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# Knowledge, Attitudes and Practices Regarding HIV Voluntary Counseling and Testing (VCT) Among Undergraduate Students at Kampala International University Ishaka, Uganda

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## ABSTRACT

The study aimed to understand university students' attitudes towards HIV testing and their perceived susceptibility to the virus. It was conducted at Kampala International University Ishaka, Uganda, using a quantitative cross-sectional approach. The study included undergraduate students who were available at the time of data collection and willing to participate. Data was collected using an interviewer-administered questionnaire, and the data was analyzed using Microsoft Excel and Word version 2019. The findings revealed that age and marital status are critical factors in determining whether a student has tested for HIV and is willing to test for HIV in the future. Unmarried students were more likely to have taken an HIV test, while knowing where to get tested and being a Christian enhanced the likelihood of having one. The majority of students reported receiving AIDS information from both print and electronic media, but only a handful from their parents. The majority of respondents correctly identified one or more modes of HIV transmission, with half of the participants identifying more than two pathways. The study found that 78% of respondents were aware of HIV prevention, including condom use, abstaining from casual sex, avoiding sharing of sharp items, and being faithful to a partner. They were also well-informed about HIV/AIDS management procedure. All respondents were aware of checking their HIV status and 82% knew where to obtain VDT services. Primary sources of HIV information were school (99.1%), mass media (78.8%), friends (56.6%), health workers (23.3%), and parents (4%). Public media, both print and electronic, played an important role in providing HIV/AIDS information to study participants. The study recommends university administrators and officials to actively contribute to HIV education and prevention measures on their campuses, equip private university students, particularly females, to test for HIV regularly, and encourage new students to undergo HIV testing.

**Key Words:** HIV, undergraduate students, Testing, Transmission, AIDS, Uganda.

## INTRODUCTION

HIV was detected in Uganda as early as 1982 in Kashenshero, a small fishing village in Rakai District, which became the centre of the epidemic in the country before spreading to neighbouring fishing villages and later to urban centres [1]. In 2002, approximately 36.7 million people around the world were living with HIV. 52% of these individuals resided in sub-Sahara. 52% of these individuals resided in sub-Saharan Africa in 2007, approximately 33.2 million individuals worldwide contracted HIV, with sub-Saharan Africa accounting for 63% of cases [2] [3] in 2019, 38 million individuals were living with HIV, and approximately 690000 individuals worldwide lost their lives due to AIDS-related illnesses [3]. In Uganda alone, about 1.3 million people are living with HIV. Uganda had one of Africa's highest prevalence rates in the early 1990s (about 15%) which reduced to 5.4% in 2008 [4]. The prevalence among individuals aged 15–49 is currently 5.9%. Nearly 50% of the country's HIV/AIDS cases are aged 10–24 years [5]. Even though the spread of HIV/AIDS in the country has decreased, there still exists a great challenge in managing the disease among approximately one million HIV-positive individuals [6]. HIV has increasingly become a chronic, manageable disease due to the introduction of antiretroviral therapies (ARTs) [3]. Uganda has made significant progress in the fight against HIV/AIDS. The prevalence rate is currently estimated at 1.4M people in the entire population [7]. According to UNAIDS, the

number of people receiving antiretroviral therapy worldwide. The key to this fight has been controlling the spread of the epidemic in infants and young adults, providing counselling, testing and treating, caring for, and supporting the neglected millions of people living with HIV/AIDS, and mitigating the epidemic's impact on the millions of people affected by the disease in resource-constrained countries [8]. The widespread acceptance and use of blood testing for HIV/AIDS in Uganda have helped reduce the spread of the virus [9]. This was achieved through adequate counselling to explain the meaning of the positive test result. The provision of psychosocial support to ease the shock of having a positive test result, as well as the fact that many people accepted their results and pronounced their positive lives in public without fear of stigmatization, had the biggest impact on the fight against HIV/AIDS, and its prevalence decreased from 29% in the 1980s to less than 10% in the year 2000 in Uganda [10,11,12]. Internationally, VCT is an effective and important strategy for both HIV prevention and care [13]. Furthermore, VCT has been found to be a cost-effective strategy for facilitating behaviour change [14]. VCT is, therefore, a core intervention in the comprehensive strategy of the Ugandan government and its development partners to address HIV infection. Despite the establishment of VCT sites in nearly all health units nationwide, the use of these services is not as rapid as anticipated. Seeley and Allison [15] emphasized that poor VCT service utilization makes it harder to deliver other HIV-related care and treatment services because testing is the only way a person can know his or her HIV status.

Universities are a breeding ground for HIV and AIDS due to their close proximity and lack of systematic supervision, which exposes young adults to the virus. The prevalence of HIV in Uganda has decreased significantly since the early 1990s, with the prevalence among individuals aged 15-49 currently standing at 5.9%. Approximately 50% of the country's HIV/AIDS cases are aged 10-24 years. Despite this, there is still a significant challenge in managing the disease among approximately one million HIV-positive individuals. The delivery of high-quality voluntary counselling and testing (VCT) services is one of several measures to prevent the spread of HIV infection. However, health workers may refuse to provide HIV testing to young people, and there are no consistent protections for their privacy rights. Little is known about how youths' perceptions of respect and confidentiality at health centers will impact their likelihood of seeking HIV testing. There are limited publications on HIV-related data on university students in Africa. This study aimed to assess knowledge, attitudes, and practices regarding HIV voluntary counselling and testing among undergraduate students at Kampala International University, Ishaka, Uganda. The information from this study could help policymakers, stakeholders, and researchers in developing, evaluating, and implementing targeted interventions to optimize HIV-related health services. Policymakers, stakeholders, and researchers could collaborate and design interventions to improve ART among HIV patients across the country.

## METHODOLOGY

### Study design

A quantitative cross section study approach was conducted in order to determine the knowledge, attitudes and practices regarding HIV voluntary counseling and testing (VCT) among undergraduate students at Kampala International University Ishaka, Uganda.

### Study Site

The study was conducted at Kampala International University in Ishaka town, Bushenyi-Ishaka municipality, in Bushenyi district. Ishaka is located in Igara County, in Bushenyi District, approximately 62 kilometers, by road, west of Mbarara, the largest city in the sub-region. This is about 6 kilometers, west of Bushenyi, the location of the district headquarters. The coordinates of Ishaka are 0°32'42.0"S, 30°08'18.0"E (Latitude: -0.545006; Longitude:30.138343). Together with the neighboring town of Bushenyi, it forms the Bushenyi-Ishaka Metropolitan Area. It is the largest metropolis in the district. In 2014, the national population census put the population of Bushenyi, including Ishaka, at 41,063.

### Study population

The study was conducted among undergraduate students at Kampala International University Ishaka, Uganda.

### Inclusion criteria

Undergraduate students at Kampala International University Ishaka, Uganda that were available at the time of collecting data and willing to participate in the study.

### Exclusion criteria

Those who declined to participate in the study.

### Sample size determination

The sample size was determined using the Kish Leslie's formula (1965) as shown below;

$$n=\frac{(Za/2)^2p(1-p)}{e^2}$$

Where 'n' is the desired minimum sample size, Z is value at $\alpha = 0.05$ which is 1.96, e =margin of error which is proposed to be 0.1, p is the Prevalence of VCT among undergraduate students at Kampala International

University Ishaka, Uganda. Until this study was conducted there were no published data about p. So, a 50% proportion was used to get the maximum sample size by taking into account 90% confidence interval ($Z\alpha/2=1.96$), marginal error (d) of 10%. In line with the above consideration, the minimum calculated sample size was 96 respondents. The researcher was however, able to interview 150 respondents in this study.

**Sampling procedure**

Simple random and purposive sampling techniques were used to choose respondents to participate in the study, from whom data was collected.

**Dependent variables**

HIV voluntary counseling and testing (VCT)

**Independent variable**

The independent variables include the knowledge, attitudes and practices.

**Data collection method and tools**

Data was collected using an interviewer-administered questionnaire. The researcher met with the targeted respondents that took part in the study, after obtaining permission for data collection from respondents. Each participant was required to give an informed consent before enrolling in the study. The researcher assisted the respondents in filling the questionnaires by explaining to the respondents for clarifications. The properly filled questionnaires were then collected and then data was taken for analysis. The researcher used a structured questionnaire and participants were asked similar questions and from options, they picked the best alternative.

**Data entry and cleaning**

The data in the questionnaire was checked for completeness, cleaned and sorted to eliminate obvious inaccuracies and omissions. The data was then coded and entered into a computer.

**Data analysis**

The qualitative data collected was statistically analyzed and documented using Microsoft Excel and Word version 2019 which was then analyzed. The analyzed data was presented in form of tables and graphs which formed a basis for discussion and conclusions.

**Quality control**

To ensure quality control the researcher conducted a pre-test using 10 questionnaires in the target population and data was collected before the actual study to help in reconstruction of the questionnaire where necessary.

**Ethical considerations**

Participants were given information regarding the research to seek consent. Each participant's choice to participate or not was respected and data collected from participants was kept confidential. The participants' names were not included while filling out the questionnaire to maintain privacy. It was clearly communicated that the information obtained from the participants would be kept under lock and key to only be used for research purposes.

## RESULTS

**Table 1: Demographic Characteristics**

| Variables | N | % | Have ever tested for HIV (%) | Will test for HIV in the future (%) |
|---|---|---|---|---|
| Age | | | | |
| 17-20 | 43 | 28.7 | 21.8 | 27.1 |
| 21-25 | 79 | 52.5 | 52.4 | 54.7 |
| 26-30 | 22 | 14.5 | 18.3 | 15.8 |
| 31+ | 6 | 4.3 | 7.5 | 2.4 |
| Gender | | | | |
| Male | 84 | 56.2 | 57.1 | 46 |
| Female | 66 | 43.8 | 42.9 | 75 |
| Religion | | | | |
| Christians | 129 | 86.3 | 98.6 | 94.2 |
| Muslims | 14 | 9.6 | 1.4 | 5.8 |
| Other | 6 | 4.1 | | |
| Marital status | | | | |
| Married/living with partner | 15 | 9.9 | 59.2 | 65.5 |
| Single | 91 | 60.5 | 16.3 | 7.9 |
| In a relationship | 44 | 29.6 | 24.5 | 26.6 |
| Education level | | | | |
| First year | 77 | 51.3 | 53.7 | 55.7 |
| Second year | 48 | 31.7 | 27.9 | 28.6 |
| Third year | 26 | 17.0 | 18.4 | 15.7 |

**Figure 1: Number of students in the different age groups**

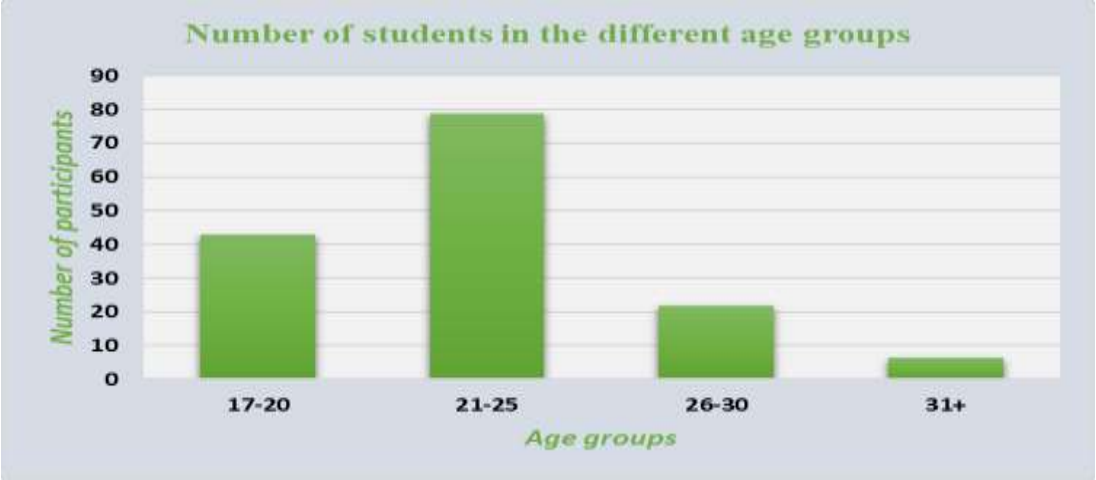
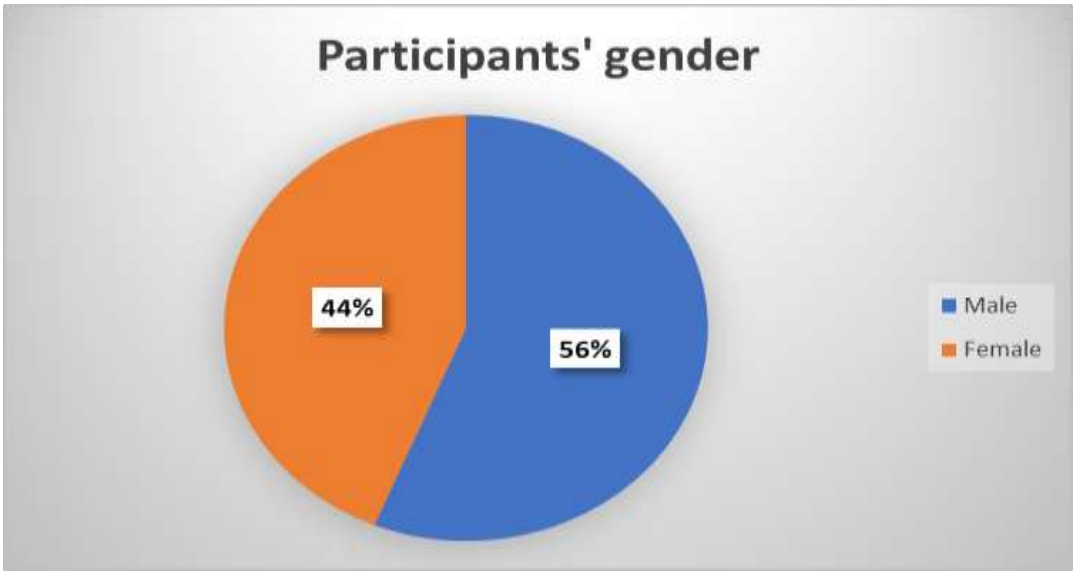



**Figure 2: Participants' gender**




The above table shows the socio-demographic characteristics of the sample in the study. The sample consisted of 43.8% females and 56.2% males within the ages of 17–37. Majority of the participants (60.5%) were not married, (96%) were Christians and over half of them (51.3%) were first year students.

**Figure 3: Education levels of the students**

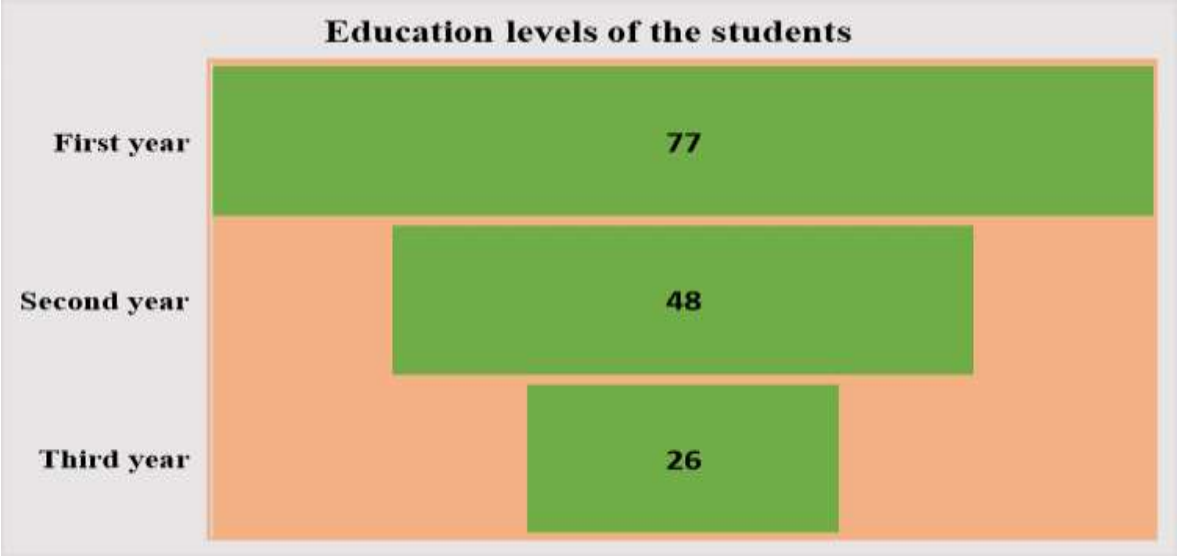



**Table 2: Knowledge about HIV and VCT**

| **Knowledge about HIV and VCT** | **N** | **%** |
|---|---|---|
| *Modes of HIV transmission* | | |
| Unprotected sexual intercourse | 84 | 56 |
| Sharing needles/syringes with infected persons | 66 | 44 |
| mother-to child transmission | 38 | 25 |
| *Knowledge of HIV prevention* | | |
| Using a condom | 117 | 78 |
| Abstaining from casual sex | 105 | 70 |
| Avoiding sharing of sharp objects | 95 | 63 |
| Being faithful to a partner | 86 | 57 |
| *There is a cure for HIV/AIDs* | | |
| Yes | 0 | 0 |
| No | 150 | 100 |
| *One can always say by merely looking if someone is infected with the virus* | | |
| Yes | 3 | 2.3 |
| No | 147 | 97.7 |
| *Do you Know that one can check his/her HIV status?* | | |
| Yes | 150 | 100 |
| No | 0 | 0 |
| *Do you Know where to access VCT services?* | | |
| Yes | 123 | 82 |
| No | 27 | 18 |
| *When should one be tested?* | **N** | **%** |
| When feeling sick | 33 | 22.1 |
| At anytime | 28 | 18.8 |
| Before marriage | 93 | 62.3 |

| | | |
|---|---|---|
| If only has multiple partners | 84 | 55.7 |
| *Who do you think needs HIV test if the service is made available?* | | |
| Female sex workers | 150 | 100 |
| Drivers | 34 | 22.4 |
| Students | 19 | 12.8 |
| Couples before marriage | 147 | 98.3 |
| Adolescent | 27 | 17.9 |
| People with history of unprotected sex | 135 | 89.9 |
| Pregnant women | 11 | 7.1 |
| Adults | 81 | 54 |
| Children | 13 | 8.5 |
| *Sources of information on HIV* | | |
| School | 149 | 99.1 |
| Mass media | 118 | 78.8 |
| Health workers | 35 | 23.3 |
| Parents | 6 | 4.2 |
| Friends | 85 | 56.6 |

Fifty-six percent of the participants identified unprotected sexual intercourse with infected persons as the same means of transmission; 44% identified sharing needles or syringes with infected persons; and 25% identified mother-to-child transmission. Knowledge of the modes of HIV transmission was high, as the majority of respondents (96%) were able to correctly identify one or more modes of HIV transmission. Half of the participants (162,50%) were able to identify more than two modes of HIV transmission, while 78 individuals (24%), who could identify three or more routes, and 72 individuals (22%), could only identify a single mode of transmission. None of the study participants were unable to identify any transmission routes. Knowledge of HIV prevention appeared moderately high, as respondents knew about condom usage (78%), abstinence from casual sex (70%), avoiding sharing sharp objects (63%), and being faithful to a partner (57%). The respondents' knowledge of HIV/AIDS treatment was equally high, with 100% stating that they were aware of the lack of a cure for HIV, and 97.7% acknowledging that it is not always possible to determine an individual's HIV status simply by looking. Furthermore, all the respondents knew that they could check their HIV status, and 82% knew where to access VDT services.

**Figure 4: Students' view on HIV prevention**

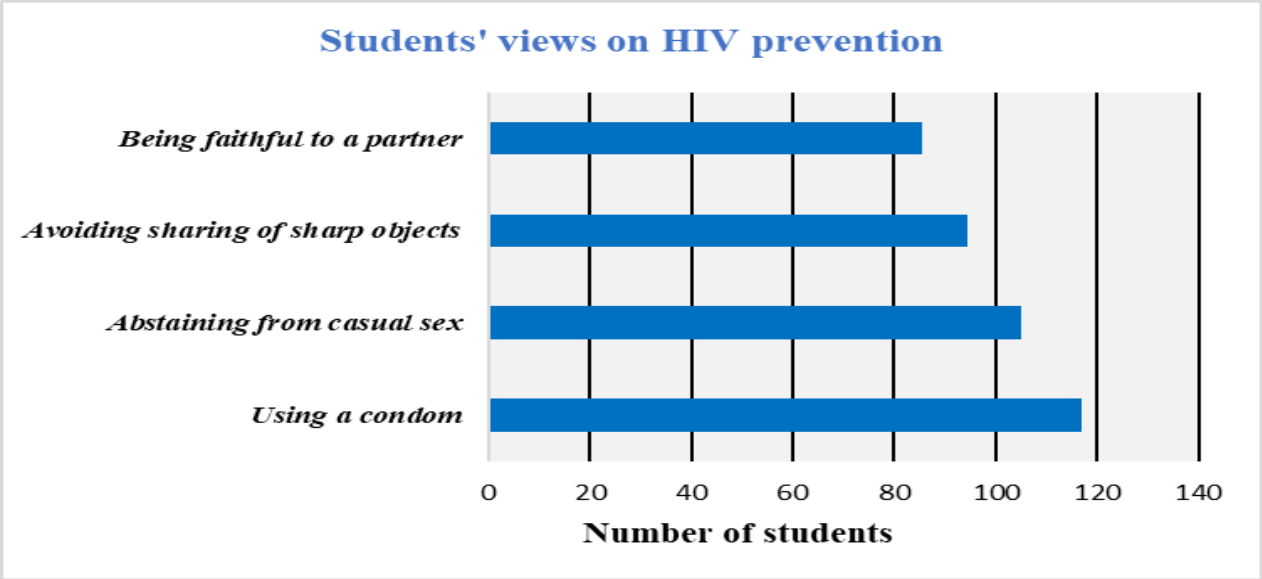
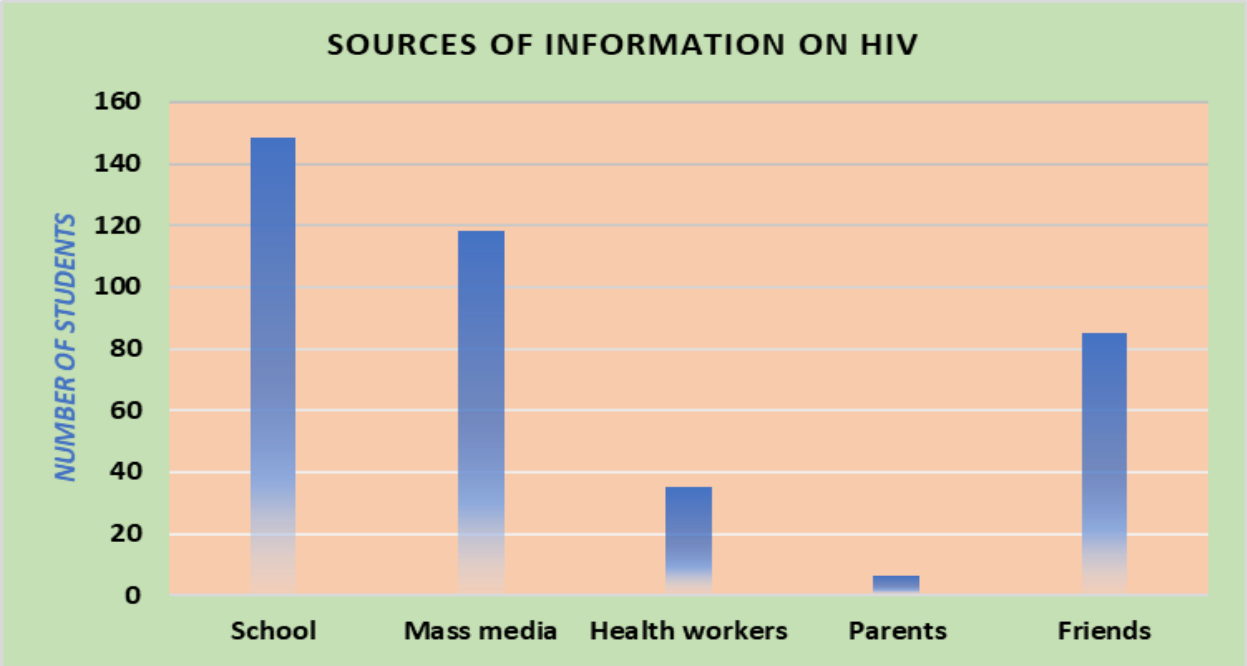



**Figure 5: Sources of Information on HIV**




Majority (62.3%) of the participants thought that one should get tested before marriage, when one has multiple partners (55%), when feeling sick (22.1%) and at anytime (18.8%). The participant's main source of information on HIV was from School (99.1%), followed by mass media (78.8%), friends (56.6%), health workers (23.3%) and parents (4.2%).

**Table 3: Attitude towards VCT**

| Attitude towards VCT | N | % |
|---|---|---|
| *It is shameful to go for VCT* | | |
| Yes | 0 | 0 |
| No | 150 | 100 |
| *It is good to recommend VCT to others* | | |
| Yes | 150 | 100 |
| No | 0 | 0 |
| *VCT is necessary* | | |
| Yes | 145 | 96.5 |
| No | 5 | 3.5 |
| *Why do youth think that VCT is necessary?* | | |
| To know the HIV status | 145 | 100 |
| To protect myself from the infection | 114 | 78.6 |
| If positive, not to transmit to others | 64 | 44.4 |
| Other | 0 | 0 |
| *To increase up take of VCT, people should be encouraged to come for testing* | | |
| Yes | 150 | 100 |
| No | 0 | 0 |
| *VCT is more preferable to not knowing* | | |
| Yes | 132 | 88 |
| No | 11 | 7.2 |
| *Would advise friends to have VCT* | | |
| Yes | 115 | 76.6 |
| No | 35 | 23.4 |
| Would ask partner to seek VCT | | |
| Yes | 148 | 98.4 |
| No | 2 | 1.6 |
| *Are you Willing to use VCT service if made available free of charge?* | | |
| Yes | 92 | 61.1 |
| No | 58 | 38.9 |
| *Are you Willing to pay for the service?* | | |
| Yes | 52 | 34.6 |
| No | 98 | 65.4 |

The students' attitude toward VCT was mostly positive. Most of them (96.5%) thought VCT was necessary to know one's HIV status (100%), protect oneself from the infection (78.65%), and avoid transmission to others if positive (44.4%). However, only 88% of the students thought VC was preferable to not knowing one's status. All the students in the sample believed that encouraging people to undergo testing would increase their uptake of VCT.

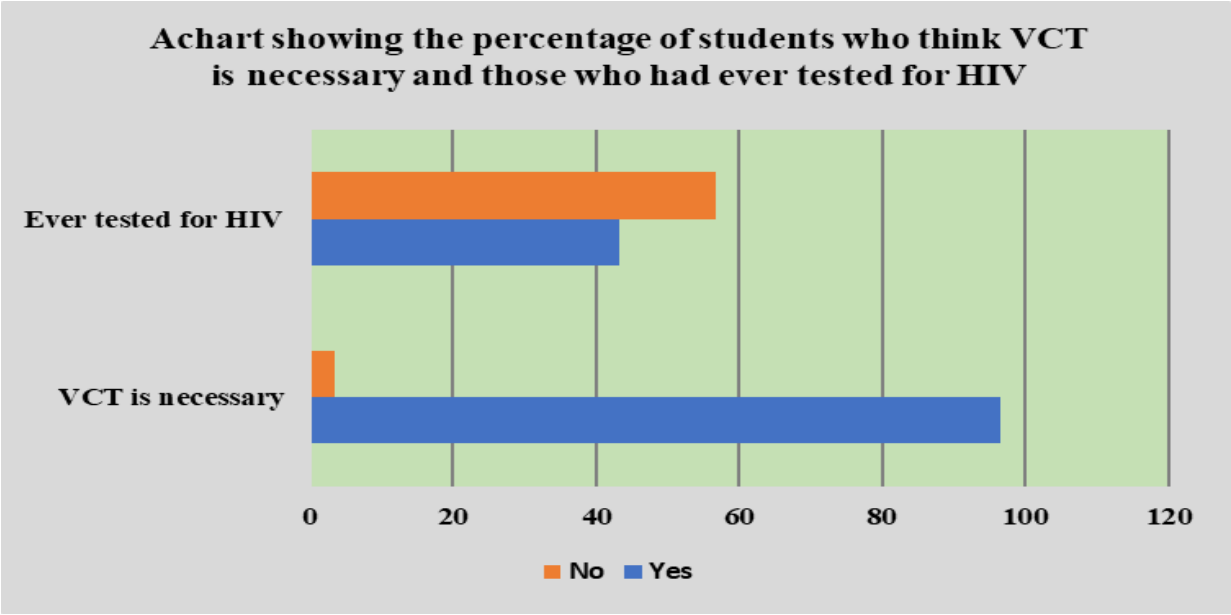
115 (76.6%) of the respondents noted that they would advise friends to go for VCT, while 98.4% would ask their partner to seek VCT. However, only 61.1% would be willing to use VCT services if they were made available free of charge, and 34.6% would consider paying for VCT services.

**Table 4: Practices regarding VCT**

| Practices regarding VCT | N | % |
|---|---|---|
| Ever tested for HIV/AIDS(VCT) | | |
| Yes | 65 | 43.2 |
| No | 85 | 56.8 |
| HadVCTinpast12months | | |
| Yes | 4 | 5.7 |
| No | 61 | 94.3 |
| *Preferred location for VCT?* | | |
| Hospitals | 99 | 65.7 |
| Private clinics | 35 | 23.3 |
| Family Guidance | 11 | 7.6 |
| Other | 5 | 3.4 |

Out of all the participants in the sample, only 43.2% noted that they had ever tested for HIV of gone for VCT services and only 5.7% of these had done so in the previous 12 months. Majority (65.7%) of the students would prefer to go to hospitals for VCT services, 23.3% said they would prefer private clinics, and only 7.6% would consider family guidance.

**Figure 6: Percentage of students who think VCT is necessary and those who had ever tested for HIV**




## DISCUSSION

This study aimed to understand university students' attitudes towards HIV testing (VCT) services and their perceived susceptibility to the HIV virus. Factor analysis was used to extract factors influencing VCT service use. The study found that age and marital status are critical in determining whether a student has tested for HIV and is willing to test for HIV in the future. The likelihood of HIV testing among the sample decreases with age; older students are less likely to undergo HIV testing. The study revealed a high level of knowledge about HIV, including the cause, mechanism of transmission, and prevention of the disease. Participants who were unmarried

were more likely than those who were married or in a relationship to have ever taken an HIV test. Knowing where to get tested and being a Christian both enhance the likelihood of having had an HIV test. The majority of students reported receiving AIDS information from both print and electronic media, but only a handful from their parents. In this study, 56% of participants recognized unprotected sexual contact within infected people as the same means of transmission. The majority of respondents (96%) correctly identified one or more modes of HIV transmission, indicating a high level of knowledge about HIV transmission patterns. Half of the participants (162,50%) could identify more than two pathways of transmission, 78 (24%), three or more routes, and 72 (22%), only one route of HIV transmission. None of the study's participants were able to identify any transmission channels.

Respondents' knowledge of HIV prevention appeared to be reasonably high, with 78% knowing that condom use (78%), abstaining from casual sex (70%), avoiding sharing of sharp items (63%), and being faithful to a partner (57%). Respondents were equally well-informed about HIV/AIDS treatment, with 100% understanding that there is no cure for the disease and 97.7% acknowledging that it is not always possible to determine an individual's infection simply by looking. All respondents were aware that they could check their HIV status, and 82% knew where they could obtain VDT services. This study revealed a high level of HIV knowledge among students, potentially due to ongoing and improved health education programs. The Ugandan government and its development partners have raised public awareness about the causes and prevention of STIs, particularly HIV/AIDS. Broadening this to include the establishment of additional HIV/AIDS clubs on tertiary campuses could increase the number of pupils who are educated about prevention, thus encouraging positive behavior change. Primary sources of HIV information were school (99.1%), mass media (78.8%), friends (56.6%), health workers (23.3%), and parents (4%). Public media, both print and electronic, appear to play an important role in providing HIV/AIDS information to study participants. The majority of adolescents in this survey recommended increasing the use of television and radio for HIV/AIDS knowledge distribution.

Parents were not a key source of HIV knowledge, with only 4.2% of individuals reporting receiving it from them. Discussion of sexual topics between parents and their children is uncommon in Uganda, owing to the country's more conservative, religious, and traditional views on sexuality, homosexuality, and marriage. Additionally, the residential pattern and family structure may limit the ability to address delicate matters like asbestos. Another intriguing finding from the study was that while over 82% of the students knew where to get an HIV test, only 43% had tested for HIV. Students' reluctance to take HIV tests could be linked to fear, anxiety, stigma, and discrimination associated with counselling, testing, and AIDS.

## CONCLUSION

The study's findings indicate that the likelihood of HIV testing among the sample decreases with age; older students are less likely to undergo HIV testing. Parents were the only source of HIV knowledge, with only 4.2% of individuals reporting receiving it from them. However, public media such as television, the internet, and radio appear to play an important role in providing HIV/AIDS information to research participants. Another intriguing finding from the study was that while the majority of the students knew where to get an HIV test, only a few had tested for HIV. Among the study participants, results indicated that knowledge scores about HIV, including the cause, mode of transmission, and prevention of the disease, were high.

### Recommendations

According to the study's findings, public health practitioners should be concerned about the relatively limited proportion of students wanting to test for HIV in the future. University administrators and officials can actively contribute to the development and implementation of HIV education and prevention measures on their campuses. HIV intervention programs must not only provide correct information but also equip private university students, particularly females, to test for HIV on a regular basis. New students should receive regular encouragement to undergo HIV testing as part of efforts to increase HIV testing among students in tertiary institutions. Furthermore, given the increased adoption of the internet by teenagers and young people, the government should urge its development partners (non-governmental organizations, community-based organizations, and soon) to publish up-to-date HIV health information on their websites. Encouraging intervention programs to use social media networks has the ability to draw young people to their various websites for crucial information about HIV/AIDS and other reproductive health issues. The findings of the study emphasize the need to encourage parents to address reproductive sexual matters with their children and young adults because a strong adult protective shield for young people has been found to reduce their risk of HIV infection.

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