

FACTORS CONTRIBUTING TO POOR HEALTH-SEEKING BEHAVIORS AMONG HIV ADOLESCENTS ATTENDING ART CLINIC AT KALAGALA HEALTH CENTRE IV, LUWERO DISTRICT. A CROSS-SECTIONAL STUDY.

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ABSTRACT.

Background:

The purpose of the study: was to find out individual, community, and health facility-related factors contributing to poor health-seeking behaviors among HIV adolescents attending the ART clinic at Kalagala Health Centre IV, Luwero district.

Methodology:

A cross-sectional study design using a simple random sampling technique sampled 50 respondents. A questionnaire with open and ended questions written in English language was used as the data collection tool and data was analyzed manually by use of tally sheets and presented in tables and figures by support of narratives.

Findings:

The majority of the respondents were 18-19 years old (46%), female (60%), and in secondary school (52%). Many (92%) perceived ART as very important, (58%) had ever been exposed to drug adverse effects, and (38%) missed prescribed ART medications ART due to forgetfulness. Respondents (48%) affirmed that their parents don't usually support them in taking medication, (48%) noted that community members were unfriendly towards HIV-positive adolescents, and (82%) were day scholars. When it came to the health facilities (60%) of the respondents noted the waiting time was quite long, (64%) reported that the attitudes of health workers were fair, (70%) agreed that they received adequate counseling services in regards to timely ART, (56%) reported a very far distance from their homes to the health facility.

Conclusion:

Exposure to drug adverse effects missed prescribed medications due to forgetfulness, unsupportive parents/caretakers, unpleasant perceptions of community members towards HIV-positive adolescents, tight school programs, long waiting times, spiteful attitudes of health workers, and distances from homes to health facilities were the foremost factors contributing to poor health-seeking behaviors among adolescents on ART.

Recommendation:

Kalagala Health Center IV administration should build a good client-based relationship with adolescents so that they can freely express themselves and develop their preferred mode for accessing timely ART.

Keywords: Kalagala Health Centre, HIV, Adolescent, Poor health Behaviours

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INTRODUCTION.

Antiretroviral therapy (ART) refers to medications that are used to treat HIV infection, generally in a combination of three or more drugs. Of the 1.71 million [confidence bounds: 1.24 million–2.21 million] adolescents aged 10–19 living with HIV globally, only 59 percent, or 1 million, were receiving life-saving ART in 2021. In the 35 UNICEF HIV priority countries, 61 percent of adolescents aged 10–19 years were receiving antiretroviral therapy in 2022 (UNICEF, 2023).

Antiretroviral treatment coverage among adolescents 10–19 years varies across regions, with the lowest treatment

coverage in the Middle East and North Africa and Latin America and the Caribbean (both 42 percent) and the highest in South Asia (64 percent). In 2021, about 61 percent of adolescents living with HIV aged 10–19 years in the 35 UNICEF HIV priority countries received antiretroviral therapy. Adolescent boys aged 10–19 years had greater rates of antiretroviral therapy coverage in Eastern and Southern Africa, the Middle East, and North Africa relative to adolescent girls aged 10–19. (UNICEF, 2023)

Ethiopia has made excellent progress towards achieving the 2nd and 3rd 90's among adults where 91% of the people were virally suppressed. However, special

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attention is warranted to increase access to treatment for children and adolescents on 67% of receiving ART viral suppression is suboptimal (FHAPCO, 2022).

HIV prevalence in Uganda among adolescents was 1.7% among girls and 0.2% among boys in 2021. In addition, it was estimated that 96% of HIV patients were on ART but the rate of HIV new infections among young people more especially adolescent girls was 4/5 every week (Uganda AIDS Commission, 2022).

The study aims to determine the factors contributing to poor health-seeking behaviors among HIV adolescents attending the ART clinic at Kalagala Health Center IV, Luwero district.

Specific objectives.

- To assess the individual factors contributing to poor health-seeking behaviors among HIV adolescents attending the ART clinic at Kalagala Health Centre IV, Luwero district.
- To determine the community-related factors contributing to poor health-seeking behaviors among HIV adolescents attending the ART clinic at Kalagala Health Center IV, Luwero district.
- To evaluate the health facility-related factors contributing to poor health-seeking behaviors among HIV adolescents attending the ART clinic at Kalagala Health Centre IV, Luwero district.

METHODOLOGY.

Study design.

According to Joubert & Ehrlich (2007), a study design refers to the structured approach followed by researchers to answer a particular research question. Therefore, the study adopted a descriptive cross-sectional study design. This design was preferred because it is relatively cheap and less time-consuming. This allowed for data collection in a limited period thus limiting expenses.

Study area.

The study area is the specific site where the data collection takes place. The study was conducted at Kalagala Health Centre IV located at Kalagala Bamunanika, Luwero district approximately 6.5 km from Kampala, Uganda. The facility has several departments such as outpatient, inpatient, pediatric, major and minor surgery, laboratory, pharmacy, ART, and maternity. The facility receives an average of 150 patients daily.

Study population.

The study population was comprised of adolescents seeking ART services.

Sample size determination.

$S=2(QR) O$: where

S=required sample size

Q=number of days that were spent while collecting data

R=maximum number of HIV adolescents interviewed per day

O= maximum time the interviewer spent on each participant in hours $O=1/2$ hr (half an hour)

R=5 respondents per day Q=10 days of data collection $S=2 \times 10 \times 5 \times (1/2)$

S= 50

So, the sample size was 50 respondents

Sampling Technique.

A simple random sampling technique was adopted to proportionately draw the sample from each of the given populations. The technique was preferred because it ensured that no bias was involved in the selection of the sample. Therefore, any variation between the sample characteristics and the population was only a matter of chance.

Sampling procedure.

An ART register was used to assign numbers to adolescents and sampled out random numbers to select respondents who had low turn-up rates to the ART clinic to participate in the study.

Data collection method.

The data was collected using a questionnaire which was then analyzed and used to support or refute research hypotheses and draw conclusions about the study's subject matter. For this study, the internal records of the facility were used to tap participants with low turn-up rates to the ART clinic and questionnaires.

Data collection tool.

A pre-tested semi-structured questionnaire with both open and close-ended questions written in English language and later translated into the local language (Luganda) was formulated and administered to consenting adolescents 13-19 years. This data collection tool was preferred because it was easier to collect data from a large population in the shortest period

Data collection procedure.

During data collection, permission was sought from the in charge of Kalagala Health Center IV who granted permission to collect data. Before administering the questionnaire, two field assistants were trained for three days on how to administer the questionnaire. The data collectors introduced themselves to explain the objectives of the study before administering the research tool to respondents. After consenting, the sampling procedure began with the first adolescent in the register on the

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particular day of data collection based on the register and the rate at which he/she has been adhering to ART; names of other participants were selected randomly using numbers in the ART register and this procedure continued on each day of data collection until the required sample size was accomplished. Therefore, data was collected within 10 days.

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Study Variables.

Dependent Variables.

ART was the dependent variable

Independent variables.

Individual, community, and health facility-related factors contributing to poor health-seeking behaviors among HIV adolescents attending ART were the independent variables.

Quality control.

Appointments were made for data collection. All activities regarding data collection were done under the monitoring and supervision of the research assistants. The research team met after data collection to review the collected data and crosscheck the filled questionnaires for correctness and completeness. Therefore, quality control was done to ensure the accuracy and validity of the data collected

Pretesting of the questionnaire.

For uniformity of the data collection, pretesting of the questionnaire was done among 10 adolescents in Nakatonya health center III, to ensure that it was easily understood by all the respondents and the pre-tested instruments helped to identify questions that might have caused contradiction and ambiguity.

Data analysis and presentation.

Data analysis was done manually using tally sheets, pens, and paper. The data analyzed was entered into an Excel computer program; presented in tables and figures; and then interpreted.

Ethical considerations.

The study protocol was approved by the Kampala School of Health Sciences ethical committee before data collection commenced to prevent ethical dilemmas. A letter of introduction was obtained from the Kampala School of Health Sciences and addressed to the medical director of Kalagala Health Centre IV requesting permission to conduct the study. When permission was granted, the aim of the study was clearly explained to respondents to get their informed consent. The respondents were assured of anonymity and the ability to withdraw from the study at any time.

STUDY FINDINGS.

Demographic data.

Table 1: Shows the distribution of respondents according to demographic data (N=50)

Response	Frequency(f)	Percentage (%)
Age		
13-14 years	12	24
15-17 years	15	30
18-19 years	23	46
Total	50	100
Sex		
Female	30	60
Male	20	40
Total	50	100
Religion		
Catholic	17	34
Protestant	11	22
Muslim	04	8
Others	18	36
Total	50	100
Level of education		
Never went school	03	6
Primary	16	32
Secondary	26	52
Tertiary	05	10
Total	50	100
ART duration		
3-6 months	04	8
1-2 months	07	14
3-2 years	11	22
Others	28	56
Total	50	100

Findings obtained from the study; Table 1 showed that most of the respondents (46%) were within the age bracket of 18-19 years whereas the least (24%) were within the age bracket of 13-14 years.

Respectively, the study results revealed that the majority of the respondents (60%) were females by sex whereas the minority (40%) were males by sex.

The study further depicted that more than half of the respondents (36%) belonged to other religions such as Born Again, Adventist, and Baptist whereas the least (8%) were Muslims by religion.

The study results that were correlated to education level showed that most of the respondents (52%) were secondary students whereas the least (6%) had never gone to school.

The study also revealed that the majority of the respondents (56%) reported other duration periods on ART and these were 4-10 years whereas the minority

(8%) had been on ART for 3-6 months.

Individual Factors Contributing to Poor Health Seeking Behaviors Among Adolescents Attending ART.

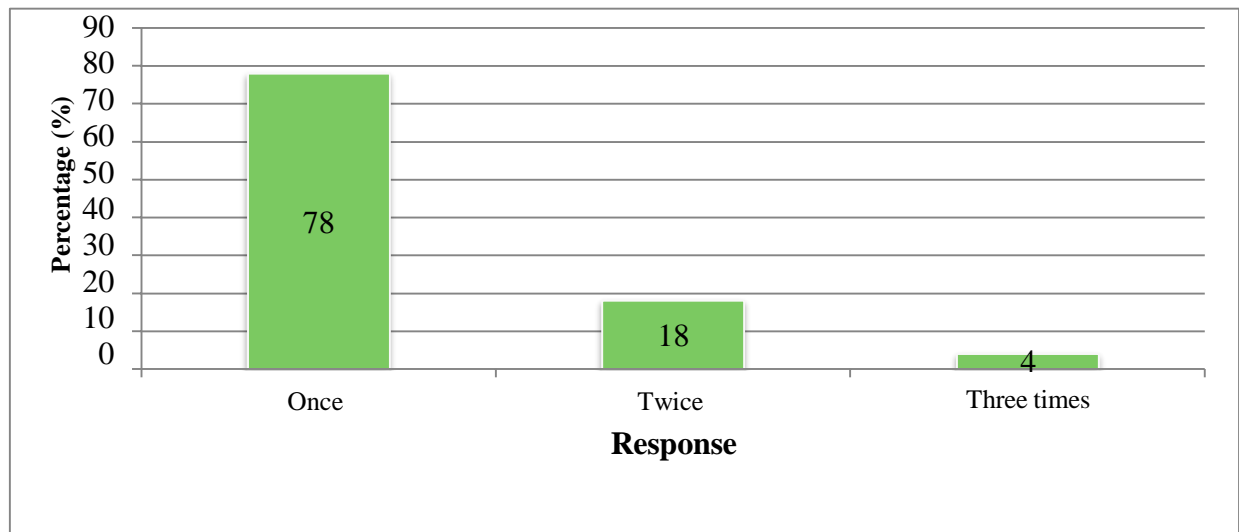
From a narrative perspective, all respondents (100%) had ever heard about ART.

Table 2: Shows the distribution of respondents according to how they perceived the importance of ART to their health (N=50)

Response	Frequency(f)	Percentage (%)
Somehow important	03	6
Very important	46	92
Not important	01	2
Total	50	100

From Table 2, almost all respondents (92%) noted that ART is very important to their health whereas the least (2%) reported that ART is not beneficial to their health.

Figure 1: Shows the distribution of respondents according to the number of times they take pills in a day (N=50)



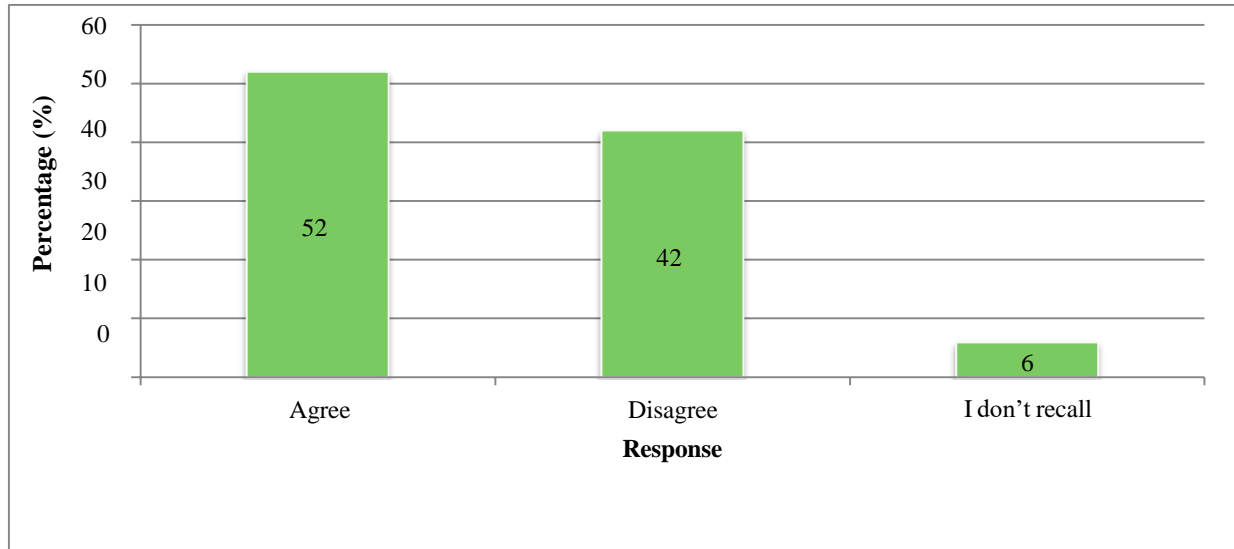
From Figure 1, more than half of the respondents (78%) noted that they take pills once a day whereas the least (4%) noted that they take pills three times a day.

Table 3: Shows the distribution of respondents according to how often they experience drug adverse effects (N=50)

Response	Frequency(f)	Percentage (%)
Always	05	10
Sometimes	29	58
Not at all	16	32
Total	50	100

From Table 3, more than half of the respondents (58%) reported that sometimes they experience any drug adverse side effects whereas the least (10%) reported that they experience drug adverse effects always.

Figure 2: Shows the distribution of respondents according to whether they had ever missed any prescribed medications in the last three months (N=50)



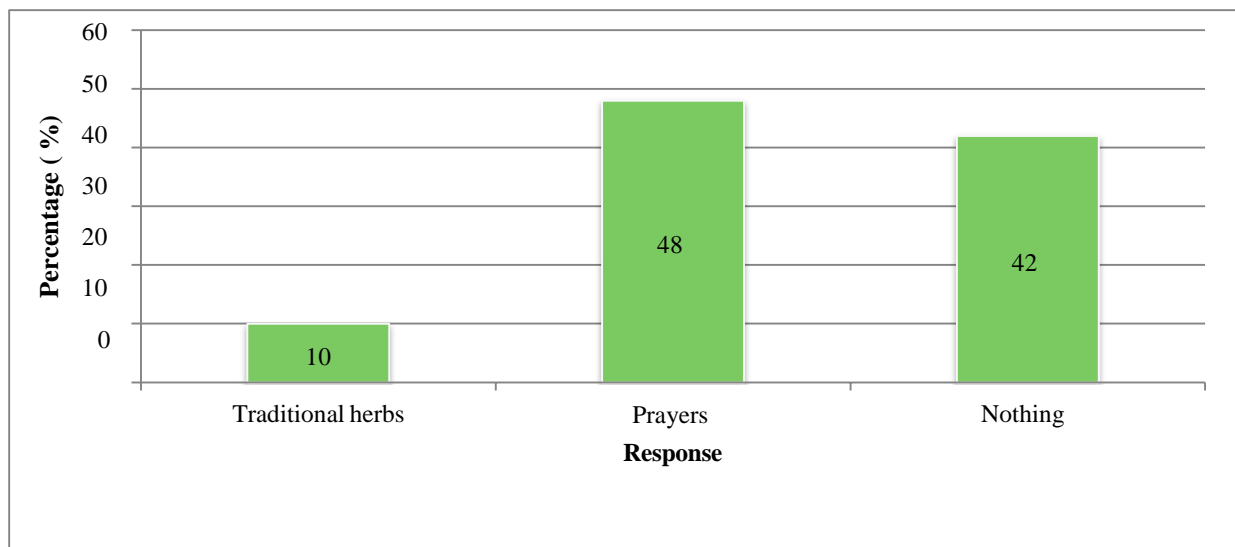
From Figure 2, most of the respondents (52%) agreed that they had ever missed the prescribed medications in the last three months whereas the least (6%) didn't recall whether they had ever missed the prescribed medications in the last three months.

Table 4: Shows the distribution of respondents who had ever missed their prescribed medications in the last three months according to the reasons why they missed them. (N=26)

Response	Frequency(f)	Percentage (%)
I was facing side effect challenges	09	35
I did not understand the instructions	02	8
I forgot	10	38
Others	05	19
Total	26	100

From Table 4, most of the respondents (38%) reported that they forgot the reason as to why they had ever missed the prescribed medications in the last three months whereas the least (8%) reported that they did not understand the instructions.

Figure 3: Shows the distribution of respondents according to the alternative therapy to ART they use (N=50)



From Figure 3, most of the respondents (48%) reported prayers as an alternative therapy to ART whereas the least (10%) reported that they use traditional herbs as an alternative therapy to ART.

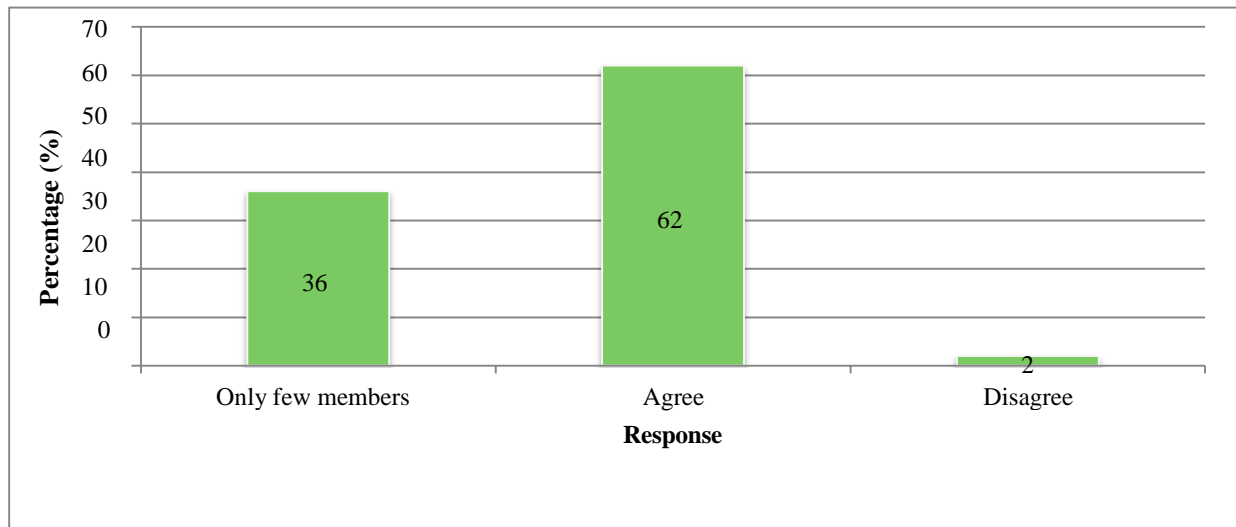
Community-Related Factors Contributing to Poor Health Seeking Behaviors Among Adolescents Attending ART.

Table 5: Shows the distribution of respondents according to whether their parents are still alive (N=50)

Response	Frequency(f)	Percentage (%)
One living	30	60
Both living	12	24
None	08	16
Total	50	100

From Table 5, the majority of the respondents (60%) reported that one of their parents was living whereas the least (16%) lost both their parents.

Figure 4: Shows the distribution of respondents according to whether their family members were aware of their status (N=50)



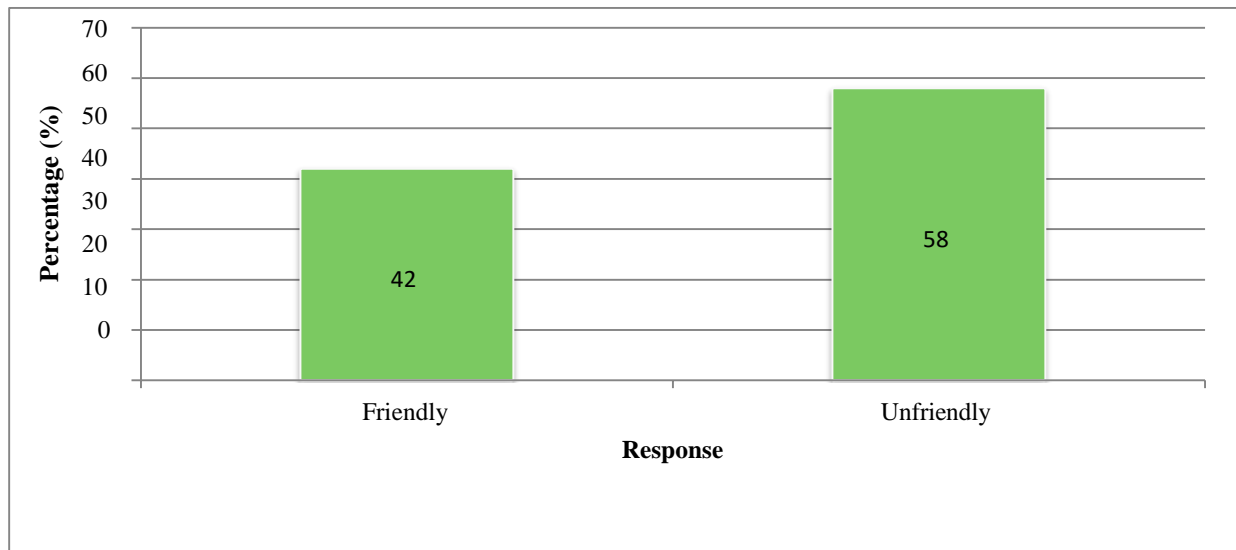
From Figure 4, more than half of the respondents (62%) reported that their family members were aware of their HIV status whereas the least (2%) reported that none of their family members was aware of their status.

Table 6: Shows the distribution of respondents according to how often their parents/guardians help them to take medication (N=50)

Response	Frequency(f)	Percentage (%)
Sometimes	24	48
Not at all	07	14
Always	19	38
Total	50	100

From Table 6, most of the respondents (48%) reported that sometimes their parents/guardians help them to take medication whereas the least (14%) reported that their parents/guardians don't help them to take medication.

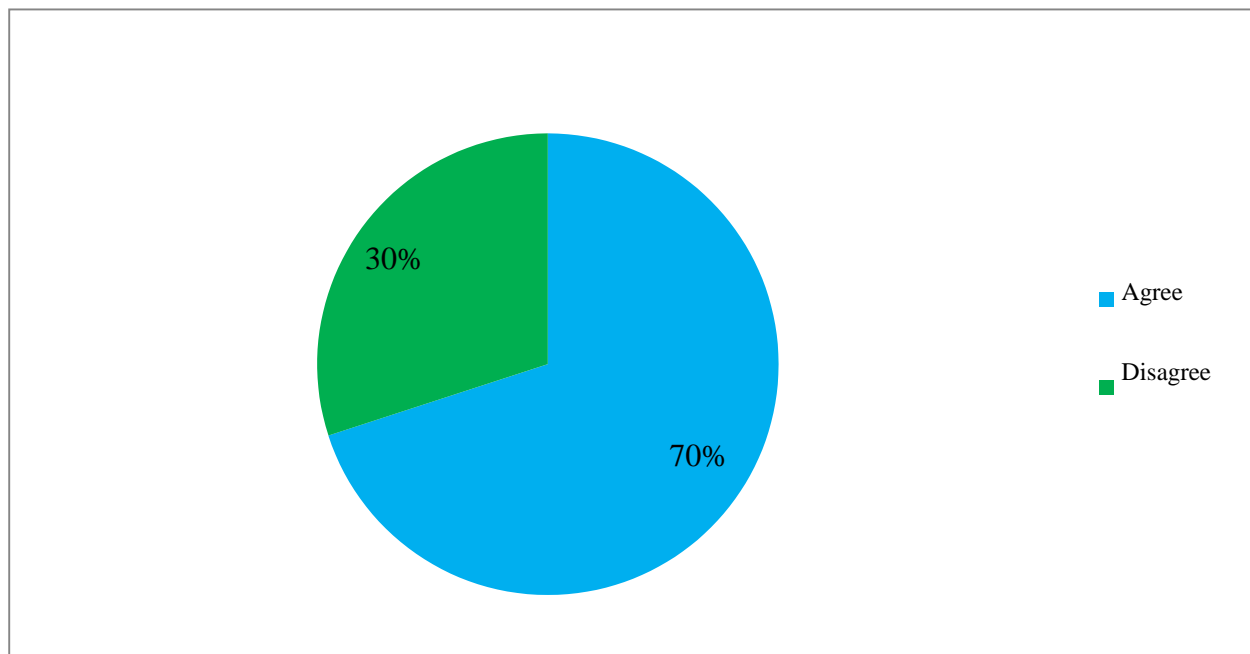
Figure 5: Shows the distribution of respondents according to how they rate people's friendliness in their community towards adolescents living with HIV (N=50)



From Figure 5, more than half of the respondents (58%) reported that people in their community are unfriendly with adolescents living with HIV whereas the least (42%) reported that people in their community are friendly with adolescents living with HIV.

Health Facility Related Factors Contributing to Poor Health Seeking Behaviors Among Adolescents Attending ART.

Figure 6: Shows the distribution of respondents according to whether they had adequate counseling services from health workers concerning timely ART. (N=50)



From Figure 6, the majority of the respondents (70%) agreed that had received adequate counseling services from health workers concerning timely ART whereas the minority (30%) disagreed saying they did not receive adequate counseling services from health workers concerning timely ART.

Table 7: Shows the distribution of respondents according to whether they had ever missed any ART appointment in the past three months. (N=50)

Response	Frequency(f)	Percentage (%)
Agree	33	66
I don't recall	06	12
Disagree	11	22
Total	50	100

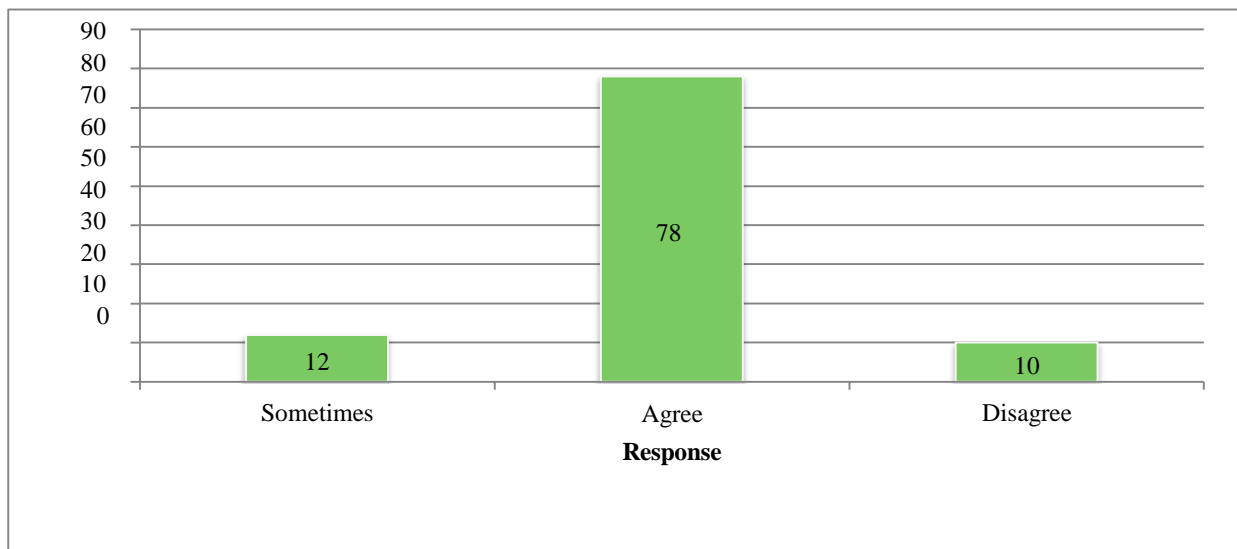
Table 7 shows the majority of the respondents (66%) agreed that they had ever missed an ART appointment in the past three months whereas the minority (12%) they were not recall.

Table 8: Shows the distribution of respondents according to the reason why they had ever missed any ART appointment in the past three months. (N=33)

Response	Frequency(f)	Percentage (%)
I had a problem of keeping time	10	30.3
I was at school doing exams	15	45.4
I forgot	03	9
Others	05	15.1
Total	33	100

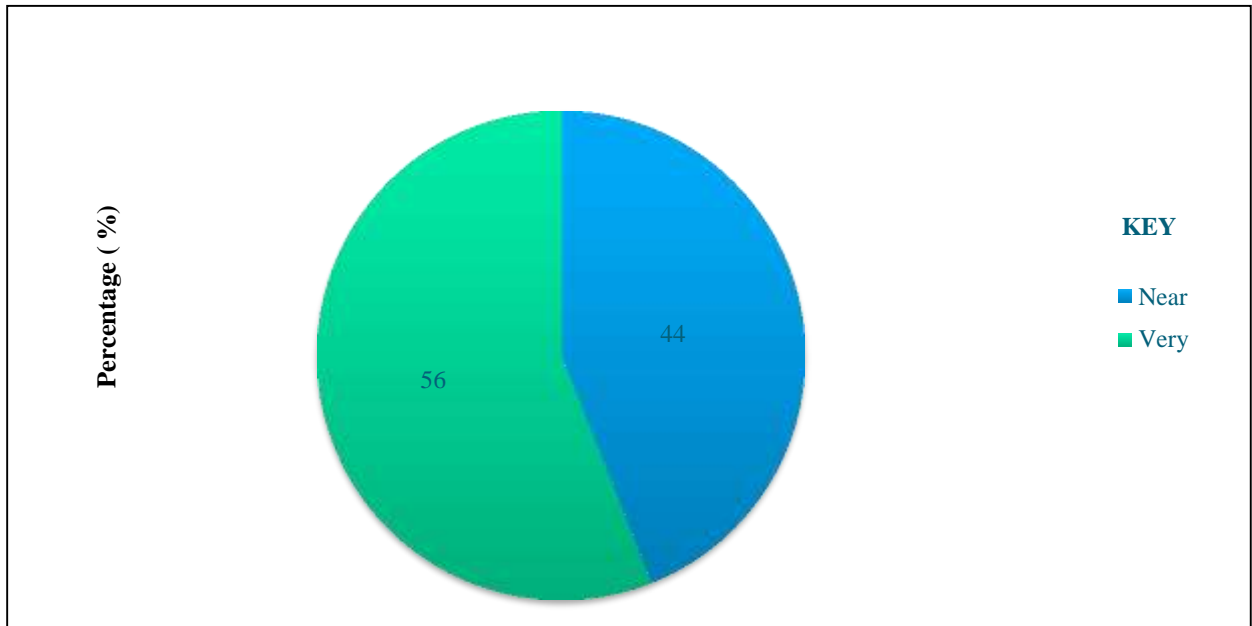
From Table 8, most of the respondents (45.4%) noted that they missed ART appointments in the past three-month period because they were at school doing exams whereas the least (9%) missed because they forgot.

Figure 7: Shows the distribution of respondents according to whether they always get access to enough drugs at this facility. (N=50)



From Figure 7, more than half of the respondents (78%) agreed that they get enough access to drugs at this facility whereas the least (10%) disagreed.

Figure 8: Shows the distribution of respondents according to the length the distance from their homes to the health facility. (N=50)



From Figure 8, most of the respondents (56%) reported very far distances from their homes to the health facility whereas the least (44%) reported near distances from their homes to the facility.

Table 9: Shows the distribution of respondents according to how they rate the waiting time during their clinic appointments at this facility (N=50)

Response	Frequency(f)	Percentage (%)
Appropriate	20	40
Long	30	60
Total	50	100

Table 9 shows, more than half of the respondents (60%) reported that the waiting was long whereas the least (40%) noted that the waiting time was appropriate.

Figure 9: Shows the distribution of respondents according to how they rate healthworkers capabilities (in terms of being caring, friendly and listening) (N=50)

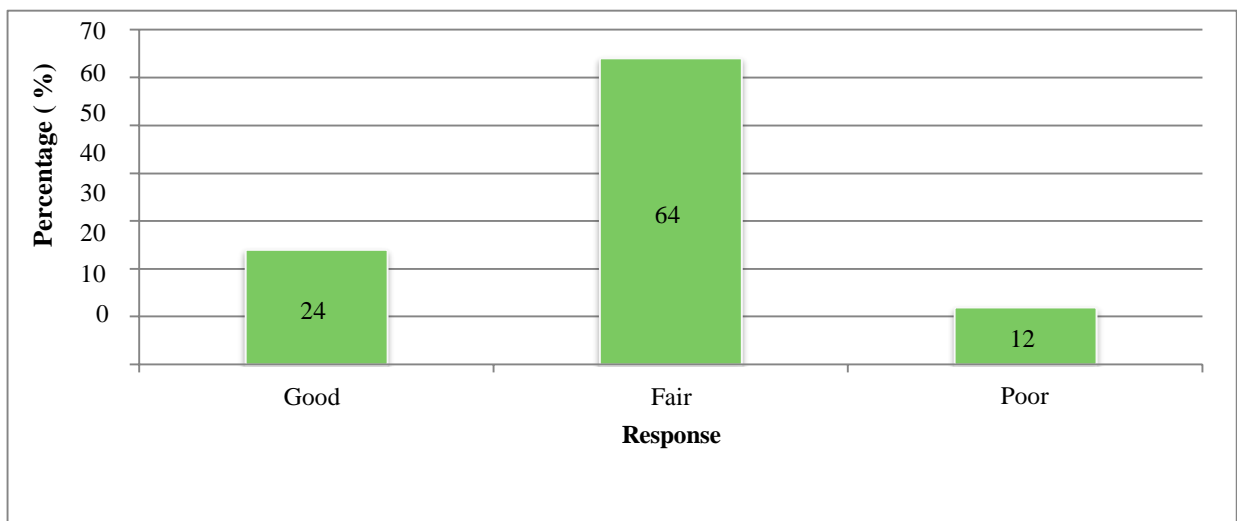


Figure 9 illustrates that more than half of the respondents (64%) reported that health worker's capabilities (in terms of being caring, friendly, and listening) were fair whereas the least (12%) reported that it was poor.

DISCUSSION.

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Individual factors contributing to poor health-seeking behaviors among adolescents attending ART.

From a description perspective, all respondents (100%) had ever heard about ART. This was highly expected since all respondents were already diagnosed with HIV and already on treatment. The current findings were in agreement with Aderemi-Williams et al (2021), where (100%) of the participants had ever heard about ART.

Notably, results in regards to how often respondents experienced any drug adverse side effects (58%) reported that sometimes they experience any drug adverse side effects. Therefore, fear of repeated exposure to previous effects possibly could predispose to irregular uptake of medicines. The current findings were in line with Nyirahabimana et al. (2019) where (60%) of the respondents often had ever experienced adverse effects.

The study also recognized that most of the respondents (52%) had never missed the prescribed medications. This could be a result of some genuine reasons which were later discovered. The study results were equivalent to Tanyi et al (2021), where (58%) of the respondents had ever missed the prescribed medications.

To add on that, out of the 26 samples who had ever missed the prescribed medications (38%) noted that they forgot. This ratifies that most of these adolescents were from families that were not supportive of encouraging them to take medications on time. This is consistent with the study findings of Habumugisha et al (2022), where 60.8% noted that missing the medicine was due to forgetting.

Out of the 50-sample population, almost half of the respondents (48%) reported prayers as an alternative therapy to ART. This could be attributed to the fact that in circumstances where someone is almost giving up God is the only option. The study results differ from Oluwasina et al (2019), where respondents who wanted to start to combine herbal and alternative therapy with ARVs were 4.1%.

Community-related factors contributing to poor health-seeking behaviors among adolescents attending ART.

The study further revealed that the majority of the respondents (60%) reported that one of their parents was living. Therefore, in circumstances where children live with one parent, they tend not to fully be able to get access to parental care and this predisposes to low uptake of ART since someone on ART needs to be cared for emotionally

and physically. The study results were in agreement with findings from a study that was done in Western Kenya by Onyanga et al (2021), where results revealed that nearly half (11, 46%) had a mother as the primary caregiver.

The study results denote that most of the respondents (48%) are sometimes helped by parents /guardians/ family members to take medication. This gives clear evidence that these adolescents were not fully supported by their family members hence paving the way to poor health-seeking behaviors. The study results were inconsistent with Castro et al (2015), whose findings revealed that all caregivers had participated in decisions regarding the child's treatment.

Nevertheless, more than half of the respondents (58%) reported that people in their community were unfriendly to adolescents living with HIV. This implies that study participants were subjected to stigma from the people around them and they were mostly not fully utilizing ART services since they were afraid of community member's perceptions. The study results were not in line with Koroka (2021), where results revealed that 58.8% of the respondents were satisfied with the overall support from their friends and/or relatives.

Health facility-related factors contributing to poor health-seeking behaviors among adolescents attending ART.

About findings that were obtained from a sample of 50 participants, (66%) agreed that they had never missed an ART appointment in the past three months. This could be attributed to some reasons the study later ascertained. The study results differ from study findings from Lesotho by Mohlabane & Madiba (2021), where the majority (92%, 120) had not missed an ART clinic appointment in the past 30 days.

Additionally, (45.4%) who had missed ART appointments in the past three months period they were at school doing exams. Therefore, this proves that participants had no other option except to miss exams since they were not given a chance to sit for exams on another speculated day. The study results were contrary to Clair-Sullivan et al (2019), where results showed that missing appointments 27.7% (48) were due to inadequate financial support for transportation and easy access to drug refills and clinical follow-up appointments. Parental support, both material and emotional, was highly regarded (Ankrah et al., 2016)

However, most of the respondents (56%) reported very far distances from their homes to the health facility. Such long-distance limits adolescents whose parents/ caretakers cannot meet the transport cost expenses to miss out on utilizing ART services. The study results were dependable with Habumugisha et al (2022), where (38.6%) of the adolescents were hindered by traveling long distances to the health facility.

The study results also showed that more than half of the respondents (60%) reported that the waiting time was long. This implies that the number of ART patients the

facility receives compared to the ratio of health workers was very big and these adolescents were afraid of sitting for so long, hence losing morale to seek for timely medication. The study findings differ from Muiyuro et al (2019), where waiting time during clinic appointments was rated as appropriate by 69% of the adolescents in the study.

Study results depicted that (64%) of the sample reported that health worker's capabilities (in terms of being caring friendly and listening) were fair. Therefore, circumstances where health workers possess unpleasant attitudes also impose an impact on the delayed uptake of ART services. This was in disagreement with Habumugisha et al (2022), where 44% were affected by the judgmental attitude of the healthcare providers

CONCLUSION.

The study spotted the following conclusions based on overall major findings;

The study identified that exposure to drug adverse effects as noted by (58%), missed prescribed medications due to forgetfulness as reported by (38%) were the outstanding individual factors contributing to poor health-seeking behaviors among adolescents on ART

From the community-related factors, the study discovered unsupportive parents since 48% affirmed that their parents don't usually support them in taking medication, unpleasant perceptions of community members towards HIV-positive adolescents as confirmed by (48%) of the respondents.

The study concealed that long waiting times as reported by (60%), spiteful attitudes of health workers as noted by (64%) and very far distances from homes to health facilities (56%) were the notable health facility-related factors contributing to poor health-seeking behaviors among adolescents on ART.

The study concealed that exposure to drug adverse effects missed prescribed medications due to forgetfulness, unsupportive parents/caretakers, unpleasant perceptions of community members towards HIV-positive adolescents, tight school programs, long waiting times, spiteful attitudes of health workers and far distances from homes to health facility were the foremost factors contributing to poor health-seeking behaviors among adolescents on ART.

RECOMMENDATION.

Comprehensive analysis should be carried out by MoH on issues faced by HIV-positive adolescents in Uganda to also ensure that existing policies are consistently implemented to improve HIV-related support services for adolescents.

The study further recommends that the Ministry of Health set up HIV community-based centers in Luwero district and other parts of the country still having the same challenge with a comprehensive focus on sensitizing the community members about the implications of stigma

towards HIV adolescents, social support and also solving long-distance barriers.

These findings suggest that Kalagala Health Center IV administration should build a good client-based relationship with adolescents so that they can freely express themselves and develop their preferred mode for accessing timely ART services.

Schools in the Luwero district and other parts of the country should set avenues to maintain the privacy of HIV-positive adolescents and help them seek timely ART services.

Kalagala health center IV administration should intensively sensitize caretakers to provide social support to adolescents to seek timely ART services and this will curb the concern of inadequate support and also improve their health-seeking behaviors.

Since parental guidance was questionable among the clients, it is necessary to conduct further investigations to determine factors influencing how caretakers support adolescents with HIV/AIDS to seek timely ART services. This may result in nearly perfect adherence.

It is also necessary for the administration to establish a patient appointment tracking system to easily identify adolescents who could be missing out on drug refills due to low or no family support as well as other reasons to find a way to help them.

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LIST OF ABBREVIATIONS.

AIDS: Acquired Immunodeficiency syndrome
ART: Antiretroviral Therapy
ARV: Antiretroviral
FHAPCO: Federal HIV/ AIDS Prevention and Control Office
HIV: Human Immunodeficiency Virus
MoH: Ministry of Health
UNICEF: United Nations International Children's Education Fund

SOURCE OF FUNDING.

There was no source of funding.

CONFLICT OF INTEREST.

There was no conflict of interest.

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REFERENCES.

1. Aderemi-Williams, R. I., Razaq, A. R., Abah, I. O., Opanuga, O. O., & Akanmu, A. S. (2021). Adolescents and young adults knowledge, adherence and experiences while on antiretroviral therapy in a tertiary hospital in Lagos, Nigeria: A mixed-method study. *Journal of the International Association of Providers of AIDS Care (JIAPAC)*, *20*, 232595822110627. doi:10.1177/23259582211062754
2. Ankrah, D. N., Koster, E. S., Mantel-Teeuwisse, A. K., Arhinful, D. K., Agyepong, I. A., & Lartey, M. (2016). Facilitators and barriers to antiretroviral therapy adherence among adolescents in Ghana. *Patient preference and adherence*, *10*, 329–337. <https://doi.org/10.2147/PPA.S96691>
3. Castro, M., González, I., & Pérez, J. (2015). Factors related to antiretroviral therapy adherence in children and adolescents with HIV/AIDS in Cuba. *MEDICC review*, *17*(1), 35–40. <https://doi.org/10.37757/MR2015.V17.N1.8>
4. Clair-Sullivan, N. S., Mwamba, C., Whetham, J., Moore, C. B., Darking, M., & Vera, J. (2019). Barriers to HIV care and adherence for young people living with HIV in Zambia and mHealth. *mHealth*, *5*, 45–45. doi:10.21037/mhealth.2019.09.02
5. FHAPCO. (2022). HIV/AIDS National Strategic Plan for Ethiopia 2021-2025. Retrieved from <https://www.prepwatch.org/resources/ethiopia-hiv-aids-national-strategic-plan/>
6. Habumugisha, E., Nyishimirente, S., Katende, G., Nkurunziza, A., Mukeshimana, M., Ngerageze, I., & Mukashyaka, J. (2022). Factors influencing adherence to antiretroviral therapy (ART) among adolescents living with human immunodeficiency virus (HIV) in Rwanda. *Rwanda Journal of Medicine and Health Sciences*, *5*(3), 251–263. doi:10.4314/rjmhs.v5i3.1
7. Joubert, G., Ehrlich, R., Katzenellenbogen, J., & Abdool Karim, S. (2007). *Epidemiology: a research manual for South Africa*. (2nd ed.) Oxford University Press Southern Africa.
8. Koroka, P. (2021). *Factors affecting adherence to antiretroviral therapy among adolescents living with HIV/AIDS in Masvingo District, Zimbabwe*.
9. Mohlabane, N., & Madiba, S. (2021). Non-adherence to antiretroviral treatment episodes and contributing factors among fully disclosed adolescents with perinatal HIV in the Kingdom of Lesotho. *Universal Journal of Public Health*, *9*(5), 332–338. doi:10.13189/ujph.2021.090516
10. Muiyuro, M., Ngure, K., Mutai, J., & Ng'ang'a, M. (2019). Adherence to Highly Active Antiretroviral Therapy and Associated Factors among HIV Positive Adolescents in Kenya. *IOSR Journal Of Humanities And Social Science*, *24*(1), 17–25. doi: <http://dx.doi.org/10.9790/0837-2401081725>
11. Nyirahabimana N., Ndahimana, J., Logan J., Kateera, F., Wong, R. (2019). P436 Barriers to adherence to HIV treatment among adolescents and youth enrolled in ARV in two district hospitals in rural Rwanda. Sexually Transmitted Infections. 95. A207.1-A207. 10.1136/sextrans-2019-sti.522.
12. Oluwasina, F., Adebimpe, W. O., Adeleye, T., Onifade, B., Makinde, I., & Adeoye, M. (2019b). Factors influencing adherence to antiretroviral drugs among HIV-positive young women and adolescent patients in North Central Nigeria. *TEXILA INTERNATIONAL JOURNAL OF PUBLIC HEALTH*, 144–153. doi:10.21522/tijph.2013.se.19.01.art015
13. Onyango, M. A., Chergui, H., Sabin, L. L., Messersmith, L. J., Sarkisova, N., Oyombra, J., ... Otieno, J. (2021). School-level barriers of antiretroviral therapy adherence and interventions to overcome them among adolescents living with HIV in western Kenya: A qualitative study. *The Open AIDS Journal*, *15*(1), 93–107. doi:10.2174/1874613602115010093
14. Tanyi, W. N., Gachuno, O., Odero, T., Farquhar, C., Kimosop, D., & Mayi, A. (2021). Factors affecting adherence to antiretroviral therapy among children and adolescents living with HIV in the Mbita Sub-County Hospital, Homa Bay-Kenya. *African health sciences*, *21*(Suppl), 18–24. <https://doi.org/10.4314/ahs.v21i1.4S>
15. Uganda AIDS Commission. (2022). *Facts on HIV/AIDS in Uganda 2022*.
16. UNICEF. (2023). Adolescent HIV treatment. Retrieved from <https://data.unicef.org/topic/hivaids/adolescent-hiv-treatment/>

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