counselled HIV patients at an odds ratio of 1.5 (0.75-7.78) and p-value of 0.024. The study shows that having counselled HIV patients was significantly associated with HIV patient care among students.

The students were also asked how many had tested HIV patients, and the majority of those who had taken care of people living with HIV said they had never tested an HIV patient (89, or 62.7%), while at least 125 (69.4%) of those who had never taken care of people with HIV said they had never tested an HIV positive patient. At an odds ratio of 0.9 (0.28-4.25) and a p-value of 0.001, the study showed that

having ever tested a patient with HIV was significantly associated with HIV patient care.

In the table above, the students were asked how many had ever taken a sample from HIV-positive patients, and in (71.1%) and 144 (80.8%) of those students who had ever taken care of people living with HIV said that they had ever taken a sample from HIV patients. The study showed that taking a sample from an HIV-positive patient was not significantly associated with HIV patient care at an odds ratio of 0.2 (0.1-0.89) and p-value of 0.384. The participants were also asked how many had ever taken PEP following HIV exposure. The majority of the students, 141 and 180, respectively, for 99.3% and 100.0% of students who had taken care of people living with HIV and those who had never taken care of people living with HIV, said they had never taken PEP.

DISCUSSION

Proportion of students who have ever taken care of HIV-positive patients

From the study, most of the students, 180 (55.9%), had never taken care of HIV patients, while at least 142 (44.1%) had ever taken care of HIV patients. This could be because in most hospital settings, critically ill patients and those with chronic medical conditions are usually reserved for experienced health workers, and students are rarely allowed to take full care of such patients. When compared with other studies, a study by Som et al. [17] found that medical rarely allowed to take full care of such patients. Medical students who had discriminatory and stigmatised attitudes towards HIV were less

willing to provide care for individuals diagnosed with the viral infection [17].

Knowledge of HIV care among medical and clinical students

From the study, all the students knew different ways of diagnosing patients at odds ratio of 1.0(0.54-4.22) and p-value of 0.005 although it was not a significant factor on HIV patient care among students, this could be because through their clinical studies, medical students are equipped with vast knowledge on various HIV diagnosing techniques, this would be good since, it's the initial step for HIV patient care, when compared with other studies, a study by Zerdali et al. [18] in Turkey, found out that medical students had misconceptions

Ihato

or incorrect knowledge regarding the modes of transmission studies have shown that presence of stigmatization and discriminatory behaviors towards PLWHA in health care professionals would further jeopardize the care to them, in the same study 40% health workers taking care of HIV were found to have good knowledge on handling side effects associated with ART initiation treatment, which include skin conditions as well as mental disturbances [18].

The study also showed that the majority of students, both those who had ever taken care of people living with HIV (136,95%) and those who had never taken care of people living with HIV (168,93.3%), knew different clinical representations of HIV, with an odds ratio of 0.5 (0.28–8.55) and a p-value of 0.395. The study showed that having knowledge of clinical presentations of HIV was not significantly associated with HIV patient care among medical students. HIV management is based both on ARVs and symptomatic management; therefore, knowledge of HIV clinical features is essential for its management. When compared with other studies, studies by Ama et al. [19] found that 96.96% of study subjects had correct knowledge of the diagnosis of HIV and AIDS, and the high level of knowledge observed in that study was attributed to the high level of education of the health workers. The study also showed that majority of the students who had ever taken care of HIV positive patients knew the side effects of ART 90(63.4%) while at least 108(60.0%) students who never cared for people living with HIV did not know the side effects of ART at an odds ratio of 0.3(0.17-9.12) and p-value of 0.022, the study showed that having knowledge on ART side effects was significantly associated with HIV patient care among students, some ARVs have side effects on patients health, having knowledge on the side effects of ART gives better knowledge on patient care for holistic patient management, when compared with other studies, the study shows a correlation study results by Wilson et al. [15] in 2019 had showed good knowledge of medical students on ARVs and ART, their side effects on the patients' health and their impact on adherence with a mean score of (38.05 ± 4.91),and (76.8%).

The study showed that the majority of the students, both those who had ever taken care of HIV patients (78.9%) and those who had never taken care of HIV patients (111.7%), had never been trained about HIV care among patients. At odds ratios of 0.8 (0.25–4.11) and a p-value of 0.402, the study showed that being trained about HIV patient care was not significantly associated with the practice; more so, the majority of the students who had taken care of HIV patients knew about different HIV ART combinations, while at least 127 (70.6%) of those

who had never taken care of people living with HIV didn't know about different HIV ART combinations. The study showed that having knowledge of various HIV ART combinations was significantly associated with patient care among medical students. When compared with other studies, studies by Dinah et al. in 2020 also showed that 85.3% could correctly identify modes of transmission of HIV, while 77.8% had correct knowledge about HIV prevention, the ART combinations, regimens, and their age recommendations. However, their knowledge of the modes of transmission of HIV was inadequate, and they had misconceptions about the spread of HIV.

Students attitudes towards HIV patient care

From the study, the majority of the students, that is, 133 (93.7%) and 164 (91.1%), for those who have ever cared for and never cared for HIV patients, respectively, were willing to care for people living with HIV at odds ratios of 0.2 (0.15-0.55) and a p-value of 0.767. The study showed that positive willingness to care for people living with HIV was not significantly associated with the practice among students caring for HIV patients. A good attitude and willingness to care for patients could be due to students' confidence and knowledge of patient care. When compared with other studies, Smith et al.'s 2020 study in Kenya also showed that age was significantly associated with medical students' willingness to care. Teenage medical students between the ages of 17 and 19 expressed a lesser willingness to care for HIV-infected patients. These medical students might have negative views about providing care for patients infected with HIV.

The study also showed that the majority of students, both those who had cared for people living with HIV and those who had never cared for people living with HIV, were willing to stay near HIV patients at an odds ratio of 0.7 (0.022–8.05) and a p-value of 0.444. the study showed that having willingness to stay with people living with HIV among students was not significantly associated with the practice of HIV patient care, this is good for patient care since ones good attitude to patient is a motivation to provide health care to the patient, when compared with other studies, according to Dinah et al. [20], anxiety regarding the potential risk of infection from people infected with HIV and a prejudicial attitude may influence the acceptance and willingness to care for infected patients, in their study 41% of the medical students felt reluctant to care for patients based on their HIV status, while only 8% accepted to take samples from HIV positive patients for testing. Related studies in Turkey by Zerdali et al. [18] also showed that, of the 400 medical students sampled for a study investigating medical students' willingness to care for HIV-infected patients, 15.8% were more willing and 40.0% were somewhat willing to care for such patients. Willingness to care for HIV-infected

Ihato

patients was significantly associated with confidence in protecting oneself against infection with HIV.

The study showed that majority of the students who had ever cared for people living with HIV agreed that patients HIV status should be exposed to other working colleagues while a least 135(75.0%) of students who never cared for people with HIV patients said it was in appropriate to share patients HIV status with other colleagues, more so the study showed that majority of the students who had ever cared for people living with HIV agreed that HIV could spread through fluids while at least 92% of those who have never cared for people living with HIV did not agree the study showed that students attitude on whether HIV spreads through contact with fluids was significantly associated with HIV patient care, health workers always observe personal protection against contracting HIV while on duty, by ensuring use of PPEs, when this study is compared with other studies, studies by Aminde et al. [21] had also showed that medical students' knowledge and practices of post-exposure prophylaxis (PEP) towards occupational exposure to HIV, the majority of the medical student could not correctly identify high-risk bodily fluids for HIV transmission. Only a fifth of the study participants had correct knowledge of high-risk bodily fluids. A related study by Adenoh et al. [22] in a meta-analysis of occupational exposures to bodily fluids among health workers and medical students caring for PLHIV/AIDS in 21 African countries, found that about two-thirds (2/3) have been exposed in their entire careers, while nearly one-half (1/2) were exposed to bodily fluids annually.

Students' practices towards HIV patient care.

In the study, students were asked if they had ever counselled any HIV patients. The majority of the students who had ever cared for people living with HIV 82 (57.7%) said they had ever counselled HIV patients, while at least 111 (61.7%) who had never cared for people with HIV said they had never counselled HIV patients at an odds ratio of 1.5 (0.75-7.78) and p-value of 0.024. the study shows that having counselled HIV patients was significantly associated with HIV patient care among students, frequent counselling sessions with patients improves one's ability to offer counselling services to which is a major form of psychotherapy to the patients, when this study is compared with other studies, study results by Iwoi et al. [23], showed that Medical students caring for HIV-infected patients are often stigmatized against due to the historical events surrounding the disease, and cultural beliefs, they often avoided having interactive sessions with patients or going near HIV-infected individuals admitted to their wards, for fear of prejudice from family members and colleagues, Related studies by

Aminde et al. [21] showed that the fear of contracting the virus through their contact with patients was negatively associated with the fact that only 27% of the students willing to rotate in HIV clinics counsel patients during their clinical practice. The students were also asked how many had tested HIV patients in which majority of those who had taken care of people living with HIV said they had never tested HIV patient 89(62.7%) while at least 125(69.4%) of those who had never taken care of people with HIV said they have never tested HIV positive patient at odds ratio of 0.9(0.28-4.25) and p-value of 0.001, the study showed that having ever tested a patient with HIV was significantly associated with HIV patient care, frequent practice on testing and treating HIV patients would give students better knowledge on HIV patient care for better health results while taking care not to contract the infection, when compared with other studies, a study by Basini et al. [24], had showed that about 31.8% of participants reported using unnecessary personal protection measures, such as wearing double gloves and then sanitizing hands when interacting with people living with HIV, in the same study Twenty-five (25%) of the people living with HIV surveyed said that they avoided seeking healthcare for fear of disclosure or poor treatment, while a third had their status disclosed without their consent. HIV-related discrimination in health care settings can take many forms, including mandatory HIV testing without the consent of patients or counselling [25, 26].

The students were asked how many had ever taken a sample from HIV-positive patients, and in (71.1%) and 144 (80.8%) of those students who had ever taken care of people living with HIV said that they had ever taken a sample from HIV patients. The study showed that having taken a sample from an HIV-positive patient was not significantly associated with HIV patient care at an odds ratio of 0.2 (0.1-0.89) and p-value of 0.384. Most students are always involved in sample correction from patients, and this may not directly translate to any experiences related to HIV patient care. When this study is compared with other studies, Dinah et al. [20] cited that anxiety regarding the potential risk of infection from people infected with HIV and a prejudicial attitude may influence the acceptance and willingness to care for infected patients. In their study, 41% of the medical students felt reluctant to care for patients based on their HIV status, while only 8% accepted taking samples from HIV-positive patients for testing.

Students were also asked how many had ever taken PEP following HIV exposure in which majority of the students 141 and 180 respectively for 99.3% and 100.0% for students who had taken care of people living with HIV and those who have never

Ihato

taken care of people living with HIV, said they have never taken PEP, the study showed that having taken PEP following HIV exposure was not significantly associated with HIV patient care at odds ratio of 0.4(0.01- 2.50) and p- value of 0.555, students not being exposed could be because of limited access to the patients especially during invasive procedures such as surgery, these are usually reserved for more experienced staff members, when compared with other studies, a study by Smith et al in 2020, in Kenya, showed that, 33.8% of the study population who had been

The study concludes that there was good knowledge of students on HIV patient care, in which all the students knew how HIV is diagnosed at an odds ratio of 1.0 (0.5–4.22) and a p-value of 0.05.

The study also concludes that there was a good student attitude towards HIV patient care but poor practices, in which only 142 (44.1%) had cared for HIV patients.

CONCLUSION

Recommendation

The study recommends that medical students should be given health education about patient care so as to increase their knowledge and capacity to look after patients.

The study recommends that the government decentralise HIV services to low-level health centres so as to bring services closer to people.

The study also recommends that there should be outreach to communities to do voluntary testing and counselling for the population to know the people who could be HIV positive but are not yet tested.

REFERENCES

1. Dong, H., Lio, J., Sherer, R. and Jiang, I. (2021). Some Learning Theories for Medical Educators. *Med Sci Educ.*, 31(3):1157-1172. doi: 10.1007/s40670-021-01270-6. PMID: 34457959; PMCID: PMC8368150.
2. Alum, E. U., Obeagu, E. I., Ugwu, O. P. C., Samson, A. O., Adepoju, A. O. and Amusa, M. O. (2023). Inclusion of nutritional counseling and mental health services in HIV/AIDS management: A paradigm shift *Medicine*, 102:41(e35673). <http://dx.doi.org/10.1097/MD.00000000000035673>. PMID: 37832059; PMCID: PMC10578718.
3. Alum, E. U., Ugwu, O. P. C., Obeagu, E. I., Aja, P. M., Okon, M. B. and Uti, D. E. (2023). Reducing HIV Infection Rate in Women: A Catalyst to reducing HIV Infection pervasiveness in Africa. *International Journal of Innovative and Applied Research*, 11(10):01-06. DOI: 10.58538/IJIAR/2048. <http://dx.doi.org/10.58538/IJIAR/2048>
4. Obeagu, E.I., Alum, E.U. and Obeagu, G.U. (2023). Factors Associated with Prevalence of HIV Among Youths: A Review of Africa Perspective. *Madonna University Journal of Medicine and Health Sciences*, 3(1): 13-18. <https://madonnauniversity.edu.ng/journals/index.php/medicine>
5. Obeagu, E. I., Nwosu, D. C., Ugwu, O. P. C. and Alum, E. U. (2023). Adverse Drug Reactions in HIV/AIDS Patients on Highly Active Antiretroviral Therapy: A Review of Prevalence. *Newport International Journal of Scientific and Experimental Sciences (NIJSES)*, 4(1):43-47. <https://doi.org/10.59298/NIJSES/2023/10.6.1000>
6. WHO. HIV statistics, globally and by region, 2023. <https://cdn.who.int/media/docs/default-source/hq-hiv-hepatitis-and-stis-library/j0294-who-hiv-epi-factsheet-v7.pdf>
7. Astawesegn, F. H., Stulz, V., Conroy, E. and Mannan, H. (2022). Trends and effects of antiretroviral therapy coverage during pregnancy on mother-to-child transmission of HIV in Sub-Saharan Africa. Evidence from panel data analysis. *BMC Infect Dis.*, 22(1):134. doi: 10.1186/s12879-022-07119-6.
8. UNAIDS. Global HIV & AIDS statistics — Fact sheet, 2022. <https://www.unaids.org/en/resources/fact-sheet>
9. Alum, E. U., Obeagu, E. I., Ugwu, O. P.C., Aja, P. M. and Okon, M. B. (2023). HIV Infection and Cardiovascular diseases: The obnoxious Duos. *Newport International Journal of Research in Medical Sciences (NIJRMS)*, 3(2): 95-99.

- <https://nijournals.org/wp-content/uploads/2023/07/NIJRMS-3-295-99-2023.pdf>.
10. Obeagu, E. I., Obeagu, G. U., Alum, E. U. and Ugwu, O. P. C. (2023). Anemia as a Prognostic Marker for Disease Progression in HIV Infection. *IAA Journal of Biological Sciences*, 11(1):33-44. <https://doi.org/10.59298/IAAJB/2023/3.2.23310>
 11. Alum, E. U., Ugwu, O. P.C., Obeagu, E. I. and Okon, M. B. (2023). Curtailing HIV/AIDS Spread: Impact of Religious Leaders. *Newport International Journal of Research in Medical Sciences (NIJRMS)*, 3(2): 28-31. <https://nijournals.org/wp-content/uploads/2023/06/NIJRMS-32-28-31-2023-rm.pdf>
 12. Uganda Ministry of Health. Annual Health Sector Performance Report (2019). <https://www.health.go.ug/cause/annual-health-sector-performance-report-financial-year-2019-20/>
 13. Uganda AIDS Commission 2021. Summary of the 2020 HIV Sentinel Survey Report.
 14. Obeagu, E. I., Obeagu, G. U., Alum, E. U. and Ugwu, O. P. C. (2023). Comprehensive Review of Antiretroviral Therapy Effects on Red Blood Cells in HIV Patients. *INOSR Experimental Sciences*, 12(3):63-72. <https://doi.org/10.59298/INOSRES/2023/6.3.21322>
 15. Wilson, M., Poreddi, V., Gandhi, S. and Chandra, R. (2019). Undergraduate medical students' knowledge and attitude toward people living with human immunodeficiency virus/acquired immunodeficiency syndrome in Uganda, 2(1), 22-27.
 16. Wiegand, H. and Kish, L. (1968). Survey Sampling. John Wiley & Sons, Inc., New York, London 1965, IX + 643 S., 31 Abb., 56 Tab., Preis 83 s. Biometrische Zeitschrift. 10, 88-89. <https://doi.org/10.1002/bimj.19680100122>
 17. Som, P., Bhattacharjee, S., Guha, R., Basu, M. and Datta, S. A (2019). Study of Knowledge and Practice among Medical students Regarding Care of human immunodeficiency virus Positive Patients in Medical College and Hospitals of Lagos Nigeria, *Annals of Nigerian Medicine*, 9(1), 15-19.
 18. Zerdali, E., Mete, B., Altuntaş, Aydın Ö., Gündüz, A., Yılmaz, Nakir İ., et al. (2023). Factors Influencing HIV Infection in Children Born to HIV-Infected Mothers in Turkey. *Balkan Med J.*, 40(5):367-372. doi: 10.4274/balkanmedj.galenos.2023.2023-3-12. www.iaajournals.org
 19. Ama, H. Christa, GreeffMinrie, Temane Q. Michael, D. and Colleen M. (2020). HIV stigma experiences and stigmatisation before and after an intervention in Africa. *Gesondheid.*, 21, 196-205.
 20. Dinah, H.T., Lawend, J. and Mohammed, E. (2020). Application of Watson Caring Theory for Medical students in Pediatric Critical Care Unit. *Journal of Nursing and Health Science*, 5(4):56-67.
 21. Aminde, L. N., Takah, N. F., Dzudie, A. and Sliwa, K. (2019). Occupational post-exposure prophylaxis (PEP) against Human Immunodeficiency Virus (HIV) infection in West-Africa: Assessment of the knowledge and practices of nurses. *PLoS ONE*, 10(4): e0124416. <https://doi.org/10.1371/journal.pone.0124416>
 22. Adenoh, C., Cicciù, F., Puglisi, B., Ramaci, T., Nunnari, G. and Rapisarda, V. (2021). Attitude of Health Care Workers (HCWs) toward Patients Affected by HIV/AIDS and Drug Users: A Cross-Sectional Study. *International Journal of Environmental Research and Public Health*, 14, 284.
 23. Iwoi, D.M.W., Nde, P.F., Yuh, E., Kwenti, E.T., Tshimwanga, E.K., Achiri, D.T. and Djunda, K.E. (2021). Assessment of the Level of Knowledge, Attitude, and Practice with Regard to Care of People Living with HIV/AIDS among Nursing and Midwifery Students in Fako, West-Africa. *World Journal of AIDS*, 7(01): 1-15.
 24. Basini, B. S., Maluleke, T. X. and Lebeso, R. T. (2017). Professional medical students' views regarding stigma and discrimination in the care of HIV and AIDS patients in Africa. *African Journal of AIDS Research*, 12(1):33-40.
 25. Obeagu, E. I., Obeagu, G. U., Alum, E. U. and Ugwu, O. P. C. (2023). Persistent Immune Activation and Chronic Inflammation: Unraveling Their Impact on Anemia in HIV Infection. *INOSR Experimental Sciences*, 12(3):73-84. <https://doi.org/10.59298/INOSRES/2023/7.3.21322>
 26. Obeagu, E. I., Obeagu, G. U., Alum, E. U. and Ugwu, O. P. C. (2023). Understanding the Impact of HIV-Associated Bone Marrow Alterations on Erythropoiesis. *INOSR Scientific Research*, 10(1):1-11. <https://doi.org/10.59298/INOSRSR/2023/1.2.12222>

Ihato

27. Limaye, R.J., Sullivan, T.M. Dalessandro, S. and Hendrix-Jenkins, A. (2021). Looking through a social lens: Conceptualising social aspects of knowledge management

www.iaajournals.org
for global health practitioners. *East africanJournal of Public Health Research*, 16(761):3-9.

CITE AS: Ihato Ivor Twirire (2024). Assessment of Knowledge, Attitude, and Practices on HIV/AIDS Patient Care among Clinical Medical Students at KIUTH. IAA Journal of Biological Sciences 12(2):39-48. <https://doi.org/10.59298/IAAJB/2024/122.394811>