

Facilitators of HIV self-testing among Lira University students. A cross-sectional study.

Peter Ssemakula, Dr. Marc Sam Opollo*, Derick Modi, Julius Kayizzi
Faculty of Public Health, Lira University.

Abstract

Background

HIV continues to be a significant public health concern, particularly among the young population in our communities. Determining the barriers associated with HIV self-testing is very crucial for effective HIV prevention. Therefore, this study aimed to determine the facilitators of HIV self-testing services among the students of Lira University.

Methodology

This study employed a descriptive cross-sectional design, stratified simple random sampling was used, where faculties acted as strata, and then systematic sampling was used to obtain the participants from each year of study. Quantitative data were collected using self-administered questionnaires.

Results

According to the findings, 174 respondents participated in this study, 90(51.7%) were males, while 84(48.3%) were females. The age category 20-25 had 145(81.6%) respondents while 31-40 had 25(14.4%) respondents, single respondents were 154(88.5%), Year one had 92(52.9%) respondents, and Year Two had 30(17.2%) respondents, Education Faculty had 59(33.9%) respondents, and the Faculty of Management Sciences were 11(6.3%) respondents. The key facilitators to HIVST among Lira University students are: Privacy and confidentiality, 151(87.3%), Convenience and ease of use, 133(77.3%), Quick results, 138 (79.87%), and Increased control over the testing process, 130(76.55). At bivariate analysis, the study found that Privacy and confidentiality were significantly associated with HIV self-testing services among the participants $cOR: 2.065; p=0.022$.

Conclusion

The study found that Privacy and confidentiality were significantly associated with HIV self-testing services among the participants.

Recommendation

Promote Privacy and Confidentiality to ensure these aspects are prioritized in the design and implementation of HIV self-testing services.

Key words. Lira University, facilitators to HIV self-testing, HIV prevention, HIV self-testing stigma.

Submitted: 2024-11-12 **Accepted:** 2025-04-20 **Published:** 2025-07-14

Corresponding Author: Dr Marc Sam Opollo*

Email: msopollo@gmail.com

Faculty of Public Health, Lira University.

Background of the study

HIV continues to be a significant public health concern, particularly among young people. According to the World Health Organization (WHO), in 2020, an estimated 38 million people were living with HIV globally, with 1.5 million new infections and 680,000 deaths due to HIV-related illnesses.

In 2019, 20.7 million people were living with HIV (PLHIV) in sub-Saharan Africa. However, more than 25% of adults in the region still do not know their serostatus (Mphande et al., 2021). A study conducted in seven countries in the sub-Saharan region found that only 14% of young people had ever used an HIV self-test (MacPherson et al., 2019). Similarly, another study conducted in sub-Saharan Africa found that HIVST was more acceptable than traditional

testing methods among young people aged 16-24 years. The study also found that HIVST was associated with increased testing frequency and improved linkage to care. In Malawi, only 42% of the adult population tested for HIV within the past 12 months, with 35% of men having never tested for HIV (Mphande et al., 2021).

In Uganda, there is an ambitious vision to reach 95-95-95 testing and treatment targets by 2025 across all population groups and maintain the current momentum in testing and ART scale-up. According to the World Health Organization (WHO), HIVST can increase the uptake of HIV testing among key populations, including young people, who may face barriers to accessing traditional testing services (WHO, 2019). The Uganda national HIV prevalence rate among adults (aged 15-49) was 5.7%, down from a peak of 15% in

the early 1990s (Mukora-Mutseyekwa et al., 2022). However, HIV prevalence remains much higher among certain populations, such as sex workers, men who have sex with men, and people who inject drugs. The men felt that just picking up an HIV self-test kit would invite unwanted scrutiny from their work colleagues (Mwanguzi et al., 2021). In Uganda, where HIV prevalence among young people aged 15-24 years is estimated at 3.5%, there have been efforts to scale up HIVST services. Additionally, there are concerns about the accuracy and reliability of self-test kits and potential issues related to privacy and confidentiality. This study aimed to determine the barriers associated with HIV self-testing among Lira University students. This study aimed to determine the facilitators of HIV self-testing among Lira University students.

Methodology

Study Design

This was a cross-sectional study that utilized quantitative methods of data collection.

Study Site and Setting

This study was conducted at Lira University, located in Ayere Ward, Lira City West Division. Lira University sits on approximately 500 acres of land, about 13 kilometers by road, northwest of Lira city, off the Lira Kampala Road. The coordinates of the University campus are 2015°04.0N, 32049°16.0"E (Latitude: 2.25111; Longitude: 32.82111).

Study Population

The target population was University students in Uganda, and the study population was Lira University undergraduate students.

Sample Size Determination

The sample size was determined using the Kish Leisley (1965) formula of sample size determination.

$$n = Z^2 PQ/e^2$$

Where: n=the sample size (respondents to be interviewed)

e =the precision of the study (5%)

Z=the standard normal deviation corresponding to 95% CI, which is 1.96

P=level of use of HIV testing services in Uganda = 0.89 (UNAIDS, 2018).

Thus: At 95%, Z=1.96

e =5%=0.05

P =0.89

Q = 1-P=1- 0.89=0.11

Hence

N= (1.96 × 1.96 × 0.89 × 0.11)/ (0.05 × 0.05)

n=150.44≈151

Considering an estimated 10% non-response rate (0.1 × 151) = 15.1≈16

Therefore, the total sample size= 151+16= 167

Sampling Technique

The study employed Stratified simple random sampling, where the different faculties acted as strata, and the participants from each faculty were proportionate to its size (population). Then, systematic random sampling was used to obtain the participants from each year of study, using the class lists obtained from the class coordinators. Participants were picked at an interval of ten, that is, 1700 enrolment divided by a sample size of 167 undergraduate students. Emails were then sent to the selected individuals letting them know that they had been selected to participate in the study, including any other information.

Eligibility Criteria

Inclusion criteria

In order to be included in the study, one had to be a University Undergraduate Student.

Exclusion criteria

University students who were absent by the time of data collection, those who were not willing to give information freely, students who were too sick to give information, and the mentally ill.

Data Management

Data collection method and instrument

Quantitative data were collected using interviewer-administered semi-structured questionnaires. The survey questionnaire was administered to the selected students.

Data entry and cleaning

The data was entered into SPSS version 25 software with the variables in the Variable View and their values in the Data View. After entering the data, the statistical command (list) under the analyzed data by the SPSS software was used to identify the missing data at entry. Mistakes at the entry were identified through validation and corrected by recalling the questionnaire using its unique identifier. However, if the participant left the item blank or answered incorrectly, the Replace Missing Values functional SPSS under the Transform option was used to obtain a value to replace the missing data point, though this was much avoided as the questionnaire shall be interviewer-administered.

After the entry of the whole questionnaire was complete, the soft copy of each questionnaire was cross-checked with its hard copy to avoid missing values, outliers, and other inconsistencies before analysis.

Data analysis

Univariate analysis was done to obtain frequencies, proportions, means, and ranges. At the bivariate level, the Chi-square test was used to assess the relationship between the dependent and independent variables, and a p-value of 0.05 indicates significant associations.

Thematic content analysis was conducted for qualitative data, first by familiarization, coding, theme generation, review of themes, defining themes, and finally writing up.

Measurement of variables

The main outcome variable (dependent variable) was the level of use of HIV self-testing among Lira University students.

The explanatory variables (independent variables) were associated with factors like privacy cost availability, accessibility, age, gender, and many to mention

Quality Control (Validity and Reliability)

The questionnaire was designed and pretested in the area in which the study was not to be conducted to check for ambiguity, irrelevance, and redundant questions then adjusted accordingly. Piloting was done to enable the researcher to improve the reliability and validity of data. The questionnaires were sorted, reviewed, and responses were sorted and summarized based on the study themes before being entered into the computer. Data was checked for correctness and completeness at the end of every day. Two attempts were made to contact the participants for any missing data.

Data was managed by a single researcher. The data was double-entered by two different people to ensure that the data was correct for quality and uniformity. Changes were made according to the results. Great care was taken when coding, entering, verifying, and cleaning data.

Ethical Considerations

Approval

The proposal was presented before the faculty of public health research committee for approval and thereafter to the Lira University Research and Ethics Committee (LU-REC). Once passed by LU-REC, an approval letter was issued and then taken to the respective authorities for permission to be granted to conduct the study.

Consent

Written informed consents were sought from all the participants after sharing with them the objectives of the study, possible benefits and risks, and the length of time it was expected to take. The data collected was to be used for this study only, and the participants will be informed about it.

Privacy

Interviews were only conducted in places deemed private enough by the interviewer and respondent.

Confidentiality

The researcher did not use identifiers like names or actual places of residence in questionnaires or any publications. The data was kept under lock and key and only accessible by the investigator. The information obtained in the field was coded and fed into a computer with passwords.

Results.

Socio-demographic characteristics associated with using HIV self-testing services among students of Lira University, Lira District (n=174).

The majority of the respondents were in the age category 20-25, the lowest proportion was in the 31-40 age group, and the mean age was 23.94 years, while the majority of the participants were single, 154(88.5%). Most participants were from Year One of study 92(52.9%), and the least proportion was from Year Two, 30(17.2%). The majority of the participants were from the Faculty of Education, 59(33.9%), while the minority came from the Faculty of Management Sciences, 11(6.3%).

At bivariate analysis, the study found that females were more likely to have used HIV self-testing services compared to males, cOR: 1.925, p=0.042. Married participants were more likely to have used HIV self-testing services compared to the single participants, and significantly associated cOR: 1.925, p=0.046.

VARIABLE	FREQUENCY (PERCENTAGE)	Use of HIV Services	Self-Testing	cOR (95% CI)	P-VALUE
Socio-demographic		Yes	No		
Age					
20-25	142(81.6)	42(79.2)	100(82.6)	Ref	
25-30	25(14.4)	10(18.9)	15(12.4)	2.520(0.294-21.579)	0.399
31-40	7(4.0)	1(1.9)	6(5.0)	4.000(0.416-38.454)	0.230
Sex					
Male	90(51.7)	20(37.7)	70(57.9)	Ref	
Female	84(48.3)	33(62.3)	51(42.1)	1.925(0.466-2.834)	0.042
Marital status					
Single	154(88.5)	46(86.8)	108(89.3)	Ref	
Married	20(11.5)	7(13.2)	13(10.7)	3.101(0.296-4.111)	0.046
Year of study					
One	92(52.9)	24(45.3)	68(56.2)	Ref	
Two	30(17.2)	10(18.9)	20(16.5)	0.706(0.061-8.140)	0.780
Three	49(28.2)	18(34.0)	31(25.6)	1.000(0.081-12.399)	0.987
Four and higher	3(1.7)	1(1.9)	2(1.7)	1.161(0.098-13.725)	0.906
Faculty					
Public health	23(13.2)	3(5.7)	20(16.5)	Ref	
Midwifery	13(7.5)	2(3.8)	11(9.1)	0.390(0.079-1.917)	0.247
Medicine	50(28.7)	19(35.8)	31(25.6)	0.473(0.076-2.935)	0.421
Education	59(33.9)	29(37.7)	39(32.2)	1.594(0.490-5.180)	0.439
Management	11(6.3)	4(7.5)	7(5.8)	1.333(0.416-4.269)	0.628
Computing	18(10.3)	5(9.4)	13(10.7)	1.486(0.299-7.389)s	0.629

Table 1 shows socio-demographic characteristics associated with the use of HIV self-testing services among Lira University students.

Facilitators to use HIV self-testing services among students of Lira University.

The study found that Privacy and confidentiality 151(87.3%), Convenience and ease to use 133(77.3%), Quick results 138(79.87%), and increased control over the

testing process 130(76.55) were the key facilitators of HIVST among Lira University students. At bivariate analysis, the study found that Privacy and confidentiality were significantly associated with HIV self-testing services among the participants' cOR: 2.065; p=0.022.

Variable	Catego ry	Frequency (Percentage)	Use of HIV Self-Testing Services		cOR (95% CI)	P-Value
Facilitators to use HIV self-testing kits			Yes	No		
Privacy and confidentiality	Yes	151(87.3)	46(86.8)	105(87.5)	Ref	0.022
	No	22(12.7)	7(13.2)	15(12.5)	2.065(0.407-2.787)	
Convenience and ease of use	Yes	133(77.3)	42(80.8)	91(75.8)	Ref	0.479
	No	39(22.7)	10(19.2)	29(24.2)	0.747(0.334-1.673)	
Quick results	Yes	138(79.8)	47(88.7)	91(75.8)	Ref	0.058
	No	35(20.2)	6(11.3)	29(24.2)	0.401(0.155-1.033)	
Not having to visit the health facility.	Yes	117(68.0)	35(66.0)	82(68.9)	Ref	0.710
	No	55(32.0)	18(34.0)	37(31.1)	1.140(0.573-2.269)	
Increased control over one's testing process	Yes	130(76.5)	43(82.7)	87(73.7)	Ref	0.207
	No	40(23.5)	9(17.3)	31(26.3)	0.587(0.257)	
Positive experience/ recommendation	Yes	97(56.4)	30(56.6)	67(56.3)	Ref	0.971
	No	75(43.6)	23(43.4)	52(43.7)	0.988(0.514-1.898)	
Self-trust in the accuracy and reliability of self-testing kits	Yes	112(65.1)	36(67.9)	76(63.9)	Ref	0.606
	No	60(34.9)	17(32.1)	43(36.1)	0.835(0.420-1.660)	

Table 2 shows the Facilitators of the use of HIVST services among students of Lira University.

Discussion

Facilitators to the use of HIVST services: Table 3 showing Facilitators to the use of HIVST services among students of Lira University

The study found out that Privacy and confidentiality were significantly associated with the utilization of HIV self-testing services among the participants, cOR: 2.065, p=0.022. This was similar to the study that was carried out among Student Nurses in a Private Nursing College, Gauteng Province, South Africa, where perceived HIVST was an acceptable option for HIV testing. Most perceived that HIVST provided confidential and accessible HIV testing services, which reduced the stigma associated with the condition and increased partner testing and disclosure. (Madiba et al. 2015) This similarity could have been because Privacy and confidentiality create a safe environment for individuals to test for HIV without the fear of their results being disclosed to others.(Segawa et al. 2022). This implies that privacy and confidentiality empower individuals to take control of their health decisions and encourage more people to get tested, leading to early detection, treatment, and prevention of further transmission.

Conclusion

The study found that Privacy and confidentiality were significantly associated with HIV self-testing services among the participants.

Study Limitations

Refusal of the study participants to participate in the study due to factors like no financial gain.
Lack of knowledge among some respondents on some of the questions in the questionnaire
Fear of giving the right information.
Measures on How to Overcome the Limitations
Guidance was given where necessary in filling out the questionnaire
The respondents were briefed well before starting the interviewing process so that they would give the right information

Recommendation

Promote Privacy and Confidentiality to ensure these aspects are prioritized in the design and implementation of HIV self-testing services.

To the ministry of health

Peer Education Programs can help disseminate information about HIV self-testing among students. Peers are often more

relatable and can effectively communicate the importance of regular testing.

To the Students

Taking Responsibility for their sexual health through prioritizing regular self HIV testing. Understanding the benefits of early detection through self-testing is crucial in preventing the spread of HIV.

Community Workshops and Events: Hosting workshops and community events focused on HIV awareness and self-testing can help disseminate accurate information within the community. Engaging community leaders and influencers can amplify these messages.

Acknowledgement

Special thanks to the Almighty for the accomplishment of this piece of work. And my highest and sincere appreciation to all those who have contributed in one way or the other to this report development, especially my parent and the Kitatta family for the financial support, the Staff of Lira University, the Faculty of Public Health, and my supervisor, **Dr. Marc Sam Opollo**.

List of abbreviations

AIDS: Acquired Immunodeficiency Syndrome
 CDC- Centers of Disease Control.
 HIV- Human Immunodeficiency Virus
 HIVST- HIV self-testing
 MOH- Ministry of Health
 PLHIV People living with HIV
 PMC- Project Monitoring and Control
 SPSS Statistical Package for Social Sciences
 UNICEF- United Nations Integrated Children Fund
 WHO- World Health Organization

Source of funding.

The study was not funded.

Conflict of interest

The author declares no conflict of interest.

Author Biography

Ssemakula Peter is a student at Lira University, the faculty of public health.

Dr Marc Sam Opollo is a senior lecturer at Lira University, Faculty of Public Health.

Derick Modi is a student at Lira University, the faculty of public health

Julius Kayizzi is a student at Lira University, the faculty of public health

References

1. MacPherson, P., Lalloo, D. G., Webb, E. L., Maheswaran, H., Choko, A. T., Makombe, S. D., ... & Corbett, E. L. (2019). Effect of optional home initiation of HIV care following HIV self-testing on antiretroviral therapy initiation among adults in Malawi: A randomized clinical trial. *JAMA*, 321(16), 1530-1540. (2019)
2. Madiba, Sphiwe, Molly Segobola, and Mathildah Mokgatle. 2015. "Assessing the Acceptability and Willingness to Use HIV Self-Testing among Student Nurses in a Private Nursing College, Gauteng Province, South Africa." *World Journal of AIDS* 05(03):208. doi: 10.4236/wja.2015.53024.
3. Mukora-Mutseyekwa, F., Mundagowa, P. T., Kangwende, R. A., Murapa, T., Tirivavi, M., Mukuwapasi, W., Tozivepi, S. N., Uzande, C., Mutibura, Q., Chadambuka, E. M., & Machinga, M. (2022). Implementation of a campus-based and peer-delivered HIV self-testing intervention to improve the uptake of HIV testing services among university students in Zimbabwe: The SAYS initiative. *BMC Health Services Research*, 22(1), 222. <https://doi.org/10.1186/s12913-022-07622-1>
4. Segawa, I., Bakeera-Kitaka, S., Ssebambulidde, K., Muwonge, T. R., Oriokot, L., Ojiambo, K. O., & Mujugira, A. (2022). Factors associated with HIV self-testing among female university students in Uganda: A cross-sectional study. *AIDS Research and Therapy*, 19(1), 59. <https://doi.org/10.1186/s12981-022-00484-x>
5. Mphande, M., Campbell, P., Hoffman, R. M., Phiri, K., Nyirenda, M., Gupta, S. K., Wong, V., & Dovel, K. (2021). Barriers and facilitators to facility HIV self-testing in outpatient settings in Malawi: A qualitative study. *BMC Public Health*, 21(1), 2200. <https://doi.org/10.1186/s12889-021-12213-6>
6. Muwanguzi, P. A., Bollinger, R. C., Ray, S. C., Nelson, L. E., Kiwanuka, N., Bauermeister, J. A., & Sewankambo, N. K. (2021). Drivers and barriers to workplace-based HIV self-testing among high-risk men in Uganda: A qualitative study. *BMC Public Health*, 21, 1002. <https://doi.org/10.1186/s12889-021-11041-y>
7. World Health Organization. (2019). Guidelines on HIV self-testing and partner notification: Supplement to consolidated guidelines on HIV testing services. (2018).

PUBLISHER DETAILS:

Page | 7

SJC PUBLISHERS COMPANY LIMITED



Catergory: Non Government & Non profit Organisation

Contact: +256 775 434 261 (WhatsApp)

Email: info@sjpublisher.org or studentsjournal2020@gmail.com

Website: <https://sjpublisher.org>

Location: Scholar's Summit Nakigalala, P. O. Box 701432, Entebbe Uganda, East Africa