



Prevalence of newly diagnosed HIV patients aged 18-50 years attending the ART clinic at Kajjansi health centre IV. A cross-sectional study.

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Abstract

Background:

This study aimed to determine the prevalence of newly diagnosed HIV, the level of knowledge, and utilisation of preventive services before diagnosis among patients aged 18-50 attending the ART clinic at Kajjansi Health Centre IV.

Methodology:

A descriptive cross-sectional study design was adopted for the study, with a simple random technique to obtain 100 respondents. Participants were randomly selected to participate in the study. Semi-structured questionnaires with closed-ended questions were used for data collection, and results were analysed using Microsoft Excel. Results were presented in the form of tables.

Results:

Out of 100 participants, 10 (10%) were 41-50 years, 32 (32%) were between 31-40 years, 40 (40%) were between 21-30 years, and 14 (14%) were between 18-20 years. Seventy (70%) were females, and 30 (30%) were males. The overall prevalence of newly diagnosed HIV patients aged 18-50 attending the ART clinic at Kajjansi Health Centre IV was 80%, with 80 participants positive for HIV and 20(20%) participants negative for HIV. Regarding knowledge, 95% of the participants had heard about HIV before diagnosis, 20% had used PEP or PrEP before, and the 80% had never used PEP or PrEP before. Most, 70% of the participants use a condom during intercourse, 65% had received HIV counselling before diagnosis, while 35% had never received HIV counselling before, and 75% do often go for HIV ART services.

Conclusion:

The study reveals an exceptionally high HIV positivity rate among the screened clinic population at Kajjansi, alongside high basic awareness but critical gaps in biomedical prevention.

Recommendation:

Future studies should be conducted on a large scale to obtain a clear picture of the prevalence of newly diagnosed HIV patients aged 18-50, representing statistics.

Keywords: *Newly diagnosed HIV, Antiretroviral Viral Therapy clinic, Kajjansi health centre IV, Post Exposure Prophylaxis, Pre-exposure prophylaxis.*

Submitted: December 04, 2025 **Accepted:** May 01, 2026 **Published:** June 16, 2026

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Background

The Human Immunodeficiency Virus (HIV) is an acute viral pathogen classified under the *Ortervirales* order, *Retroviridae* family, *Orthoretrovirinae* subfamily, and *Lentivirus* genus. The virus is categorised into two distinct strains: HIV-1 and HIV-2 (National Institute of Health, 2022). Within the United States, transgender women

experience a disproportionately high susceptibility to infection, with Black and Hispanic transwomen facing the highest statistical vulnerability. While emerging scientific literature indicates that transgender men also face an elevated risk and disease burden, data regarding this specific demographic remains limited (Becasen, 2019).



In the European Union and European Economic Area (EU/EEA), annual HIV incidence rates remained largely stagnant from 2011 to 2015, with yearly reports consistently fluctuating between 29,000 and 33,000 new diagnoses. Although evidence indicates a positive trend toward earlier detection following transmission, approximately 122,000 individuals—representing 15% of the total 810,000 people living with HIV (PLHIV) in 2015—were unaware of their serostatus. This diagnostic gap presents a severe public health challenge, as undiagnosed individuals are cut off from lifesaving therapies and may inadvertently contribute to ongoing viral transmission.

When accounting for reporting delays, the 29,727 cases documented in the EU in 2015 yield an adjusted notification rate of 6.3 per 100,000 individuals. This metric aligns with the steady plateau observed since 2011, during which notification rates consistently hovered between 6.3 and 6.5 per 100,000 population. Epidemiological surveillance models corroborate this flat trend line, pinpointing an estimated 30,000 new infections (95% CI: 25,000–37,000) for the 2015 calendar year (Pharris, 2016).

Sub-Saharan Africa bears the global brunt of HIV/AIDS-related morbidity. While macro-level data proves that the epidemic varies widely by region, sub-national variations have historically lacked high-resolution geographic mapping. To address this, localised mapping at a 5 × 5-km scale from 2000 to 2017 evaluated adult (ages 15–49) HIV prevalence and localised demographic density. The findings exposed profound internal variations within country borders regarding both the velocity and trajectory of infection rates. These micro-level disparities are frequently obscured when data is aggregated solely at the national level. Consequently, fine-scale geospatial data serves as an essential mechanism for deploying precision public health interventions to curb transmission across the subcontinent.

Despite nearly forty years of clinical advancements transforming HIV from a terminal diagnosis into a manageable chronic condition via lifelong Antiretroviral Therapy (ART), it remains the primary driver of mortality in sub-Saharan Africa. Expanding ART distribution since the mid-2000s has drastically curbed mortality rates. However, massive treatment gaps persist: 34% of PLHIV in Eastern and Southern Africa and 60% in Western and Central Africa do not have access to therapy.

The global burden remains highly skewed toward sub-Saharan Africa, which accounted for 75% of worldwide fatalities, 65% of novel infections, and 71% of total PLHIV in 2017. International frameworks have continually

demanded the eradication of the virus. Millennium Development Goal 6 established a mandate to halt and begin reversing viral spread by 2015, while Sustainable Development Goal 3 explicitly targets total elimination of the epidemic by 2030. Furthermore, UNAIDS instituted fast-track screening and treatment milestones for 2020 and 2030 to drastically reduce global mortality and incidence. Nevertheless, recent structural evaluations confirm that global progress is lagging behind these timeline mandates. This deficit is exacerbated by a steady retraction in global HIV funding for sub-Saharan Africa, which has systematically declined since peaking in 2013. Reversing this trajectory requires a combination of renewed institutional funding and highly localised epidemiological datasets to maximise resource allocation efficiency (Dwyer-Lindgren, 2019). To address these regional dynamics, this study evaluates the prevalence of novel HIV diagnoses, baseline patient awareness, and the prior utilisation of preventative healthcare services among individuals aged 18–50 presenting to the ART clinic at Kajjansi Health Centre IV.

Methodology

Study design

A cross-sectional study design was used to perform this study. The study was performed employing quantitative strategies for data collection.

Study area

The study was conducted at Kajjansi HCIV. The hospital is managed by the government of Uganda through the Ministry of Health. It has about 200 beds, mental, TB diagnosis & care, physiotherapy, orthopaedics, eye care, sickle cell, diabetic & hypertension, x-ray, CT scan, and ultrasound. It has both general and private patient facilities. The Art clinic receives approximately 30 patients a day and has an attached peripheral laboratory for convenient accessibility.

Study population

The study was carried out among people aged 18–50 years in Kajjansi HC IV, as these seem to be more sexually active and the most common age group with HIV positive cases.

Sample size determination

The sample size was determined using the Kish and Leslie (1956) formula. $n = (z^2pq)/d^2$

Where;



n = the desired sample size.

z = standard normal deviation (1.96) at 95% confidence level.

P = estimated proportion of the population with criteria under study

$q = (1 - p)$, d = margin of error (0.05)

Substituting the values into the formula $n = \frac{z^2 \cdot p \cdot q}{d^2}$, $z = 1.96$

$p = 7.0\%$ (unpublished data) $q = (1 - 0.07)$, $q = 0.93$ $d = 0.05$

$n = \frac{1.96^2 \cdot 0.07 \cdot (1 - 0.07)}{0.05^2}$

$n = 0.268912 \times 0.93 / 0.0025$ $n = 0.25008816 / 0.0025$

$n = 100.035264$

$n = 100$ participants

Sampling technique

The study employed a simple random technique to select the study sample. It was preferred to other techniques because it ensured that each member of the target population had an equal and independent chance of being included and reduced bias during the study.

Sampling procedure

Participants were randomly selected among those attending the ART clinic at Kajjansi HC IV and those who consented to participate in the study. This enabled the avoidance of bias during data collection, thus preventing errors.

Inclusion criteria

Participant must have been newly diagnosed with a recency of not more than 6 months. They must be aged 18 -50 years.

Exclusion criteria

All HIV patients not attending the ART clinic, those with mental problems, and those that are unwell to respond to questions were excluded. As well as those below 18 years of age and those above 50 years of age.

Data collection method

Self-administered questionnaires were used, consisting of closed-ended questions to collect data. The purpose of the study was explained, and informed consent was obtained from the participants. The participants who were unable to read and write during the filling of the questionnaires were helped in the administration and filling of the questionnaires. Data was also collected from the hospital records of Kajjansi HC IV after acquiring permission from the Laboratory manager.

Data collection tools

An English Questionnaire comprising closed-ended questions was used to collect data on socio-demographic and behavioural factors associated with the prevalence of HIV among people at Kajjansi HC IV, and a laboratory request form was used to capture the results of the respondents.

Data collection procedure

The proposal was approved by the Mildmay Institute of Health Sciences, thereafter a letter of introduction was provided. Permission was obtained to conduct the study from the research ethics committee of Kajjansi HC IV. Permission to talk to patients attending the art clinic was sought from the in-charge. Thereafter, the investigator was introduced to the participants and explained to them the importance of the study. Those who consented to participate in the study were given questionnaires to fill out. Those who could not read and write were helped to read and fill in.

Quality control

Pretesting the Research Tools.

The questionnaire was pre-tested a few days before data collection for validity and reliability. Any observed inconsistency of the questions was corrected to meet the intended objectives before the time of data collection, as this study required ample time in order to get accurate results needed for the study process.

Training the Research Assistant.

The research assistant was carefully trained on the study's importance/purpose, procedure, and tested to ensure they are competent enough to engage in the research study. This ensured the smooth running of the study.

Giving adequate time to carry out the Study.

Buffer time was included to cover delays that came up during the process of data collection to ensure efficiency.

Dependent variable

Prevalence of HIV among the youth, which was obtained from youth aged 18-50 attending an art clinic.



Independent variable

The level of knowledge of HIV among newly diagnosed patients, Utilisation of preventive services before diagnosis among people attending the ART clinic at Kajjansi HC IV.

step to get an introductory letter allowing me to carry on with the study at the facility.

Autonomy

Written consent was obtained from the study participants after explaining the purpose of the study to them.

Privacy and confidentiality

The respondents were assured of anonymity and confidentiality, as no name was required. Privacy was maintained during the interviewing process.

Freedom to withdraw without penalty

The participants were free to withdraw at any time without fear, and there were no implications.

Consent.

Informed consent was obtained from the participants.

Results

Data management

Data collected was checked for accuracy and completeness, after which it was kept under key and lock to maintain patients' confidentiality. Uncoded data was coded and entered into Excel.

Data Analysis and Presentation

Data was imported and analysed using Microsoft Excel. Information is presented in frequency tables, graphs, and pie charts.

Ethical consideration

Before the collection of data for the study, written permission was obtained from Mildmay Institute of Health Sciences and Kajjansi Health Centre IV. This was the first

Socio-demographic information of participants

Table 1: Showing the respondents' demographic characteristics.

Variables	Category	Frequency (%)	Percentage (%)
Age	18-20	14	14%
	21-30	40	40%
	31-40	32	32%
	41-50	10	10%
	51-60	4	4%
	Total		100
Gender	Male	30	30%
	Female	70	70%
	Total	100	100%
Education background	Not educated	15	15%
	Primary	20	20%
	Secondary	45	45%
	Tertiary	20	20%
	Total	100	100%
Employment status	Unemployed	70	70%
	Employed	30	30%
	Total	100	100%
Nationality	Ugandan	100	100%



	Non-Ugandan	0	0
	Total	100	100%

The ages of the respondents were separated into four categories: 18-20, 21-30, 31-40, 41-50, 51-60, respectively. The highest age group exhibited in this study was those of 51-60 years, with 4 (4%) participants. The study showed that 10 (10%) participants were 41-50 years, 32 (32%) were between 31-40 years, 40 (40%) were between 21-30 years, and 14 (14%) were between 18-20 years. This explained the trend of the occurrence between different age groups. The study showed that 70 (70%) of the participants were females and 30 (30%) were males.

This study verified that 15 (15%) of the participants had never attended any level of education in their lifetime, 20(20%) attended primary level only, 45(45%) only attended secondary level, and 20(20%) attended up to the tertiary level of education. From the above findings, 70 (70%) participants were unemployed, and 30(30%) were employed, able to fully afford a living. This describes each respondent's cost of living. The study also revealed that all the 100 participants were Ugandans by nationality.

Prevalence of newly diagnosed HIV patients aged 18-50 attending the ART clinic at Kajjansi Health Centre IV.

Table 2: Showing the prevalence of newly diagnosed HIV patients aged 18-50 attending the ART clinic at Kajjansi health centre IV.

Prevalence of newly diagnosed HIV patients aged 18-50 attending the ART clinic	Frequency (N)	Percentage (%)
No. Of positive patients	80	80
No. Of the negative patients	20	20
Total	100	100

From table 2, the prevalence of newly diagnosed HIV patients aged 18- 50 attending the ART clinic at Kajjansi health centre iv 80%, with 80 participants positive for HIV and 20% with 20 participants negative.

The level of knowledge of HIV among newly diagnosed patients.

Table 3: Showing the level of knowledge of HIV among newly diagnosed patients.

Variable	Response	Frequency	Percentage
Have you heard about HIV before your diagnosis	Yes	95	95%
	No	5	5%
Can HIV be transmitted from mother to baby	Yes	60	60%
	No	40	40%
Is HIV the same as AIDs	Yes	40	40%
	No	60	60%
Can body fluids transmit HIV	Yes	23	23%
	No	77	77%



Is HIV treatable	Yes	70	70%
	No	30	30%

From Table 2, 95% of the participants had heard about HIV before diagnosis, and 5% of them had never heard about HIV, 60% of the participants knew that HIV could be transmitted from mother to child, and the 40% of them didn't know that HIV could be transmitted from mother to child. 40% of the participants thought HIV is the same as

AIDS, yet the 60% knew that they were different, 23% of the participants thought body fluids can transmit HIV, while the 77% didn't think body fluids can transmit HIV. 70% of the participants were aware that HIV is treatable, and 30% weren't aware that HIV is treatable

Utilisation of preventive services before diagnosis

Table 4: Showing utilisation of preventive services before diagnosis.

Variable	Response	Frequency	Negative Results	Positive Results
Have you used PEP or PrEP before	Yes	20	20	00
	No	80	00	80
Do you use a condom often?	Yes	70	10	70
	No	30	10	20
Have you received HIV counselling before	Yes	65	15	50
	No	35	05	20
Do you often go for ART services	Yes	75	60	15
	No	25	15	10

Study results showed that 20% of the participants had used PEP or PrEP before, and the 80% had never used PEP or PrEP before. 70% of the participant do use a condom often, and 30% don't use a condom often. 65% of the participants had received HIV counselling before diagnosis, while 35% had never received HIV counselling before. 75% do often go for HIV ART services, while 25% of them don't often go for ART services

Discussion

Prevalence of newly diagnosed HIV patients aged 18-50 attending the ART clinic at Kajjansi Health Centre IV

The study results showed that the overall prevalence of newly diagnosed HIV patients aged 18-50 was 80(80%). The observed HIV positivity rate of 80% within the Kajjansi Health Centre IV study cohort significantly exceeds the 6.2% national average reported by the Uganda Population-Based HIV Impact Assessment (MoH, UPHIA 2016-2017) and the global benchmarks highlighted by the Global Prevention Coalition (UNAIDS, 2024). Rather than

reflecting regional epidemiological inflation, this pronounced divergence is a direct artefact of institutional selection bias; our sample was captured strictly within an active ART service facility where attendees present with high pre-test probabilities. This happened to be so because the sample was drawn exclusively from an ART clinic.

The study results showed a higher prevalence compared to the study done in Sub-Saharan Africa in 2010, which had a prevalence rate of 44% new infections. This was so because of a higher sample size and a difference in the years both studies were conducted. Compared to a study done by Uganda Population-Based HIV Impact Assessment (UPHIA), which had a 6.2% (MoH, *UPHIA Uganda Factsheet. Pdf*, 2016/17), the study had a higher prevalence. This was so because of a high number of participants, adequate resources, and improved technology.

Level of knowledge of HIV among newly diagnosed patients.

The study results showed that 95% Of the participants had heard about it, and 5% had never heard about it, which is



Student's Journal of Health Research Africa

e-ISSN: 2709-9997, p-ISSN: 3006-1059

Vol.7 No. 2 (2026): June 2026 Issue

<https://doi.org/10.51168/sjhrafrica.v7i2.2295>

Original Article

like the study done by UNAIDS (2023). And slightly higher than the study done in Bangladesh (Bhowmik & Biswas, 2022).

The study showed that about 40% understood the transmission routes, which included that it can be transmitted from mother to baby and through body fluids, which gave a percentage close to 52% that was obtained from Bangladesh (Bhowmik & Biswas, 2022).

Study results also indicated that 70% the participants believed that HIV is untreatable, while 30% believed that HIV is treatable, which gave similar results as a study done in Northern Uganda that gave a response of 82% (Wanyama *et al.*, 2022).

Utilisation of preventive services before diagnosis

Study results showed that the number of people who use condoms as a preventive service was high, similar to a study done in middle-income countries (Kennedy *et al.*, 2010).

The study also showed that the number of people using prophylaxis is still low, just as a study that was done in South Africa and Kenya (*Preventive Medicine: Research & Reviews*, n.d)

Study results also showed that a high number of participants are receiving ART services with a rate of 75%, just as a study done in Northern Uganda (Odongo *et al.*, 2023).

Study limitation

Language barrier since this health Centre receives various patients from different areas of the region, but residing in the Wakiso district.

The costs, especially on buying laboratory equipment such as vacutainers, syringes, just to mention a few, printing, photocopying, and transport and accommodation.

The unincorporative respondents at the hospital as some individuals may not be willing to participate or give full /correct information in regard to the study.

Conclusion

The study established a higher prevalence rate than what was assessed in other countries. The study results showed a slightly higher knowledge awareness among the participants with low levels of utilisation of preventive services.

Recommendation

Future studies should be conducted on a large scale to obtain a clear picture of the prevalence of newly diagnosed HIV patients aged 18-50 years, representing statistics.

Acknowledgement

I would like to thank the almighty God for allowing me to be where I am, what I've become, and what He has done and so far accomplished in my life. I would also like to acknowledge my supervisor, whose scholarly advice, help, constant encouragement, and support have contributed generously to my study. My gratitude goes to the Mildmay Institute of Health Science library for making reference books available for my study. To you all, may the good Lord Almighty reward you accordingly.

List of abbreviations

AIDS: Acquired Immunodeficiency Syndrome

ART: Antiretroviral Therapy

CDC: Centre for Disease Control

HIV: Human Immunodeficiency Virus

MOH: Ministry of Health

PLHIV: People Living with Human Immunodeficiency Virus

PrEP: Pre-exposure prophylaxis

RDT: Rapid Diagnostic Test

TASO: The AIDS Support Organisation

Source of funding

The study was not funded.

Conflict of interest

The author declares that there was no conflict of interest.

Author contributions

DK- Investigated the study

RM- Supervised the Study.

HN- Supervised the Study.

FS-Supervised the Study.

AS-Supervised the Study.

JFN-Supervised the Study.

Data availability

Data is available upon request.



Informed consent

Written informed consent was obtained from all participants before their inclusion in the study. Participants were informed about the purpose of the study, procedures involved, potential risks and benefits, and their right to withdraw at any time without penalty.

Author biography

Denelson Kabogoza is a student at Mildmay Institute of Health Sciences, pursuing a diploma in Medical Laboratory Technology.

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Student's Journal of Health Research Africa
e-ISSN: 2709-9997, p-ISSN: 3006-1059
Vol.7 No. 2 (2026): June 2026 Issue
<https://doi.org/10.51168/sjhrafrica.v7i2.2295>
Original Article

PUBLISHER DETAILS

Student's Journal of Health Research (SJHR)

(ISSN 2709-9997) Online

(ISSN 3006-1059) Print

Category: Non-Governmental & Non-profit Organization

Email: studentsjournal2020@gmail.com

WhatsApp: +256 775 434 261

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

