

PREVALENCE AND FACTORS CONTRIBUTING TO ANTI-RETROVIRAL THERAPY NON-ADHERENCE AMONG YOUTHS ATTENDING HIV CLINIC IN HEALTH FACILITIES OF NYARUGENGE DISTRICT, RWANDA

Marie Jeanne Mutesi¹, Abenezel Niyomurengezi², Silali Maurice Barasa¹

¹*School of Postgraduate Studies, Mount Kenya University*

²*Rwanda Social Security Board*

Corresponding author: mutessimariejeanne5@gmail.com

ABSTRACT

Introduction: HIV continues to pose a major challenge to global public health. As of 2023, an estimated 39 million individuals were living with the virus worldwide, with approximately 26 million residing in Africa. Notably, 49% of the 1.3 million new infections occurred in Africa, with 360,000 among youth aged 15–24. Two in every seven new HIV infections occur in this age group, highlighting their vulnerability. Despite 16,076 HIV-positive youths being enrolled in care and treatment programs by the end of 2023, limited research exists on adherence to anti-retroviral therapy (ART) among this population. **Methods:** A quantitative cross-sectional study using stratified random sampling was conducted, with 236 participants selected via Fisher's formula. Data was collected in 12 months from January 2024 till the end of December 2024. Data were analyzed using SPSS version 25. Ethical approval was obtained from Mount Kenya University. Participation was voluntary, with informed consent, confidentiality, and anonymity ensured. **Results:** The prevalence of ART non-adherence was 42.8%. Significant sociocultural predictors included social support (AOR=0.39, $p=0.003$) and stigma/discrimination (AOR=0.53, $p=0.048$). Sociology-economic factors such as daily meal affordability (AOR=0.41, $p=0.005$) and occupational status were also linked to non-adherence. Biomedical and psychological factors like ART side effects (AOR=0.45, $p=0.011$), appointment frequency (AOR=0.24, $p=0.048$), and psychological distress (AOR=0.24, $p<0.001$) were significant predictors. **Conclusion:** ART non-adherence among youth is multi-factorial. Addressing this requires targeted interventions such as school-based HIV education, peer-led programs, strengthened social support systems, psychological services, and improved ART appointment management.

Keywords: Adherence, Non-adherence, Antiretroviral therapy, Youths

INTRODUCTION

HIV continues to be a pressing concern for global public health. As of 2023, approximately 39 million individuals were estimated to be living with the virus, with Africa accounting for around 26 millions of these cases (UNICEF, 2023). Of the 1.3 million new HIV infections reported globally that year, the African continent represented nearly half (49%), with 360,000 new cases occurring among individuals aged 15 to 24 (UNICEF, 2023). Adolescents and young adults remain especially susceptible, with infections resulting from both mother-to-child (vertical) and sexual or blood-borne (horizontal) transmission routes (Slogrove & Sohn, 2018). Concernedly, youth experienced a 30% higher rate of AIDS-related mortality compared to other age groups as of 2020 (UNICEF, 2023). A considerable portion of this burden is attributed to children infected at birth who are now reaching adolescence (Reif et al., 2020). Data indicate that over 20.8 million people living with HIV are located in Eastern and Southern Africa, significantly outnumbering the approximately 2.8 million reported in other African regions. Furthermore, two out of every seven new infections are among individuals aged 15–24, particularly in sub-Saharan Africa. The HIV prevalence among girls and young women aged 10 to 24 remains disproportionately high, over three times that of their male counterparts (UNICEF, 2023), highlighting a notable gender disparity. Initiating antiretroviral therapy (ART) early, regardless of clinical symptoms or immune status, is essential for enhancing patient outcomes and reducing transmission rates (WHO, 2015). Recent literature continues to highlight the unique barriers to ART adherence among adolescents and young adults across sub-Saharan Africa. A systematic review by Kim et al. (2021) emphasized that individual-level factors such as mental health challenges, treatment fatigue, and developmental stage significantly influence ART adherence among youth. Structural barriers—including long distances to clinics, lack of youth-friendly services, and inconsistent access to medication—further compound these challenges. Moreover, a study conducted in Uganda found that internalized stigma and limited disclosure of HIV status were strongly associated with suboptimal adherence in adolescents (Nabukeera-Barungi et al., 2020), reinforcing the need for psychosocial support and stigma reduction interventions. Additionally, evidence from studies in South Africa and Kenya underscores the importance of differentiated care models for improving youth adherence. Similarly, a Kenyan study by MacCarthy et al. (2018) demonstrated that interventions designed with youth input, including flexible clinic hours and integrated mental health services, led to improved health outcomes. These findings suggest that to improve ART adherence among Rwandan youth—particularly in urban areas like Nyarugenge—interventions must be context-specific, youth-centered, and grounded in a clear understanding of the multifaceted challenges this population faces. Despite notable improvements in ART accessibility for youth living with HIV (YLHIV) over the past ten years (UNICEF, 2021), several challenges hinder adherence. These include

stigma, fear of being identified, a lack of emotional and social support, insufficient knowledge about HIV, and the absence of services tailored specifically to adolescents (Enane et al., 2018). Consequently, youth often exhibit lower adherence levels compared to older individuals, heightening the risk of treatment failure, drug resistance, and further spread of the virus (Dulli et al., 2020; Abiodun et al., 2021). Studies in countries such as Thailand, Ethiopia, and Rwanda highlight the scale of this issue. For example, ART adherence among adolescents was found to be 48.4% in Thailand and 70.6% in Ethiopia. In rural Rwanda, 47% of adolescents and youth reported poor adherence (Nyirahabimana et al., 2019). Poor adherence compromises treatment effectiveness and fosters resistance (Ammon et al., 2018). Therefore, ongoing monitoring and identification of risk factors are essential for early intervention. In Rwanda, the HIV prevalence remains stable at around 3%, with an impressive 98% ART coverage (RDHS, 2021). However, adherence remains a challenge among older adolescents and young adults. National data indicate that youth aged 15–24 have lower retention rates—only 29% remain in care one year after ART initiation—and viral load suppression (VLS) rates remain below the 90% target in this group (RBC, 2023). Rwanda’s commitment to achieving the UNAIDS 95-95-95 targets by 2030 demands focused attention on this age group. Although several studies have investigated adherence to anti-retro viral therapy (ART) in rural parts of Rwanda, less is known about urban settings like Nyarugenge District of Kigali city which currently reports the country's highest HIV prevalence at 4.3%. This research focused on determining the extent and underlying causes of ART non-adherence among youths accessing HIV care across five health centers in urban Nyarugenge and generating evidence that can guide tailored interventions and enhance treatment outcomes for this at-risk group.

METHODS

Study Design

A quantitative cross-sectional approach was adopted to examine the level of ART non-adherence among HIV-positive adolescents and young adults aged 15 to 24.

Study Area

The research was carried out in Nyarugenge District, one of Kigali City's three administrative districts and part of Rwanda’s capital. The study included five selected health facilities—Rwampara Health Center, Muhima Health Center, Biryogo Health Center, Cor Unum Health Center, and WE-ACTX Clinic. These facilities, situated in urban areas of Kigali with notably high HIV prevalence (4.3% according to RBC, 2023), were purposefully chosen based on their large youth client base for HIV treatment services.

Target Population

The target population included HIV-positive youths aged 15–24 who had been on ART for at least 12 months, to ensure they had adapted to treatment regimens. An estimated 614 eligible participants were identified across the selected facilities. Data was collected in 12 months from January 2024 till the end of December 2024. HIV-infected who have not spent at least a year in the treatment program, those HIV-infected but not within the age bracket targeted, and those who are physically and/or mentally unable to take the interview were excluded from the study.

Sample Size and Sampling Technique

The sample size has been calculated using Fishers et.al (1998) formula. The formula is;

$$n = \frac{Z^2 P(1 - P)}{d^2}$$

Where;

n: sample size

Z: Standard normal deviate of 1.96 which corresponds to 95% confidence level

P: Expected proportion in population based on previous studies or pilot studies

d: Degree of accuracy +/- 0.05(5%)

Substituting, $n = \frac{1.96^2 * 0.47 * 0.53}{0.05^2} = 383$

However, because the population under this study was less than 10,000 sample adjustment will be done using the formula Fishers et.al (1998);

$$nf = \frac{n}{1 + (\frac{n}{N})}$$

Where;

nf= desired sample size when the study population is < 10,000

n= desired sample size when the study population is > 10,000

N= estimates of the population size

Hence,

$$nf = \frac{383}{1 + (\frac{383}{614})} = 236$$

Sample size allocation to the health facility is determined by Probability proportional to size sampling. A stratified random sampling technique was used, where participants were randomly selected from facility-specific strata using ART registry data.

Data Collection Tools and Procedures

Data were collected using an interviewer-administered semi-structured questionnaire adapted from the AACTG adherence instrument and relevant literature. The questionnaire included five sections covering: (1) demographic information, (2) ART non-adherence, (3) sociolect-economic factors, (4) sociolect-cultural, and (5) biomedical influences. After introducing the study to the facility's ART units, eligible participants were identified via medical records. By utilizing the questionnaire to a 23 study sample of HIV-positive youths prior to the data collection in the nearest Kicukiro health facility for a pilot study evaluating how they responded, they replied to the questionnaire averagely fair, and the tool was enhanced and adjusted better onwards for consistency during the research study. The validity of the research instrument was based on the content validity. The content validity was considered and improved by using an adopted tool and from an in-depth review of numerous kinds of literature from other studies of related factors influencing non-adherence to ART. The reliability was utilized to identify any disparities in the research tool. The reliability from the pretest showed the Cronbach's alpha coefficient threshold, which passed at 0.75 level which is within the acceptable range hence the instrument was reliable. The participants were contacted either in person during clinic visits or by phone. If interested, a private meeting was arranged where informed consent was obtained. Participants aged 18–24 signed their consent forms, while those aged 15–17 provided assent with parental or guardian consent.

Data Analysis

Data entry, cleaning, and analysis were performed using SPSS version 25. Descriptive statistics were used to summarize demographics and other characteristics. Logistic regression analyses (bivariate and multivariate) assessed associations between independent variables and non-adherence, with a significance level of $p < 0.05$ and 95% confidence intervals. Results were presented using tables, figures, and charts.

Ethical Considerations

Ethical clearance was granted by the Mount Kenya University review board. Permission to conduct the study was obtained from all participating facilities. Informed consent or assent was obtained from all participants,

with confidentiality and anonymity strictly maintained. All data and consent forms were securely stored, accessible only to the research team.

RESULTS

Demographic and sociolect-economic Characteristics

Data were collected from 236 youth participants across five health facilities, with the highest participation from Site 1 (32.2%) and the lowest from Site 3 (15.2%) (Table 1). Females made up the majority of the respondents (64.4%), and most were aged 18 years and above (89.8%), with a mean of 21 ± 3.0 . Educationally, 63.9% had completed at least secondary school. A significant portion of the sample (86.0%) was single, and 92.8% resided in urban locations. Slightly more than half (58.9%) lived in households comprising fewer than five individuals. In terms of employment, 37.3% were jobless, 33.1% were students, and 20.7% held jobs. Over half of the respondents (54.2%) lived within a one-hour travel distance to the nearest health facility. Concerning food security, 46.6% were able to afford two meals per day, while 33.9% managed only one meal. A substantial majority (93.3%) depended on food purchased from markets.

Table1: Demographic Characteristics of Study Participants

Variable	N	%
Study site		
1	76	32.2
2	37	15.6
3	36	15.2
4	46	19.4
5	41	17.3
Gender		
Male	84	35.6
Female	152	64.4
Age (completed years)		
Young (<18)	24	10.2
Adult (=,>18)	212	89.8
Education level		
No education	3	1.3
Primary	72	30.5
Secondary	151	63.9
University	10	4.3
Residence		
Urban	219	92.8
Rural	17	7.2
Marital status		

Single	203	86.0
Married/ co-cohabiting	17	7.8
Divorced/separated	16	6.2
Number of Household members		
<5	139	58.9
=,> 5	97	41.1
Occupational status		
Employed	49	20.7
Self-employed	21	8.9
Student	78	33.1
Unemployed	88	37.3
Distance time travel to HF		
<1 hour	128	54.2
=,>1 hour	108	45.8
Meal(s) affordable per day		
Once	80	33.9
Twice	110	46.6
Thrice	46	19.4
The main source of food		
Market	220	93.3
People's support	16	6.7

Prevalence of ART Non-Adherence

Figure 1 illustrates that 42.8% of participants were classified as non-adherent to ART, whereas 57.2% reported adherence.

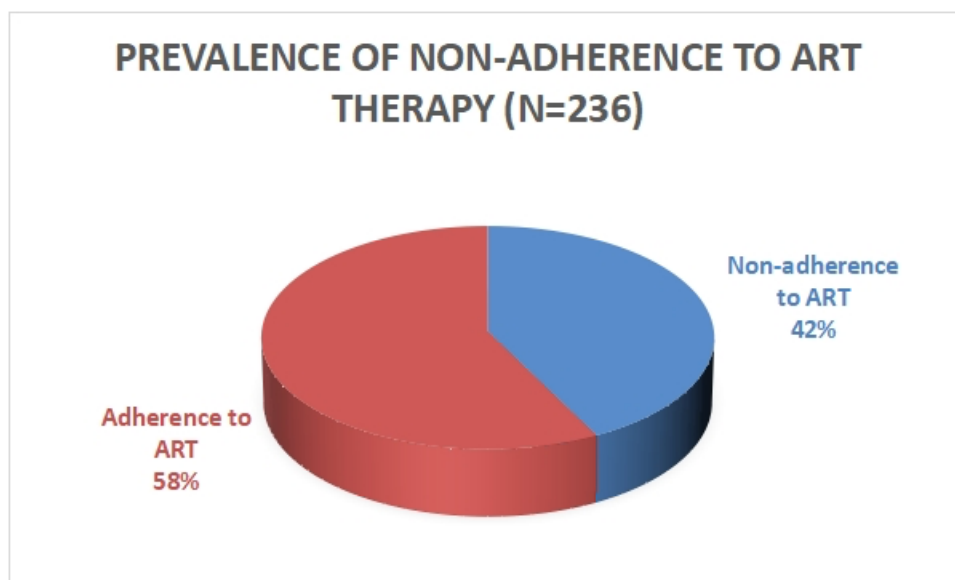


Figure 1: Prevalence of non-adherence to ART in study participants

Factors Associated with non-Adherence

Chi-square test was used to determine the factors associated with non-adherence. Table 2 highlights key sociolect-cultural variables significantly related to non-adherence: doubts about the value of ART ($p = 0.009$), absence of social support ($p = 0.007$), experience of stigma ($p = 0.032$), and underestimation of HIV severity ($p = 0.045$). Sociology-economic variables in Table 3 with significant associations included type of employment ($p = 0.033$), ability to afford regular meals ($p = 0.009$), and primary food source ($p = 0.044$).

Table 2. Sociology-cultural factors associated with non-adherence to ART among study participants

Variable (N=236)	Non-adherence to ART		X2- Value	P-Value
	Yes	No		
Believe HIV is a serious disease.			4.012	0.04
Yes	60(48.0)	65(52.0)		
No	41(36.9)	70(63.1)		
Beliefs on the importance of ART			6.874	0.009
Yes (positive)	94(41.4)	133(58.6)		
No (negative)	7(77.8)	2(22.2)		
Religion is against ART			1.243	0.26
Yes	8(57.1)	6(42.9)		
No	93(41.9)	129(58.1)		
Has social support for ART			7.215	0.007
Yes	63(37.1)	107(62.9)		
No	38(57.6)	28(42.4)		

Encountered with stigma and/or discrimination			4.586	0.03
Yes	26(54.2)	22(45.8)		
No	75(39.9)	115(60.1)		

Biomedical-related factors from Table 4 linked to non-adherence included the frequency of clinic visits for medication ($p = 0.010$), the burden of multiple pills ($p = 0.022$), mental health challenges ($p < 0.001$), adverse drug reactions ($p = 0.015$), and lack of confidentiality during treatment ($p = 0.038$).

Table 3: Sociology-economic factors associated with non-adherence to ART among study participants

Variable	Non-adherence to ART			
(N=236)	Yes	No	X ² - Value	P-Value
Occupational status			6.823	0.03
Employed	19(38.8)	30(61.2)		
Self-employed	13(61.9)	8(38.1)		
Student	31(39.7)	47(60.3)		
Unemployed	38(43.2)	50(56.8)		
Distance time travel to HF			0.246	0.62
<1 hour	53(41.4)	75(58.6)		
=,>1 hour	48(44.5)	60(55.5)		
Transport cost to HF				
Affordable	22(41.5)	31(58.5)	7.689	0.37
Moderately affordable	32(38.6)	51(61.4)		
Difficult to afford	47(47.0)	53(53.0)		
Meal is Affordable per day.			9.415	0.009
Once	42(52.5)	38(47.5)		
Twice	47(42.7)	63(57.3)		
Thrice	12(26.1)	34(73.9)		
The main source of food			5.129	0.04
Market	93(42.3)	120(57.7)		
People's support	8(34.8)	15(65.2)		

Table 4: Biomedical factors associated with non-adherence to ART among study participants

Variable (N=236)	Non-adherence to ART		X2- Value	P-Value
	Yes	No		
ART line is being taken			4.321	0.38
1 st line	100(42.5)	137(57.5)		
2 nd line	1(100.0)	0(0.0)		
HIV Status disclosure			5.357	0.98
Yes	51(48.6)	54(51.4)		
No	50(38.2)	81(61.8)		
Frequency of ART pick-up appointments			9.245	0.01
Once	62(52.1)	57(47.9)		
Twice or more	38(32.7)	78(67.3)		
Viral load			3.214	0.07
Detectable	21(31.8)	45(68.2)		
Undetectable	74(46.8)	84(53.2)		
Pills taken per day			7.625	0.02
One	97(42.2)	133(57.8)		
Two	4(66.7)	2(33.3)		
Substance usage			0.718	0.39
Yes	35(70.0)	15(30.0)		
No	66(35.5)	120(64.5)		
Experiencing psychological difficulties			19.842	<0.001
Yes	41(71.9)	16(28.1)		
No	60(33.5)	119(66.5)		
Experiencing any ART Side effects			6.923	0.01
Yes	46(54.8)	38(45.2)		
No	55(36.2)	97(63.8)		
Felt the ART treatment burden			3.728	0.27
Yes	19(47.5)	21(52.5)		
No	82(41.8)	114(58.2)		
Healthcare provider perception			7.125	0.08
Yes (positive)	65(36.7)	112(63.3)		
No (negative)	36(61.1)	23(38.9)		
Counselling services available			0.012	0.91
Yes	94(42.9)	126(57.1)		
No	7(43.7)	9(56.3)		
Stock out and shortage of pills			0.587	0.44
Yes	3(60.0)	2(40.0)		
No	98(42.4)	133(57.6)		
Waiting time			2.634	0.26
<30 minutes	15(36.6)	26(63.4)		
30-60 minutes	48(41.1)	69(58.9)		
>60 minutes	38(48.7)	40(51.3)		
Privacy during ART provision			4.321	0.03
Yes	100(42.5)	135(57.5)		
No	1(100.0)	0(0.0)		

Table 5 presents the results of both crude odds ratios (COR) and adjusted odds ratios (AOR) from the logistic regression analysis assessing factors associated with non-adherence to ART among youths. After adjusting for potential confounders, several factors remained significantly associated with non-adherence. Youth who reported having social support for ART were significantly less likely to be non-adherent compared to those without social support (AOR = 0.39; 95% CI: 0.21–0.73; $p = 0.003$). Similarly, those who experienced no stigma or discrimination were less likely to be non-adherent (AOR = 0.53; 95% CI: 0.28–0.99; $p = 0.048$). Participants who could afford to eat two or more meals per day had significantly lower odds of non-adherence compared to those who could only afford one meal (AOR = 0.41; 95% CI: 0.22–0.75; $p = 0.005$). Furthermore, having fewer ART pick-up appointments (once per month) was associated with increased odds of non-adherence (AOR = 1.76; 95% CI: 1.00–3.08; $p = 0.028$), indicating that less frequent engagement with care services may negatively impact adherence. The absence of psychological difficulties was protective against non-adherence (AOR = 0.24; 95% CI: 0.12–0.46; $p < 0.001$), as was not experiencing ART side effects (AOR = 0.45; 95% CI: 0.24–0.84; $p = 0.011$). Other factors such as belief in the seriousness of HIV, belief in the importance of ART, employment status, source of food, number of pills taken per day, and privacy concerns were not significantly associated with non-adherence after adjusting for confounders ($p > 0.05$).

Table 5: Analysis of factors associated with non-adherence to ART

Variable	Category	COR (95% CI)	AOR (95% CI)	P-value
Believe HIV is a serious disease.	Yes	1.57 (0.92–2.69)	1.34 (0.75–2.38)	0.32
	No	Ref		
Believe in the importance of ART	Yes	0.32 (0.07–1.41)	0.26 (0.05–1.26)	0.08
	No	Ref		
Has social support for ART	Yes	0.44 (0.25–0.79)	0.39 (0.21–0.73)	0.003
	No	Ref		
Has stigma and discrimination	Yes	Ref		
	No	0.56 (0.31–1.00)	0.53 (0.28–0.99)	0.04
Occupational status	Employed	0.88 (0.50–1.56)	0.81 (0.44–1.50)	0.49
	Unemployed	Ref		
Meal is Affordable per day.	Once	Ref		
	Twice or more	0.46 (0.27–0.77)	0.41 (0.22–0.75)	0.005
The main source of food	Bought from the Market	0.93 (0.21–4.08)	0.88 (0.18–3.98)	0.86
	Other ways	Ref		

ART pick-up appointments	Once	1.83 (1.07–3.12)	1.76 (1.00–3.08)	0.02
	Twice or more	Ref		
Pills taken per day	One	1.67 (0.77–3.60)	1.52 (0.67–3.44)	0.31
	Two or more	Ref		
Psychological difficulties	Yes	Ref		
	No	0.28 (0.15–0.51)	0.24 (0.12–0.46)	<0.001
ART Side effects	Yes	Ref		
	No	0.49 (0.28–0.86)	0.45 (0.24–0.84)	0.01
Lack of privacy	Yes	Ref		
	No	0.37 (0.05–2.68)	0.31 (0.04–2.52)	0.27

DISCUSSION

The study examined the extent and contributing factors of ART non-adherence among adolescents and young adults receiving HIV care in the Nyarugenge District of Rwanda. The findings reveal that non-adherence is influenced by a complex interplay of sociolect-demographic, sociology-cultural, economic, and biomedical factors, many of which align with previous studies, though some are context-specific. The predominance of female participants reflects national HIV trends, with women disproportionately affected due to biological and sociology-cultural vulnerabilities, including economic dependency and caregiving burdens (Villiera, 2022). This mirrors findings by Bondarchuk et al. (2022) and the RDHS 2019–20. However, other studies have shown mixed results; Etilu (2023), for instance, found higher non-adherence among males, possibly linked to gender norms discouraging healthcare engagement. Abebe (2019) suggests that while women may access care more frequently, their adherence can still be hindered by sociolect-demographic challenges. The age distribution—mostly participants aged 18 and above—indicates the transition from pediatric to adult care, a period marked by increased autonomy and psycho-social stressors. Similar patterns were observed in Uganda and Ethiopia, where adolescents faced lower adherence due to stigma and the struggle for independence (Altice, 2019; Content et al., 2020). Most participants had at least secondary education, consistent with evidence suggesting that higher educational attainment improves adherence through enhanced health literacy (Ammon, 2018; Namoomba et al., 2019). However, Kamote et al. (2025) found non-adherence even among university students, implying that education alone may not shield against psycho-social challenges affecting adherence. The urban residency of most respondents (92.8%) suggests improved access to ART services, which typically supports adherence (Nankingga, 2023). Yet urban life can introduce its barriers, such as stigma, privacy concerns, and increased mobility, all

potentially affecting treatment consistency (Content et al., 2020). A majority of participants were single, reflecting their young age. While marital support can improve adherence, relationship dynamics and disclosure fears may complicate treatment (Mouhamed, 2019). These results align with findings from Kenya and Rwanda, where most youth on ART were single females (Villiera, 2022). Distance to health facilities remains a significant factor. Although this study did not find a strong statistical association, those traveling over an hour reported more adherence issues, consistent with findings from Dapaah (2016) and Oloi et al. (2022), who cited transportation and financial barriers as key challenges.

Non-adherence in this study stood at 42.8%, similar to findings from southern Rwanda (62%, Habumugisha et al., 2022), rural Rwanda (47%, Nyirahabimana et al., 2019), Uganda (39%, Kazooba et al., 2018), and Tanzania (45.1%, Kahema et al., 2018). These rates remain well below the recommended 95% adherence level, suggesting persistent gaps in youth-centered ART interventions. Social support emerged as a strong protective factor. Youths with supportive families or peers were more likely to adhere to treatment, echoing findings from Tanzania and Kenya (Mshangila et al., 2024; Wanjala et al., 2024). Conversely, stigma and discrimination were prominent barriers, aligning with studies in Tanzania and South Africa that highlighted how internalized stigma can lead to medication avoidance (Moucheraud, 2019; Ngwenya et al., 2024). However, this contrasts with a Ghanaian study where stigma was not a significant factor (Anokye-Kumatia et al., 2018), possibly due to contextual or intervention-related differences. While cultural and religious beliefs are often implicated in non-adherence, this study found no influence of religious beliefs, consistent with findings by Ankomah et al. (2016), where respondents viewed ART as complementary to faith. Economic constraints were significant. Participants who could only afford one meal per day were more likely to be non-adherent, consistent with studies in Ethiopia, Nigeria, and Cameroon linking food insecurity to poor adherence (Boneya et al., 2024; Ojo et al., 2022; Buh et al., 2023). Side effects from ART taken on an empty stomach often discourage consistent medication use. In contrast to some studies, this research did not find a significant link between occupation and adherence. This may reflect the availability of free ART services in Rwanda, though indirect costs such as transportation and lost income remain burdensome, with 47% of participants reporting transport-related difficulties. Among biomedical factors, psychological distress—particularly anxiety and depression—was significantly associated with non-adherence, consistent with studies in Rwanda, South Africa, and Zambia (Smith Fawzi et al., 2016; Haas et al., 2023; Okawa et al., 2018). This emphasizes the importance of integrating mental health support into HIV care for youth. Side effects from ART also contributed to non-adherence, with symptoms such as nausea and dizziness discouraging continued use, mirroring findings from Ghana and South Africa (Abdul-Samed et al., 2024; Croome et al., 2017). Addressing these through effective counseling and responsive clinical care is essential. The current study found that participants required to collect ART monthly were at greater risk of non-adherence than those with less frequent pickups. This contrasts with a Mozambican study suggesting frequent visits improved adherence (Nguyen et al., 2023), possibly due to differing burdens of disclosure and logistical challenges faced by youth. In summary, this study confirms that ART adherence among Rwandan youth is influenced by a range of interconnected factors.

Targeted interventions addressing psycho-social support, food insecurity, stigma reduction, and mental health are critical to improving adherence outcomes in this population.

Study Limitations

The findings of this study are subject to two limitations. First It is speaking of the cases that sought and obtained care in the selected health facilities of Nyarugenge District by which the sample might not be representative for the whole country. Secondly, the study involved the patient's self-reporting as measure of non-adherence by which participants might be introduced to potential for recall bias.

CONCLUSION

This research uncovered key sociology-cultural economic, and biomedical determinants influencing anti-retro viral therapy (ART) non-adherence among youth receiving HIV care in selected facilities within Nyarugenge District, Rwanda. The data indicate that a notable portion of the youth population is not consistently following their ART regimens. Cultural beliefs, individual perceptions regarding HIV severity, and the perceived value of ART, along with the availability of emotional or social support, were significantly linked to adherence behaviors. On the economic front, the ability to afford regular meals and one's employment status emerged as critical factors, with better adherence observed among participants who had access to at least two meals daily. In terms of health-related contributors, missed medication collection dates, mental health challenges, and adverse drug effects were strongly associated with reduced adherence. Overall, the study emphasizes that adherence issues are shaped by a complex web of factors spanning the personal, familial, societal, and healthcare system levels. These insights are consistent with findings from other studies across sub-Saharan Africa, reinforcing the multi factorial nature of ART non-adherence in the region.

Conflict of interest

The authors declare no conflicts of interest

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