

PREVALENCE AND FACTORS ASSOCIATED WITH NON-ADHERENCE TO ANTIRETROVIRAL THERAPY AMONG ADULTS ATTENDING THE HIV/AIDS CLINIC AT KAMPALA INTERNATIONAL UNIVERSITY TEACHING HOSPITAL

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ABSTRACT

Despite sustainable global scale-up of antiretroviral therapy, Adherence to therapy remains low. Less than half of those in HIV care in Uganda achieve 85% adherence to their ART medication required for clinically meaningful viral suppression, leaving them at higher risk of transmission. The purpose of this study was to determine the prevalence and factors associated with non-adherence to Anti- retroviral therapy among Adults attending the HIV/AIDS clinic at Kampala International University Teaching Hospital. A quantitative cross-sectional study employed simple random sampling among 300 adults obtaining anti- retroviral therapy at the HIV/AIDS clinic at Kampala International University Teaching Hospital. Majority 150(50.0%) were aged 18-35 years, 178(59.3) were females, 207(68.9%) were unemployed, many 131(43.8%) were catholic, many 107(35.7%) were of primary level of education, and lastly majority 175(58.3%) were married. The prevalence of non-adherence to anti-retroviral therapy at Kampala International University Teaching Hospital. was 19%. Period spent anti-retroviral treatment, and history of chronic illness was significantly related to adherence anti-retroviral therapy that is participants who spent ≥ 2 years on anti-retroviral treatment were 24.55 times more likely not to adhere to anti-retroviral therapy as compared to those who spent < 2 years on anti-retroviral treatment. While participants who had no history of chronic illness were 3 times more likely to not adhere to anti-retroviral therapy compared to those who had history of chronic illness. This study revealed the prevalence of non-adherence to Anti- retroviral therapy among Adults attending the HIV/AIDS clinic at Kampala International University Teaching Hospital. is relatively high. In addition, the odds of non-adherence to Anti- retroviral therapy increases with spending ≥ 2 years on anti-retroviral treatment as well as having no history of chronic illness.

Introduction

In the 1980s, HIV related mortality rate rose steadily and peaked in 1995 but has ever since declined significantly. Between 2007 and 2017, the HIV prevalence of the age group 15 to 54 years increased from 25% to 40% and Today there are approximately 38.4 million (33.9 to 43.9 million) people living with HIV globally [1-7].

Free antiretroviral therapy has been implemented since 2004, but adherence among people living with HIV is suboptimal yet the effectiveness of treatment is subject to medication adherence, which decreases with prolonged treatment times. To achieve effective treatment and realize the benefits of treatment, strict adherence to treatment instructions is very critical. Sticking to the treatment instructions for a long-term illness poses a great challenge to the patients. Just having medicine available cannot solve HIV and AIDS problems. Worldwide, regardless of the illness or treatment many people do not take their medications correctly [8-14].

Surveys have shown that one third of patients missed doses within 3 days of the survey, The reasons for missed doses included forgetting, being too busy and being too ill, drug abuse, alcohol abuse, poor clinician patient relationship, active mental illness, in particular depression, lack of patient education and lack of access to primary medical care or medication are among the many predictors of poor adherence in resource limited setting affordability in the case of pocket funding makes patients

discontinue or take drugs irregularly [15-18].

AIDS estimated deaths for Uganda was about 17000 persons in 2021. Between 2002 and 2021, AIDS estimated deaths in Uganda was declining at moderate rate to shrink from 85,000 persons in 2002 to 17000 persons in 2021 [10-12] The use of antiretroviral drugs in Uganda has decreased AIDS related morbidity and mortality by up to 90% and significantly affected the trajectory of the epidemic. In both clinical trials and clinical practice, non-adherence to medication is widespread among patients with chronic disease. The shift to combination therapies for treating HIV infected individuals has increased adherence challenges for both patients and health care providers. Estimates of average rate of non-adherence to antiretroviral therapy ranges from 50 percent to 70%. [18].

Materials and Methods

Study design, duration, and site

The study was a cross-sectional descriptive study conducted at Kampala International University Teaching Hospital. is located in Ishaka-Bushenyi municipality, in Igara County, Bushenyi District. It is located 6.2km from Bushenyi Town along Buhenyi-Kasese Road. The collection of data was quantitative to establish the opinions of the respondents about the study problem under investigation.

Inclusion and Exclusion criteria

The study included only adults obtaining anti-retroviral therapy at the HIV/AIDS clinic at Kampala International University Teaching Hospital..

Data collection procedure

A pre-test was carried out in Kampala International University Teaching Hospital that would not have been chosen for the study. This facilitated clear testing on the reliability and validity of the research instrument concerning the appropriateness of the questions. This helped to make clear adjustments where it was necessary before the primary data collection. The researcher read and explained the consent form to every participant in the study, to get their consent to freely participate. After they have consented, each will be administered a questionnaire. Privacy and confidentiality will be maintained throughout the process of data collection.

Data analysis

Data was entered into an MS Excel sheet, cleaned and coded. Data was analyzed using SPSS

20.0 statistical software package. Descriptive statistics such as means, median and standard deviations were calculated for continuous variables. The prevalence of non-adherence was computed by dividing the number of study participants who are non-adherent to their ART by the total number of study participants recruited, multiplied by 100.

To determine the factors associated with nonadherence, we used chi-square statistics – where a p-value of less than 0.2 was considered associated with non-adherence. We then used binary logistic

regression to determine factors independently associated with non-adherence and their strength of associations. A p-value of less than 0.05 was considered for an association to be considered as statistically significant.

Ethical consideration

Ethical clearance and approval was ascertained from the Research Ethics Committee of the Kampala International University. Permission to conduct the study was requested and obtained from the management of the Kampala University Teaching Hospital And the District Health Officer Verbally where the study was undertaken. The researcher took into consideration the fundamental principles of ethical research which include justice, beneficence and respect for human dignity

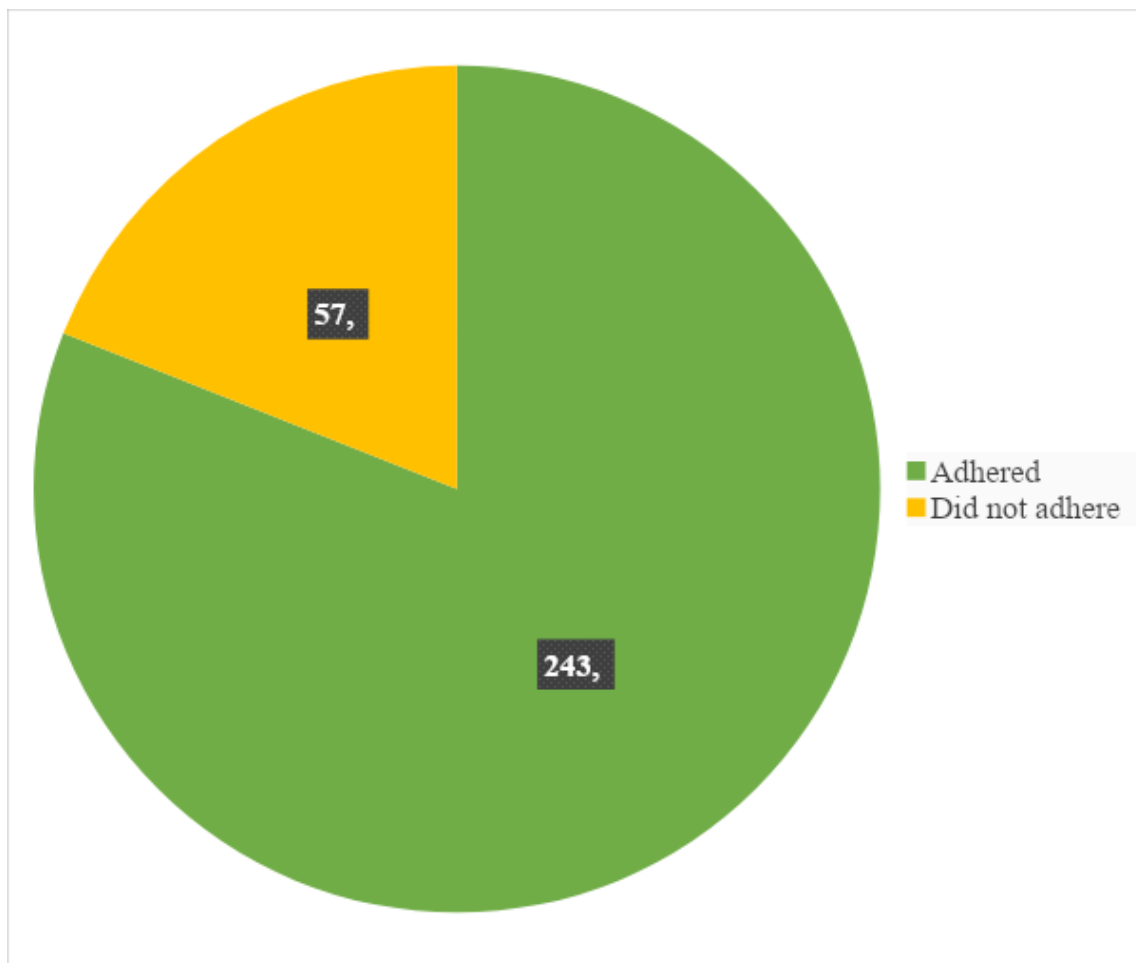
RESULTS*Table 1: Demographic data of respondents*

	Frequency	Percent
Age		
18-35	150	50.0
36-59	119	39.6
60 and above	32	10.4
Sex		
Male	122	40.7
Female	178	59.3
Occupation		
Unemployed	207	68.9
Employed	93	17.1
Religion		
Pentecostal	53	17.6
Catholic	131	43.8
Moslem	49	16.2
SDA	10	3.3
Anglican	57	19.0
Education level		
None	57	19.0
Primary	107	35.7
Secondary	69	22.9
Tertiary/ university	67	22.4
Marital status		
Single	101	33.7
Married	175	58.3
Divorced/separated	10	3.3
Widowed	14	4.7

Table 1 shows that majority 150(50.0%) were aged 18-35 years, 178(59.3) were females, 207(68.9%) were unemployed, many 131(43.8%) were catholic, many 107(35.7%) were of primary level of education, and lastly majority 175(58.3%) were married.

In this study, non-adherence to antiretroviral therapy meant a participant who did not take ARV medications as scheduled and/or missed taking ARV medications following clinician instruction, and/or missed taking ARV medications for any reason in the past 7 days or 1 month. Thus following this definition, the results are shown in the figure 1 below;

Figure 1: Level of non-adherence to Anti- retroviral therapy at Kampala International University Teaching Hospital.



According to figure 2 above, 19% (57/300) participants did not adhere to anti-retroviral therapy while 81% (243/300) adhered to anti-retroviral therapy. Thus, the prevalence of non-adherence to anti-retroviral therapy at Kampala International University Teaching Hospital was 19%.

Table 2: Bivariate analysis of socio-demographic factors influencing adherence to anti-retroviral therapy

Variable n (%)	Status adherence		cOR(95%CI)	p-value
	Adhered	Didn't adhere		
Age in years				
18-35	118	32	1.00	
36-59	100	19	0.82(0.22-3.0)	0.76
60 and above	26	6	0.31(0.06-1.56)	0.16
Sex				
Male	101	21	0.38(0.11-1.26)	0.71

Female	139	36	1.00	
Religion				
Pentecostal	42	11	1.00	
Catholic	74	27	1.59(0.19-13.17)	0.67
Moslem	41	8	1.48(0.17-12.76)	0.72
SDA	6	4	3.6(0.26-50.33)	0.34
Anglican	50	7	2.4(0.23-24.96)	0.46
Education level				
Uneducated	43	14	2.61(0.71-9.58)	0.15
Primary	88	19	2.47(0.71-8.61)	0.16
Secondary	51	18	2.18(0.58-8.20)	0.25
Tertiary	61	6	1.00	
Marital status				
Single	84	17	1.00	
Married	144	31	1.32(0.14-12.33)	0.81
Divorced/separated	5	5	2.74(0.29-25.54)	0.38
Widow	10	4	0.77(0.38-1.55)	0.46
Occupation				
Unemployed	158	49		
Employed	85	8	0.38(0.11-1.26)	0.71

Table 3: Multivariate binary logistic regression: Socio-demographic factors influencing adherence to anti-retroviral therapy at Kampala University Teaching Hospital.

Variable	aOR	95%CI	p-value
Age in years			
18-35	1.00		
36-59	0.87	0.07-10.3	0.91
60 years and above	0.18	0.01-3.79	0.27
Education level			
None	1.00		
Primary	4.38	0.73-26.34	0.11
Secondary	3.05	0.53-17.63	0.21
Tertiary	7.74	0.78-76.28	0.08
Employment			
Unemployed	1.00		
Employed	0.10	0.003-1.47	0.09

Table 4 shows that period spent anti-retroviral treatment, period spent with HIV infection and History of chronic illness (diabetes and hypertension) had p-value less than 0.2. Thus proceed for multivariate analysis.

Level of adherence	Variables	Didn't adhere	Adhered	cOR(95%CI)	P-value
Period spent with HIV infection					
	< 2 years	12	37	0.23(0.10-0.53)	0.050
	≥ 2 years	45	205	1.00	
Period spent anti-retroviral treatment					
	≥ 2 years	51	212	2.79(1.0-7.83)	0.001
	< 2 years	6	31	1.00	
Do you take alcohol					
	Yes	18	85	1.37(0.15-12.51)	0.78
	No	39	158	1.00	
HIV medication change					
	Yes	17	55	2.3(0.61-8.74)	0.22
	No	40	188	1.00	
Social support from family and friends					
	Yes	27	96	0.53(1.0-7.83)	0.674
	No	30	147	1.00	
Lack of understanding of use of medication					
	Yes	11	37	0.54(0.25-1.16)	0.437
	No	46	206	1.00	
Clinician instructions not to ARV empty stomach					
	Yes	43	175	2.8(0.5-15.65)	0.24
	No	14	68		
History of chronic illness (diabetes and hypertension)					
	No	52	222	5.01(1.27-17.94)	0.03
	Yes	5	21	1.00	

Table 6: Bivariate analysis other associated with adherence to anti-retroviral therapy at Kampala International University Teaching Hospital.

Table 5: Multivariate analysis of factors influencing adherence to anti-retroviral therapy at Kampala International University Teaching Hospital.

Variables	aOR	95% CI	p- value
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Period spent anti-retroviral treatment			
≥ 2 years	24.55	(9.261-132.330)	0.001
< 2 years	1.00		
Period spent with HIV infection			
< 2 years	0.098	0.028-3.422	0.061
≥ 2 years	1.00		
History of chronic illness (diabetes and hypertension)			
No	3.62	1.279-16.828	0.015
Yes	1.00		

DISCUSSION

In this study, the prevalence of non-adherence to Anti-retroviral therapy among Adults attending the HIV/AIDS clinic at Kampala International University Teaching Hospital was 19.0%. Uganda is a low-income country with one of the highest rates of HIV (7.3% among 15-49-year-old) worldwide. It is estimated that 130,000 children under the age of 14 in Uganda were living with HIV in 2016. Although the development of ART has made AIDS a manageable chronic illness, adherence to ART needs to reach 95% in order to reach the desired treatment outcomes. Antiretroviral therapy in HIV positive patients are known to improve the quality of life of the patients [10].

However, research shows that ART adherence level in Uganda is still low among PLHIV with only 66% reporting desired adherence outcomes. Moreover, in rural areas, adherence rates are much lower, with only 55% adhering to their medications.

Furthermore, the ART coverage for

children in Uganda is estimated to be only 47% of the target population. Yet low ART adherence can result in increased viral replication, rapid disease progression, reduced life quality, and even premature mortality.

Therefore, suboptimal ART adherence among PLHIV in Uganda is an urgent health issue that needs to be addressed. This study examines factors that impact ART adherence among PLHIV in Kampala International University Teaching Hospital in Bushenyi district.

In this study, period spent anti-retroviral treatment was significantly related to adherence of anti-retroviral therapy that is participants who spent ≥ 2 years on anti-retroviral treatment were 24.55 times more likely not to adhere to anti-retroviral therapy as compared to those who spent < 2 years on anti-retroviral treatment.

In this study, history of chronic illness was significantly related to adherence anti-retroviral therapy that is participants who had no history of chronic illness were 3

times more likely to not adhere to anti-retroviral therapy compared to those who had history of chronic illness.

Conclusions

In conclusion, this study revealed the prevalence of non-adherence to Anti-retroviral therapy among Adults attending the HIV/AIDS clinic at Kampala International University Teaching Hospital is relatively high. In addition, the odds of non-adherence to Anti-retroviral therapy increases with spending ≥ 2 years on anti-retroviral treatment as well as having no history of chronic illness.

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