ADHERENCE TO ANTIRETROVIRAL THERAPY AMONG PATIENTS RECEIVING TREATMENT AT TAMALE WEST HOSPITAL

ABSTRACT

Background: Adherence to Antiretroviral therapy is necessary to reduce the viral load of infected persons and help boost the persons' immunity against opportunistic infections due to the virus. Therefore, this study aimed to assess the level of adherence to ART and its associated factors among HIV clients at the Tamale west hospital.

Methods: The current study employed a cross sectional descriptive study design, and sampled a total of 104 clients receiving ART in the Tamale West Hospital in the Northern Region of Ghana.

Results: The results showed that weekly adherence was 94.2%, monthly adherence (76%), quarterly adherence (71%), half yearly adherence (51.9%) and only 33.7% have religiously adhered to ART medication from the initiation of their treatment. The treatment profile of the clients revealed that the majority of them (44.7%) had been receiving antiretroviral therapy (ART) for a duration of 5 years. Additionally, 25.2% had been on ART for 1 year, while 22.3% had been on the treatment for a period ranging from 6 to 10 years.Educational level [(CI: -0.101, 0.001), p<0.052], forgetfulness [(CI: 0.186, 0.581), p<0.001], side effects [(CI: 0.072, 0.400), p<0.005], education on medication [(CI: 0.015, 0.540), p<0.038], confidentiality of services [(CI: 0.012, 0.543), p<0.041], and cost of transportation to treatment centre [(CI: 0.006, 0.167), p<0.035] were significantly associated with treatment adherence to ART among the clients.

Conclusions: The adherence rate as determined in the current study did not meet the expected target set by the Ghana National AIDS control programme. A continuous friendly ART services and an intervention to cater for the transport cost of clients would have helped improve adherence among the study clients.

Key Words:*Antiretroviral Therapy, Highly Active Antiretroviral Therapy, Human immunodeficiency virus, Tamale West Hospital, Ghana Health Service*

INTRODUCTION

Human immunodeficiency virus (HIV) is a virus that is usually transferred through sexual intercourse, sharing of intravenous drug equipment, and from mother to child during childbirth or breastfeeding. HIV illness is the result of being infected with either HIV-1 or HIV-2, which are retroviruses belonging to the Reoviridae family and the Lentivirus genus (Gilroy, 2019).The initial documentation of HIV illness occurred in March 1981 within the United States (Gilroy, 2019). The initial documented case of HIV/AIDS in Ghana occurred in March 1986. As of the conclusion of 1986, the total number of cases in Ghana had risen to 26. The situation deteriorated in the following years. From 1986 to 1987, the prevalence of HIV infection in Ghana had a 35% increase. The infection rate experienced a six-fold increase in 1988 (Amofah, 1992). By now, it became evident that the healthcare system as a whole, and specifically public health authorities, needed to respond effectively to this epidemic.

Since the onset of the epidemic, around 75 million individuals have contracted the HIV virus, resulting in the unfortunate demise of around 32 million individuals. At the conclusion of 2018, there were a total of 37.9 million individuals worldwide who were infected with the HIV virus. Approximately 0.8% of adults between the ages of 15 and 49 worldwide are currently infected with HIV. However, the severity of the epidemic differs significantly across different nations and areas. The African region continues to see the most impact, as stated by the World Health Organisation (WHO), with approximately 3.9% of adults, or nearly 1 in every 25, living with HIV. According to the World Health Organisation (WHO) in 2018, this represents over two-thirds of the global population living with HIV.

Significant progress has been achieved in comprehending the biology of HIV and devising efficacious treatment strategies since the identification of the virus and its association with AIDS. The challenge of addressing HIV on a worldwide level is partly attributed to the higher prevalence of HIV infection in economically disadvantaged countries like Ghana (Gilroy, 2019). Antiretroviral therapy has significantly enhanced the prognosis and elevated survival rates in the developed world. Public education initiatives have significantly increased awareness, resulting in a higher prevalence of testing and prevention measures for infection. Both of these methods pose

challenges in nations with high illiteracy rates and little financial resources for healthcare systems.

In the past ten years, there has been a swift transformation in the approaches used to treat HIV infection. The introduction of newer antiretroviral medications has led to a shift in treatment approach, moving away from using a single or combination of two drugs to using a combination of three drugs known as triple drug therapy or Highly Active Antiretroviral Therapy (HAART). HAART consists of a combination of three or more antiretroviral medications that are administered concurrently (Gilroy, 2019). As of December 2018, over 23.3 million individuals worldwide were undergoing antiretroviral (ART) treatment. In 2017, the number of persons living with HIV in Africa was 25.7 million. Among this figure, a total of 15.3 million individuals received HIV treatment, as reported by UNAIDS and WHO in 2018. Antiretroviral therapy (ART) can effectively decrease the transmission of HIV to uninfected individuals while also enhancing the overall well-being of those living with HIV (Cohen et al., 2014).

According to the 2014 report by UNAIDS, the use of antiretroviral medication (ART) has significantly raised the life expectancy of individuals living with the disease in low and middle income countries since 1999. The implementation of ART in Ghana did not occur until June 2003, when the Ministry of Health selected two locations in the Manya and Yilo Krobo districts of the Eastern region as pilot programmes. The services provided included counselling and testing, prevention and treatment of sexually transmitted infections (STIs), and prevention of mother-to-child transmission (PMTCT) (Ampofo, 2009). Significant progress was made in the medical care provided to patients at the location. The enhanced availability of antiretroviral therapy (ART) medications resulted in a decline in the incidence of new infections (Ampofo, 2009). In order to mitigate the morbidity and death caused by the virus, treatment locations were expanded to further regions. By December 2009, the number of treatment sites had increased to 138 centres according to the Ghana AIDS Control Programme (2010). In 2017, around 488 treatment sites were constructed, as reported by the Ghana AIDS Control Programme (2018).

Several variables impact the efficacy of HIV treatment. A crucial factor is the strict adherence to ART medicines, as it is essential for efficiently suppressing the virus and preventing the development of treatment resistance (Nachiba et al, 2006). However, in order for clients to

comply with antiretroviral therapy (ART), they must willingly and consistently adhere to the prescribed treatment schedule. Clients with HIV infection have faced significant challenges, as noted by Mils et al. (2006).

The purpose of this study is to evaluate the variables that influence the adherence to antiretroviral therapy (ART) among patients undergoing treatment at Tamale West Hospital. The outcome of this study will offer pertinent health data regarding adherence to antiretroviral therapy (ART) to assist in making informed decisions at the District level. The objective of this study is to provide information that can be used to guide planning, policy making, and ultimately, encourage behavioural change to increase adherence to the ART regimen.

METHODS

Study design: A cross-sectional descriptive study design was used in conducting the study. Since the study was carried out within a particular limited time frame of 6 weeks, the cross-sectional design fit in analyzing the objective of the study which is to assess the adherence of antiretroviral therapy among clients living with HIV at Tamale West Hospital. The study was carried out at ART clinic of the Tamale West Hospital in the Northern Region of Ghana. People living with HIV attend the ART clinic monthly for review. The clinic runs ART services including voluntary counselling and testing (VCT) daily.

Setting: Tamale serves as both the Metropolitan Capital and the Regional capital of the Northern Region. The North East and Savannah areas were once part of the Northern region until they were established by referenda in December 2018. The Tamale Metropolis is one of the 16 Metropolitan, Municipal, and District Assemblies (MMDAs) located in the Northern Region. The location of the area is in the central part of the region and it is bordered by the Sagnarigu Municipality to the North-West, Mion District to the East, East Gonja to the South, and centralGonja to the South-West.Tamale is situated in a strategic location within the Northern Region. This advantageous position allows the city to have a market potential for local commodities originating from the agricultural and commercial sectors of both the surrounding districts within the region and the southern part of Ghana (Tamale Metropolitan Assembly Report, 2023).

Due to its strategic location, the Metropolis has the potential to benefit economically from commerce with surrounding West African countries such as Burkina Faso, Niger, Mali, and Togo. The Metropolis has a land area of 646.9 square kilometres, according to the 2010 PHC Report. The Metropolis is located between latitude 9º16 and 9º34 North and longitudes 0º36 and 0º57 West.The Metropolis consists of a total of 116 localities, with 41 (35%) classified as urban, 15 (13%) as peri-urban, and 60 (52%) as rural. The rural sections of Tamale provide ample acreage for agricultural activities and serve as the primary source of food for the Metropolis. Nevertheless, many settlements lack sufficient fundamental social and economic infrastructure, including well-constructed roads, school buildings, hospitals, marketplaces, and recreational facilities (Tamale Metropolitan Assembly Report, 2023).

Target Population: The study population consisted of all HIV patients who were undergoing treatment at the Antiretroviral Therapy (ART) section of the Sexually Transmitted Infections (STI) clinic in Tamale West Hospital.

Inclusion Criteria: The study comprised participants who were HIV positive, getting treatment at the Tamale West Hospital, and aged 20 years or older, who had agreed to participate.

Exclusion Criteria: Patients who did not provide consent for the study were not included. In addition to excluding individuals who are mentally unstable, those who are not mentally sound were also excluded.

Sampling Technique and Size:Purposive sampling was used where participants were selected based on the purpose of the study. In recruiting respondents, the records of patients were reviewed at the gynaecology unit of the Tamale Teaching Hospital to identify patients who were diagnosed with the disease. Sample size was estimated to be 104 participants; however, this was determined by data saturation (Creswell, 1998).

Data Collection Instrument: A structured questionnaire was delivered through a one-on-one interview conducted by the researcher in a private room with the clients.

Data Analysis: The acquired data was manually sorted and cleansed. The data was encoded, inputted, and analysed using the Statistical Package for Social Sciences (SPSS) software, specifically version 22. Variables were established during the variable view stage of the SPSS software. In the variable view, the scale of measurement, label, decimal places, alignment, and missing values were explicitly given for each variable. Additionally, the cross check and

definition of the codes used on the questionnaire for the responses were provided. The data was subsequently analysed comprehensively utilising descriptive statistical tools, such as frequency distribution tables.

Ethical Issues: A letter of introduction was acquired from the Department Head of Community Health and Family Medicine at the School of Medicine (SoM), University for Development Studies (UDS), and subsequently submitted to the Medical Superintendent of the Tamale West Hospital. Approval was requested from the nurse in charge of the Antiretroviral Therapy (ART) clinic at the hospital. The participants were also briefed on the study and its objectives. They provided their agreement by giving verbal approval prior to the administration of the questionnaire. Each participant was provided with the opportunity to withdraw from the questionnaire at any point. The participants were guaranteed the secrecy of their answers and the non-disclosure of their identify.

RESULTS

Socio-Demographic Characteristics of Respondents

The study's demographic analysis reveals that the largest proportion of polled clients fell within the age range of 41-50 years (30.8%), followed by 31-40 years (26.9%), and 20-30 years (23.1%). The gender breakdown indicated that 27.9% of the individuals were male, while 72.1% of the individuals were female. Furthermore, 45.2% of the individuals were married, 23.1% were unmarried, and the remaining 12.5% were either divorced or separated. However, it is worth noting that Muslims constituted the majority, accounting for 70.2% of the survey participants, while Christians made up 27.9% of the overall sample size. Approximately 42.3% of the clients receiving antiretroviral therapy (ART) were traders, 20.2% were also working in the formal sector as civil workers, 9.6% were farmers, and 15.4% were jobless. The remaining 12.5% were engaged in various other occupations. The clients were distributed across several areas, with

24% living in Tamale central, 18.3% in Tamale South, 17.3% in Tamale North, 15.4% in Sagnerigu, and the remaining clients residing in diverse communities outside the Northern region. Finally, the majority of the consumers lacked formal education, whereas 59.6% of them had acquired some type of education.

Access and Cost of Related ART Services

Access to the treatment centre by clients were mainly through the use of vehicle (either public or private- 59.6%), bicycle or tricycle (38.5%) and lastly by walking (1.9%). Mostly, clients took within 1 hour to travel to the ART treatment centre, 15.4% of the client also took about an hour to travel to the centre and the remaining 14.4% travelled one hour to the centre. Then again, the majority (62.5%) of the clients on ART treatment spend about 1-5.00 ghc to the treatment centre. Also, 18.3% spend an amount greater than 20.00ghc, 15.4% spend 6-10.00ghc whiles 2.9% spend 11-15.00ghc to reach the treatment centre.

Staff Attitude towards ART Clients

The perception of the clients on staff attitude is demonstrated on table 3. The results showed that the overwhelming percentage (92.3%) of the clients were satisfied with level of explanation or education they received on the ART medication. Then again, 85.6% of the clients strongly agreed that health staff showed them the needed respect during the period of their interaction with the health staff. Also, 85.6% also perceived to have been satisfied and strongly agreed with level of confidentiality with the services they received at the ART centre. Only 14.4% of the clients also agreed with the level of confidentiality at the centre and the services they received.

Then again, 77.9% and 20.2% respectively strongly agreed and agreed with the clarity of instructions they received from health staff at the ART centre. About 96.2% of the clients also

reported there was enough privacy during the period of their interactions with health staff. However, 35.6% reported that there a third person during the period of the interaction with the health staff. Also, 27.9% reported that they needed phone call from their health care providers to remind them to regularly take their medication.

Proportion of People Living with HIV Who Adhere to ART

Social Characteristics of Clients' ART

Table 1: Social Features of Clients on ART

SN	Names of Variables	Frequency	Percent
1	Period from first Diagnosis		
	< 1 years	30	28.80%
	1-5 years	46	44.20%
	6-10 years	21	20.20%
	>10 years	7	6.70%
2	Place of Diagnosis		
	Hospital	103	99.00%
	Outreach Point	1	1.0%
3	Service Point of Diagnosis		
	VCT centre	19	18.30%
	Antenatal Clinic	33	31.70%
	Blood Donation Exercise	4	3.80%
	During sickness	47	45.20%

	All other Service Points	1	1.0%
4	Duration between Diagnosis and Treatment		
	Immediately after diagnosis	86	82.70%
	after 1month	16	15.40%
	after 6 months	2	1.90%
5	Disclosure of HIV Status		
	No	33	31.70%
	Yes	71	68.30%
6	Person of Disclosure		
	Spouse	44	62.0%
	Any Other family Member	22	31.00%
	All Others	5	7.00%
7	Partner Support during Treatment		
	No	45	43.70%
	Yes	58	56.30%
8	Children Support during Treatment		
	No	61	63.50%
	Yes	35	36.50%
9	Family Support during Treatment		
	No	48	46.20%

	Yes	56	53.80%
10	Involvement in family life & activities		
	No	6	5.80%
	Yes	98	94.20%
11	Suicidal Tendencies		
	No	73	70.90%
	Yes	30	29.10%

Treatment Characteristics of Clients

Table 2: Treatment Characteristics of Clients

SN	Names of Variables	Frequency	Percent
1	Treatment Duration for Clients		
	< 1year	26	25.20%
	1-5years	46	44.70%
	6-10 years	23	22.30%
	>10 years	8	7.80%
2	Combinations of Drugs		
	1	55	53.40%
	2	10	9.70%
	3	38	36.90%

3	Frequency of Supply		
	Monthly	11	10.70%
	Second Monthly	29	28.20%
	Quarterly	20	19.40%
	Half Yearly	43	41.70%
4	Number of Daily Doses taken		
	Once daily	95	92.20%
	Twice daily	7	6.80%
	Four times daily	1	1.0%
5	Number of Pills per Each Dosage		
	1	100	97.10%
	2	3	2.90%
6	Forgetfulness in Taking Medication		
	No	35	34.00%
	Yes	68	66.00%
7	Wanting to quite after Improved health		
	No	53	51.50%
	Yes	50	48.50%

Adherence to ART

In the current study, client self-report was the method used to estimate clients' adherence to ART treatment. The results showed that weekly adherence was 94.2%, monthly adherence (76%), quarterly adherence (71%), half yearly adherence (51.9%) and only 33.7% have religiously adhered to ART medication from the start of their treatment.

Side Effects of Medication

On the side effects of the ART medications as experienced by the clients included; dizziness (19.2%), nausea (9.6%), muscle ache (7.7%), abdominal pain (7.7%) and diarrhoea (6.7%) among others.

Individual and Socio-economic Factors Influencing ART Adherence

Multivariate regression modeling of the socioeconomic factors and ART adherence is presented in the table below. The results showed that age groups of clients ($p<0.139$), sex of clients ($p<0.825$), education level of clients ($p<0.052$), and occupation ($p<0.741$) were all negative predictors of monthly adherence of ART among the clients in the study. However, none of these associations was found to be statistically significant, with exception of education level which was weakly associated with the likelihood ART adherence among the sampled population.

Also, religion ($p<0.327$), marital status ($p<0.648$) and communities of residency were positively associated with adherence. Then again, none of these factors was significantly associated with adherence among the study group. Moreover, social support (such as partner support-$p<0.282$, children support-$p<0.947$, family support-$P<0.500$, eating together-$p<0.636$, and involvement in family life and activities-$p<0.370$) for treatment of clients in study were also not significant predictors of adherence.

Lastly, forgetfulness on the part of clients to taking medication positively predicted ART adherence among the study sample. The results indicated that the association between the habit of forgetfulness and monthly adherence to ART was statistically significant ($p<0.001$; CI: 0.186, 0.581).

Table 3: Multivariate Regression Modeling of Socioeconomic Factors and Adherence

SN	Name of Variable	Standardized Coefficients	Sig. (p-value)	95.0% Confidence Interval for B	
		Beta		Lower Bound	Upper Bound
1	Age Groups of Clients	-0.180	0.139	-0.159	0.023
2	Sex of Respondents	-0.025	0.825	-0.231	0.185
3	Marital Status of Respondents	0.055	0.648	-0.065	0.104
4	Religious Status of Respondents	0.112	0.327	-0.098	0.292
5	Occupation of Respondents	-0.042	0.741	-0.097	0.070
6	Communities of Respondents	0.035	0.732	-0.047	0.067
7	Educational Level of Respondents	-0.191	0.052*	-0.101	0.001
8	Partner Support during Treatment	0.138	0.282	-0.098	0.332
9	Children Support during Treatment	0.009	0.947	-0.219	0.234
10	Family Support during Treatment	0.092	0.500	-0.151	0.307
11	Client Eating together with Family	-0.060	0.636	-0.392	0.241
12	Family Life and Activities	0.108	0.370	-0.246	0.652
13	Forgetfulness	0.426	0.001	0.186	0.581

14	Suicidal tendencies	0.309	0.658	-1.060	1.679

Health Service and Related Factors Influencing ART Adherence

Table 4 also demonstrate the relationship between health services and related factors, and ART adherence. The results showed that side effects of medication (p<0.005), education of clients on ART (p<0.038) were both independently associated with adherence. Then again, in the multivariate modeling, confidentiality of services (p<0.041) and the cost of transport to the treatment centre for routine medications were also significant determinants of adherence among the study group.

However, although the duration or length of treatment was negative predictor of adherence and the relationship was not statistically significant (P<0.402). Then again, number of daily doses (p<0.328), number of pills per each dosage (p<0.196), place of diagnosis (p<0.736), service point of diagnosis (0.203), and period between initial diagnosis and treatment (p<0.237) were all not significantly related to adherence.

Then again, with the exception confidentiality, respect for client (p<0.713), privacy of services (p<0.577), and phone call to remind clients (p<0.420), did not also influence significantly adherence of ART among clients. Lastly, the means of transport (p<0.776) and the travel time (p<0.413) to the treatment centre, did not significantly influence ART adherence in the study group.

Table 4: Multivariate regression modeling of health related factors and ART adherence

SN	Name of Variables	Standardized Coefficients	Sig. (p-value)	95.0% Confidence Interval

		Beta		Lower Bound	Upper Bound
1	Side Effects of ART Medications	0.274	0.005*	0.072	0.400
2	Explanation on Medication from Staff	0.204	0.038*	0.015	0.540
3	Staff Respect for Clients	-0.037	0.713	-0.276	0.190
4	Confidentiality of Service Received	0.228	0.041	0.012	0.543
5	Received Clear Instruction on Medication	-0.164	0.152	-0.323	0.051
6	Privacy for Services	-0.065	0.577	-0.752	0.421
7	Staff Reminding Clients through Phone Calls	0.089	0.420	-0.125	0.297
8	Means of Transport to Treatment Centre	0.029	0.776	-0.140	0.187
9	Traveling Time to Treatment Centre	-0.120	0.413	-0.172	0.071
10	Cost of Transport to Treatment Centre	0.304	0.035	0.006	0.167
11	Treatment Duration for Respondents	-0.095	0.402	-0.156	0.063
12	Frequency of Supply of Medications	-0.002	0.986	-0.103	0.101
13	Number of Daily Doses Taken	0.124	0.328	-0.141	0.418
14	Number of Pills per Each Dosage	-0.145	0.196	-0.934	0.195
15	Place of Diagnosis	-0.033	0.736	-0.983	0.697
16	Service Point of Diagnosis	0.133	0.203	-0.026	0.119
17	Duration between Diagnosis and Treatment	0.118	0.237	-0.077	0.306

DISCUSSION

Incidence of adherence to antiretroviral therapy (ART)

To get an effective treatment outcome, customers must adhere to a minimum threshold of 95%, as stated by the Ghana AIDS Commission. Reducing the viral load of clients is essential for improving performance in everyday tasks. The clients' commitment to continuing treatment is often weakened due to the need for lifelong medication. Any deviations from the treatment plan can result in the development of drug-resistant strains of the virus, which can then be transmitted to the general population, contributing to the spread of resistance (National HIV/AIDS/ STI Control Programme, 2010).

The present study utilised self-report as the method for assessing adherence, on a weekly, monthly, quarterly, semi-annual basis, and from the initiation of antiretroviral therapy for each interviewed client. The current assessment reveals that the adherence rate of clients is 94.2% on a weekly basis and 76% on a monthly basis. By comparing the current study's findings to a normal monthly adherence rate of 76%, it was determined that the adherence rate fell within the range of 45-100%. This range is consistent with what has been reported for clients in developing nations. Furthermore, the discovery was consistent with the adherence rate observed in Sub Saharan Africa (Biadgilign, et al., 2011). Nevertheless, the recent discovery is more than 21% more than the discovery made in North America a decade ago (Mills, et al., 2006), but it is comparable to the discovery made in India (Anant et al., 2012).

Based on the findings of the current investigation, it appears that both the clients and the treatment centre have not met the policy criteria of ensuring that more than 90% of those diagnosed receive treatment and achieve over 90% suppression of viral load (Ghana Medical J., 2019). This results in a discrepancy of approximately 14-24% of patients failing to comply with their prescribed treatment regimen, potentially leading to the development of drug resistance and the subsequent transmission of drug-resistant strains of HIV. According to the research, it is possible that this could result in serious public health effects in the future, potentially leading to death (National HIV/AIDS/STI Control Programme, 2010).

Within the African setting, the weekly adherence rate in the present study was generally greater than the adherence rate reported in Zambia (Nozaki, et al., 2011), but lower than the adherence rate seen in the Upper East Region of Ghana (Obirikorang et al., 2013). Furthermore, the present monthly adherence rate remains below the findings reported in Ghana by Obirikorang et al., (2013).

Factors Affecting Adherence to Antiretroviral Therapy (ART) at the Individual and Socioeconomic Levels

The recent study discovered that forgetting was a significant factor influencing adherence among the examined clients. This may be the case because forgetfulness is strongly correlated with customers neglecting to take their medication, which in turn affects their adherence. The present investigation discovered that a decline in memory led to a higher probability of clients failing to adhere to their treatment plan. Furthermore, Ankra et al. (2016) also found that amnesia was recognised as a potential obstacle to clients' adherence to their treatment regimen in Ghana. In addition to this discovery, Uldall et al. (2004) also asserted that forgetfulness decreased the amount of adherence among patients across a broader range of publications. According to Okwuonu et al. (2014), forgetfulness is a significant factor that hinders people in Nigeria from adhering to their antihypertensive prescriptions, as described by Abbas et al. (2017). The author ascribed forgetting to the conflicting psychological demands that clients encounter in their daily lives.

The educational level of clients in the current study was found to be a predictor of adherence, albeit the association was somewhat weaker. Furthermore, Abera et al. (2015) discovered that those with a greater level of education were more likely to exhibit improved adherence in Southwest Ethiopia, providing additional evidence to support this conclusion.

In contrast to previous research, the current study found no significant effect of social support from a partner, children, and other family members, as well as involvement in household decision making, on clients' adherence to ART treatment. Nevertheless, Bajunirwe et al. (2009) and Ankra (2016) documented that family support had a crucial role in promoting adherence. Similarly, the act of revealing one's HIV status did not exert any impact on adherence, in contrast to the discovery made by Reddi et al. (2017).

Contrary to the findings of the current investigation, the age of adult clients did not have an impact on their adherence to the treatment regimen (Harries et al., 2001). Obirikorang et al. (2013) discovered a direct relationship between advancing age and compliance with drug treatment. In the present investigation, the occupation of customers on antiretroviral therapy

(ART) did not have an impact on treatment adherence. However, Abera et al. (2015) discovered that occupation actually improved adherence among clients in Ethiopia.

However, the present study did not discover any notable correlation between gender and adherence. In contrast, Reda &Biadglilign (2012) identified that being male was a favourable indicator of adherence. Likewise, the religious beliefs of the customers had no impact on their consumption of medication. This is likely due to the fact that the majority of clients in the survey are affiliated with a single religious group.

Factors Affecting Adherence to Antiretroviral Therapy (ART) and Health Services

According to the World Health Organisation (WHO), there are numerous factors that influence adherence to medical treatment. These factors include those connected to patients, healthcare workers, and the healthcare system itself (Brown & Bussell, 2011). Therefore, the customers in the present study deemed it essential and beneficial to receive an explanation or instruction regarding ART medicine prior to adhering to the treatment programme. The efficacy of counselling services in improving medical adherence has been demonstrated in studies conducted by Byrne et al. (2002) and Yarney et al. (2016). Professional services that aim to give confidential assistance to clients seeking assisted reproductive technology (ART) have been proven to be effective in improving client adherence. This is especially significant because the disease frequently carries social stigma (Damtse, 2016). Confidentiality likely allowed clients to openly express their difficulties with medication and have them resolved by the service providers (Pose & Baltussen, 2009).

Furthermore, the present study discovered that the adherence of clients to antiretroviral therapy (ART) was influenced by health-related factors, specifically the occurrence of side symptoms such as dizziness, nausea, muscle pain, and abdominal discomfort. When prescribing lifelong medication, it is crucial to examine the amount of expected side effects. This is because there is often a similarity between the clinical symptoms caused by the medications and the negative effects they create. Consequently, adherence was reduced, especially at the start of the treatment regimen (Ezzati et al., 2012). According to Otenyo& Maranga (2018) and Okwuonu et al.

(2014), side effects of medication can have a substantial impact on adherence to prescribed medications.

The expense of commuting to the VCT clinic had a substantial impact on adherence in the present investigation. The study was conducted in an urbanised environment where transportation relied heavily on vehicles. Consequently, clients were required to consistently generate funds in order to cover the expenses associated with transportation to the treatment facility. This may have imposed an additional load on certain clients, impacting their ability to access the clinic and thus affecting their adherence to their monthly supply of antiretroviral therapy (ART).

CONCLUSION

Strict adherence to Antiretroviral medication is necessary in order to decrease the viral load of individuals who are infected and to enhance their immune response against opportunistic infections caused by the virus. Additionally, it is crucial to assist individuals who are infected in preserving their work productivity, as this enhances their likelihood of survival. Non-compliance contributes to treatment failures and might potentially result in the development of medication resistance. The adherence rate, as measured in the present study, did not meet the anticipated target established by the Ghana National AIDS control plan. Implementing a consistent and supportive programme of ART services, along with providing financial assistance for transportation expenses, will enhance adherence among the participants in the study.

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