



DETERMINANTS CONTRIBUTING TO ADHERENCE WITH ANTIRETROVIRAL REGIMEN OF PEOPLE LIVING WITH HIV/AIDS IN BABCOCK UNIVERSITY TEACHING HOSPITAL

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ABSTRACT: *This study investigated the determinant factors contributing to adherence to an antiretroviral regimen of people living with HIV/AIDS attending Babcock University Teaching Hospital. The research design used was a cross sectional descriptive study. The population consist of the entire people living with HIV/AIDS in Babcock University Teaching Hospital. The study size used comprised of 124 HIV patients. And purposive sampling techniques were used to select the sample population. Data was collected through the use of structured self-administered questionnaires with open-ended questions and was analyzed using SPSS version 21. The findings of this study showed that half of the respondents perceive that regular adherence to ART regimen would disallow the spread of HIV to their contacts, quite a number of the respondents do not perceive that adherence to ART regimen would remove HIV/AIDS stigma in their life because regular intake of the drug would disallow the community from knowing they are retroviral positive. Based on the findings of the study it is recommended that more information, education, and communication campaigns targeted at the general public are required to eliminate or reduce stigma to the barest minimum.*

Keywords: Antiretroviral Regimen, HIV/AIDS, Babcock University Teaching Hospital

INTRODUCTION

Human Immunodeficiency Virus (HIV) that causes HIV infection and Acquired Immunodeficiency Syndrome (AIDS), remains one of the biggest public health challenges in world history (WHO, 2015).

In 2016, approximately 1.8 million adults were newly infected with HIV, contributing to an estimated 36.7 million people living with HIV globally (UNAIDS, 2017). Sub-Saharan Africa is the hardest hit, accounting for 70% of all people living with HIV globally (Kharsany, & Karim, 2016). Global implementation of antiretroviral therapy (ART) has increased the survival rate of People Living With HIV (PWHIV), so that the disease condition has shifted from fatal to chronic disease (Morowastisharifabad, Movahed, Farokhzadian, Nikooie, Hosseinzadeh, Askarishahi, & Bidaki, 2019).

HIV is increasingly becoming a chronic manageable disease (Doorfamn & Sang, 2014). As a reflection of global roll-out efforts, the number of people living with HIV and receiving ART has increased by 33.3% since 2013 and in 2015, 17 million people received ART globally. Treatment success requires both a sustainable supply of ART to clinics and lifelong adherence to treatment by patients (Jones, Cook, Spence, 2014). The use of combination Anti-Retroviral (ARV) was initiated in the late 1990s. It was proven effective in suppressing viral replication and had changed the natural course of the disease, had decreased morbidity and mortality (Oliveira, Caixeta, Martins, 2018). Both Human Immunodeficiency Virus (HIV) infection and Acquired Immunodeficiency Syndrome (AIDS) remained as the major public health problem in the world (Hornschuh, Dietrich, Tshabalal, Laher, 2017). Currently, HIV infection is proven to be a disease with chronic inflammation and potentially controllable. Thus, new issues related to the manageable disease have appeared, including the adherence to ART (Suryana, Suharsono, & Antara, 2019). Indeed, adherence to ART is essential for long-term therapeutic success, and is therefore this therapy becomes a major concern (Azia, Mukumbang, & Van Wyk, 2016).

To combat HIV/AIDS and other infectious diseases, based on the Sustainable Development Goals, the world has galvanized previously unprecedented efforts to meet the needs of the world's poorest and most disadvantaged (Ekpo & Aiyedun, 2017). The poor adherence to therapy resulting from inadequate viral suppression is further challenged by the low potency of antiretroviral regimen, viral resistance to antiretroviral medication, and pharmacokinetic interactions causing inadequate drug delivery (Agboeze, Onwe, Onoh, Nwali, Ukaegbe, & Adeoye, 2018). The transmissibility of the antiretroviral resistant viruses from person to person further compounds the problem of mother-to-child transmission of HIV. It is a clinical and public health challenge (Oku, Owoaje, Ige, Oyo-Ita, 2013).

Patient-level factors that contribute to defaulting from ART include forgetfulness, fatigue, hopelessness, and absence of symptoms and severity of the illness (Shet, De Costa, Heylen, Shastri, Chandy, & Ekstrand, 2016). Furthermore, lack of support from a partner's negative perceptions towards ART medication, pre-occupation, and absence from home due to employment compromises adherence to ARVs. Stigma and discrimination coupled with family pressure, regular changes of residence, and religious beliefs influence defaulting from ART (Heestermans, Browne, Aitken, Vervoort, & Klipstein-Grobusch, 2016). Financial cost associated with accessing treatment is secondary to long-distance especially among those residing in rural areas (Chirambo, Valeta, Kamanga, & Nyondo-Mipando, 2019). Inefficient health system including inadequate counseling on benefits of ART, long waiting times, compromised privacy due to inadequate consultation rooms, intermittent supply and stock-outs of antiretroviral and reagents, and dissatisfaction with the care received contribute to defaulting from ART (Shubber, Mills, Nachega, Vreeman, Freitas, & Bock, 2016). Drug-related factors that influence defaulting include complexities and side effects of ARV regimen (Wasti, Simkhada, Randall, Freeman, van Teijlingen, 2012).

The importance of improving treatment adherence has resulted in focusing on this topic because non-adherence is the most common reason for treatment failure, with potential risk to develop drug resistance through suboptimal viral suppression (Mbuagbaw, Thabane, & Ongolo-Zogo, 2012). Subsequent transmission of first-line ART-resistant HIV strains increases demand for second-line

treatment often associated with poorer patient health outcomes and increasing healthcare costs (Heestermans, Browne, Aitken, Vervoort, & Klipstein-Grobusch, 2016). Studies on ART adherence showed that predictors and risk factors differ per region of the world, necessitating context-specific development of non-adherence profiles, for these reasons, a thorough understanding of determinants of adherence to ART are paramount (Global AIDS Update, 2019). Therefore this study is assessing the determinant contributing to adherence with antiretroviral regimen of people living with HIV/AIDS attending Babcock University Teaching Hospital.

About 35.9 million people are currently living with HIV/AIDS worldwide of which 23.5 million are in Sub-Sahara Africa (Idowu, Oluwasegun, Michael, Olatunde-Aiyedun & Jacob, 2021). Nigeria has a current HIV prevalence of 4.1% with about 3.2 million infected with the virus and estimated 1.6 million eligible for Anti-retroviral drugs (Chirambo, Valeta, Kamanga, & Nyondo-Mipando, 2019). Previous research findings showed adherence rates of 78.3% and 90.6% and identified factors such as high pill-burden, high cost of transport fares, religion, medical side-effects, stigma and discrimination, attitude and poor education were associated with poor adherence to ARV drugs among patients (Agboeze, Onwe, Onoh, Nwali, Ukaegbe, & Adeoye, 2018).

The information that will be provided from this study will be helpful in assess the determinant contributing to adherence with antiretroviral regimen of people living with HIV/AIDS attending Babcock University Teaching Hospital.

Research Questions

The following research questions were raised to guide the study:

- 1 What is the level of knowledge on Antiretroviral Therapy Regimen among people living with HIV/AIDS attending Babcock University Teaching Hospital?
- 2 What are the perception on Antiretroviral Therapy regimen among people living with HIV/AIDS attending Babcock University Teaching Hospital?
- 3 What are the determinants of adhering to ART regimen among people living with HIV/AIDS attending Babcock University Teaching Hospital?

Hypothesis

The following null hypotheses were formulated for testing in the study:

Ho1: There is no significant relationship between the attitude and perception towards adherence and the patient-level factors contributing to adherence of antiretroviral regimen.

Ho2: There is no significant relationship between the attitude towards adherence and the health institution-level factors contributing to adherence of antiretroviral regimen

Study Area

The study was conducted in Babcock University Teaching Hospital, Ilishan Remo, Ogun State equidistant between Ibadan and Lagos, it is affiliated to the Babcock University and has a bed capacity of 181 and 209 nurses with approximately 20 departments which includes medicine, surgery, pediatrics, obstetrics, and gynecology, etc. Babcock University Teaching Hospital is located at Ilishan, Ogun State, owned privately by the Seventh-day Adventist church since 1959. It is located in Ilishan Remo which is a town located within Irepodun district in Ikenne Local Government Area of Ogun State, Southwestern Nigeria. An average of 62 old and new patients (adults and children) is attended to weekly at the HIV clinic. The ARV drugs are dispensed free of charge, on monthly basis to registered HIV infected patients including men, pregnant and non-pregnant women and children from different parts of Nigeria.

Methodology

This study is a cross sectional descriptive study, designed to assess the determinant contributing to adherence with antiretroviral regimen of people living with HIV/AIDS attending Babcock University Teaching Hospital. The population consist of people living with HIV/AIDS attending Babcock University Teaching Hospital. The study size used comprised of 124 HIV patients. Questionnaires were collected through the aid of research assistants and partnership with the nurses at the Infectious disease clinic. Data was collected using a structured self-administered questionnaire which contained 4 sections: first section consists of questions on the socio-demographic characteristic of respondent. Other sections include: Attitude towards antiretroviral regimen, Patient-level factors contributing to adherence of antiretroviral, Health institution-related factors contributing to adherence of antiretroviral. The English version of the questionnaire was translated into Yoruba and back translated to English to ensure uniformity. Twenty-eight (10%) of the questionnaire was pre-tested. Permission to conduct this study was obtained from the Babcock University Health Research Committee (BUHREC).

Data Analysis, Statistical Treatment and Result

Information on the questionnaires was entered, coded and the data was cleaned prior to analysis. Charts were used to present the distribution of Comprehensive Patient-level factors contributing to adherence of antiretroviral of respondents.

Tables were used to present the socio-demographic characteristics of the respondents. Frequency distribution was generated for all categorical variables and measure of location and spread for quantitative variables. Association between attitude and perception towards adherence and the patient-level factors contributing to adherence of antiretroviral regimen. was explored using chi-square test. All analysis was being carried out at 5% level of significance.

SECTION A: SOCIO-DEMOGRAPHIC CHARACTERISTICS

Age	Frequency	Percentage
21-30	34	31.5
31-40	41	38.0
41-50	23	21.3
51-60	7	9.3
Total	105	100.0

Result from table 1 above revealed that a higher percentage of the respondents 41(38.0%) falls within the age range 31-40years, followed by 34(31.5%) of them who fall within age range of 21-30years, 21.3% of the respondents were within the age range 41-50years and the remaining 7(9.3%) of them were within the age range of 51-60 years.

Gender	Frequency	Percentage
Male	43	39.8
Female	62	58.3
Total	105	100.0

Results from the table above revealed that a greater majority of the respondents 62(58.3%) are female while the remaining 43(39.8%) of them are male

Marital status	Frequency	Percentage
Married	80	76.2
Widowed	10	9.5
Divorced	15	14.3
Total	105	100.0

From the table above, it can be seen that majority of the respondents 80(76.2%) are married followed by 15(14.3%) of them that were divorced and 10(9.5%) are widowed

Religion	Frequency	Percentage
Christian	85	80.9
Islam	18	17.1
Traditional	2	1.9
Total	120	100.0

Table 2 above shows that majority of the respondents 85(80.9%) practiced Christianity as their main religion while 18(17.1%) of them practiced Islam as their main religion and the remaining 2(1.9%) practiced traditional religion as their main religion.

Level of education	Frequency	Percentage
Primary	5	4.8
Secondary	20	19.1
Tertiary	80	76.2
Total	105	100.0

Majority of the respondents 80(76.2%) have had up to tertiary education followed by 20(19.1%) of them who have had secondary education, and the remaining 5(4.8%) of the respondents had only primary education.

Ethnic group	Frequency	Percentage
Yoruba	90	87.5
Igbo	15	9.4
Hausa	5	4.8
Total	105	100.0

From table 5 above, a larger fraction of the respondents were from the Yoruba ethnic group 90(87.5%) and just a few of the respondents 9.4% and 4.8% were from the Igbo and Hausa ethnic groups respectively

Average monthly income	Frequency	Percentage
Above 10,000	11	10.5
10,001-50,000	10	9.5
50,001-100,000	82	78
Above 100,001	2	1.9
Total	105	100.0

Result from the table above indicated that majority of the respondents average monthly income 82(78%) falls within the range of 50,001-100000, followed by 11(10.5%) whose average monthly income is above 10,000naira, 10(9.5%) of them have average monthly income of between 10,001-50,000 and the remaining 2(1.9%) earns above 100000naira monthly on the average

Employment status	Frequency	Percentage
Employed	82	78
Unemployed	5	4.8
Student	18	17.1
Total	105	100.0

From the table above, it can be seen that quite a number of the respondents 82(78%) were employed, followed by 18(17.1%) who indicated that they are students and the remaining 5(4.8%) of them are unemployed

SECTION B: Respondent's Knowledge on Antiretroviral Therapy Regimen

Do you know that ART regimen is used to suppress viral load of HIV/AIDS?	Frequency	Percentage
Yes, I do	51	47.2
No I don't	40	38.0
I can't recall	14	14.8
Total	105	100.0

A greater majority of the respondents 51(47.2%) stated that they are aware that the ART regimen is used to suppress viral load of HIV/AIDS while a lesser majority of the 40(38.0%) of them stated that they do not know and the remaining 14(14.8%) of them couldn't recall

Do you know that ART regimen will help in enabling you to even live longer than you expect	Frequency	Percentage
Yes I do	60	57.1
No, I don't	14	13.3
I can't recall	31	29.5
Total	105	100.0

From the table above, 60(57.1%) of the respondents reported that they know that ART regimen will help in enabling them to even live longer than they expect, followed by 31(29.5%) of them who stated that they do not know that ART regimen will help in enabling them to even live longer than they expect and the remaining 14(13.3%) of them reported that they couldn't recall

Do you know that ART mean antiretroviral therapy	Frequency	Percentage
Yes I do	49	45.4
No, I do not	50	49.0
I can't recall	6	5.6
Total	105	100.0

Result from table 9 above revealed that 50(49.1%) of the respondents stated that they do not know that ART mean antiretroviral therapy, while 49(45.4%) of them reported that they know that ART mean antiretroviral therapy and the remaining 6(5.6%) of them couldn't recall.

Do you know that you can easily forget your ART regimen because they are indices for measuring ART	Frequency	Percentage
Yes, I do	26	23.1
No I don't	59	54.6
I can't recall	20	18.5
Total	105	3.7

More than half of the respondents 59(54.6%) reported that they are fully aware that they can easily forget their ART regimen because they are indices for measuring ART, 26(23.1%) stated they do not know that they can easily forget their ART regimen because they are indices for measuring ART and the remaining 20(18.5%) stated they couldn't recall

Do you know that adherence to ART regimen enhance the most valuable HIV management outcome	Frequency	Percentage
Yes I do	52	48.1
No I do not	10	9.3
I don't know	34	34.3
I can't recall	9	8.3
Total	108	100

From the table above, majority of the respondents 52(48.1%) reported that they are aware that adherence to ART regimen enhance the most valuable HIV management outcome followed by 34(34.3%) stated they don't know that adherence to ART regimen enhance the most valuable HIV management outcome ,also 10(9.3%) stated they do not know and the remaining 9(8.3%) stated they couldn't recall

Do you know that adherence is higher among respondent who have been on ART regimen for longer period	Frequency	Percentage
Yes I do	68	64.7
No I do not	25	23.8
I can't recall	12	11.4
Total	105	100.0

From the table above, a higher number of the respondents 68(64.7%) stated that they reported that they know that adherence is higher among respondent who have been on ART regimen for longer period, while 25(23.8%) of them stated that they do not know that know that adherence is higher among respondent who have been on ART regimen for longer period and the remaining 12(11.4%) stated that they couldn't recall

Do you know that ART side effect can result in respondents' non-adherence?	Frequency	Percentage
Yes,I do	25	23.8
No,I don't	75	71.4
I can't recall	5	4.8
Total	105	100.0

From table 13 above, a greater majority of the respondents 75(71.4%) reported that they do not know that ART side effect can result in respondents non-adherence while a lesser majority stated that they know that ART side effect can result in respondents non-adherence and only few of them 5(4.8) stated that they couldn't recall

Do you know that negative attitude of health care workers can be a barrier to adherence to ART regimen	Frequency	Percentage
Yes I do	30	28.6
No I do not	72	68.6
I can't recall	3	2.9
Total	105	100.0

In the table above, it can be seen that majority of the respondents stated that they do not know that the negative attitude of health care workers can be a barrier to adherence to ART regimen followed by 30(28.6%) who reported that they know that the negative attitude of health care workers can be a barrier to adherence to ART regimen the remaining 3(2.9%) couldn't recall.

Do you know that use of illicit drug and alcohol consumption has significantly resulted into non-adherence of respondents to ART regimen	Frequency	Percentage
Yes I do	90	85.7
No I do not	10	9.5
I can't recall	5	4.8
Total	105	100.0

From table 17 above, majority of the respondents stated that they are fully aware that the use of illicit drug and alcohol consumption has significantly resulted into non-adherence of respondents to ART regimen, 10(9.5%) of them stated otherwise and the remaining 5(4.8%) stated that they couldn't recall

SECTION C: Respondent's Perception on Antiretroviral Therapy regimen

Do you perceive that adherence to your ART regimen would make you live long	Frequency	Percentage
Yes, I do	99	94.2
No, I do not	3	2.9
I will inquire	1	0.95
I can't remember	2	1.9
Total	105	100.0

Table 18 above revealed that almost all of the respondents perceived that adherence to their ART regimen will make them live longer while 3(2.9%) of them stated otherwise, followed by 2(1.9%) of them who stated that they couldn't remember and only 1(0.95%) stated they will inquire.

Do you perceive that adherence to ART regimen would suppress the viral load in your blood	Frequency	Percentage
Yes, I do	80	76.2
No, I do not	20	19.0
I will inquire	3	2.9
I can't remember	2	1.9
Total	105	100.0

Majority of the respondents in the table above 80(76.2%) stated they perceive that adherence to ART regimen would suppress the viral load in their blood followed by 20(19%) of them who stated they do not perceive that adherence to ART regimen would suppress the viral load in their blood, 3(2.9%) stated they will inquire while the remaining 2(1.9%) can't remember.

I do not feel bad about regimen	Frequency	Percentage
Yes, I do	60	57.1
No, I do not	40	38.1
I will inquire	3	2.9
I can't remember	2	1.9
Total	105	100.0

More than half of the respondents 60(57.1%) stated that they always feel bad about regimen, 40(38.1%) of them do not feel bad about regimen and 3(2.9%) stated that they will inquire while only 2(1.9%) couldn't remember.

Do you perceive that adherence to ART regimen can only be possible if you have the full support of the significant others	Frequency	Percentage
Yes, I do	62	57.1
No, I do not	38	38.1
I will inquire	3	2.9
I can't remember	2	1.9
Total	105	100.0

.Table 21 above showed that more than half of the respondents 62(57.1%) stated that they perceive that adherence to ART regimen can only be possible if you have the full support of the significant others, 38(38.1%) reported that they do not perceive that adherence to ART regimen can only be possible if you have the full support of the significant others while 3(2.9%) stated that they will inquire and the remaining 2(1.9%) couldn't remember.

Do you perceived that regular adherence to ART regimen would disallow the spread of HIV to your contacts	Frequency	Percentage
Yes, I do	59	56.2
No, I do not	45	42.9
I will inquire	1	0.95
Total	105	100.0

Findings from table 22 above showed that more than half of the respondents perceive that regular adherence to ART regimen would disallow the spread of HIV to their contacts while 45(42.9%) of the respondents does not perceive that regular adherence to ART regimen would disallow the spread of HIV to their contacts and the remaining 1(0.95%) of the respondents stated that they will inquire.

Do you perceive that regular adherence to ART regimen would enable you to maintain your health status	Frequency	Percentage
Yes, I do	80	76.2
No, I do not	20	19.0
I will inquire	3	2.9
I can't remember	2	1.9
Total	105	100.0

Majority of the respondents in the table above 80(76.2%) stated they perceive that regular adherence to ART regimen would enable them to maintain their health status followed by 20(19%) of them who stated they do not that regular adherence to ART regimen would enable them to maintain their health status, 3(2.9%) stated they will inquire while the remaining 2(1.9%) can't remember.

Do you perceive that adherence to ART regimen would assist you in retaining your job status	Frequency	Percentage
Yes, I do	70	66.7
No, I do not	30	28.6
I will inquire	3	2.9
I can't remember	2	1.9
Total	105	100.0

From the table above, it can be seen 70(66.7%) of the respondents stated that they perceive that adherence to ART regimen would assist them in retaining their job status, followed by 30(28.6%) who do not perceive that adherence to ART regimen would assist them in retaining their job status, 3(2.9%) will inquire and the remaining 2(1.9%) of them stated that they couldn't remember.

Do you perceive that adherence to ART regimen would enable you enjoying the fruit of your labour	Frequency	Percentage
Yes, I do	62	57.1
No, I do not	38	38.1
I will inquire	3	2.9
I can't remember	2	1.9
Total	105	100.0

As seen from the table above, majority of the respondents 62(57.1%) believed that adherence to ART regimen would enable them enjoying the fruit of them labour, followed by 38(38.1%) of the respondents who do not perceive that adherence to ART regimen would enable them enjoying the fruit of their labour, 3(2.9%) said they will inquire and the remaining 2(1.9%) of them couldn't remember.

Do you perceive that adherence to ART regimen would remove HIV/AIDS stigma in your life because regular intake of your drug would disallow the community from knowing you are retroviral positive	Frequency	Percentage
Yes, I do	50	47.6
No, I do not	52	49.5
I will inquire	2	1.9
I can't remember	1	0.95
Total	105	100.0

Result from the table above revealed that 52(49.5%) of the respondents do not perceive that adherence to ART regimen would remove HIV/AIDS stigma in their life because regular intake of the drug would disallow the community from knowing they are retroviral positive while 50(47.6%) reported that they believe adherence to ART regimen would remove HIV/AIDS stigma in their life because regular intake of the drug would disallow the community from knowing they are retroviral positive and only 2(1.9%) of them stated that they will inquire.

Do you perceive that adherence to ART regimen would reduce the incidence and prevalence of mortality and morbidity among PLWHA	Frequency	Percentage
Yes, I do	82	78.0
No, I do not	15	14.3
I will inquire	5	4.8
I can't remember	3	2.9
Total	105	100.0

From the table above, it can be seen 82(78%) of the respondents stated that they perceive that adherence to ART regimen would reduce the incidence and prevalence of mortality and morbidity among PLWHA, followed by 15(14.3%) who do not perceive that adherence to ART regimen would reduce the incidence and prevalence of mortality and morbidity among PLWHA, 5(4.8%) of them stated they will inquire and the remaining 3(2.9%) couldn't remember.

SECTION D: Determinants of respondents' adherence to ART regimen

Do you think your income, education and literacy can affect your adherence to ART regimen	Frequency	Percentage
Yes, I do	70	66.7
No, I do not	30	28.6
I will inquire	3	2.9
I can't remember	2	1.9
Total	105	100.0

From the table above, it can be seen 70(66.7%) of the respondents stated that they think their income, education and literacy can affect their adherence to ART regimen, while 30(28.6%) stated that they do not think their income, education and literacy can affect their adherence to ART regimen, 3(2.9%) will inquire and the remaining 2(1.9%) of them stated that they couldn't remember.

Do you think that lack of appropriate health insurance scheme would affect your adherence to ART regimen	Frequency	Percentage
Yes, I do	80	76.2
No, I do not	20	19
I will inquire	3	2.9
I can't remember	2	1.9
Total	105	100.0

Majority of the respondents in the table above 80(76.2%) stated they think that lack of appropriate health insurance scheme would affect their adherence to ART regimen followed by 20(19%) of them who stated they do not think that lack of appropriate health insurance scheme would affect their adherence to ART regimen, 3(2.9%) stated they will inquire while the remaining 2(1.9%) can't remember

socio demographic determinants

Do you think that your decision and perception over treatment outcome can affect your adherence to ART regimen	Frequency	Percentage
Yes, I do	62	57.1
No, I do not	38	38.1
I will inquire	5	4.8
Total	105	100.0

As seen from the table above, majority of the respondents 62(57.1%) believed that their decision and perception over treatment outcome can affect their adherence to ART regimen, followed by 38(38.1%) of the respondents who do not think that their decision and perception over treatment outcome can affect their adherence to ART regimen, and the remaining 5(4.8%) of them stated they will inquire.

Psychological determinants

Do you think that emotional distress and substance abuse can affect your adherence to ART regimen	Frequency	Percentage
Yes, I do	70	66.7
No, I do not	30	28.6
I will inquire	3	2.9
I can't remember	2	1.9
Total	105	100.0

From the table above, it can be seen 70(66.7%) of the respondents stated that they think that emotional distress and substance abuse can affect their adherence to ART regimen, while 30(28.6%) stated that they do not think that emotional distress and substance abuse can affect their adherence to ART regimen, 3(2.9%) will inquire and the remaining 2(1.9%) of them stated that they couldn't remember

Psychological determinants

Do you think that forgetfulness can affect your adherence to ART regimen	Frequency	Percentage
Yes, I do	70	66.7
No, I do not	30	28.6
I will inquire	3	2.9
I can't remember	2	1.9
Total	105	100.0

From the table above, it can be seen 70(66.7%) of the respondents stated that they think that forgetfulness can affect their adherence to ART regimen, while 30(28.6%) stated that they do not think that forgetfulness can affect their adherence to ART regimen, 3(2.9%) will inquire and the remaining 2(1.9%) of them stated that they couldn't remember.

Treatment determinants

Do you think that complexity of the ART regimen would affect your adherence to ART regimen	Frequency	Percentage
Yes, I do	62	57.1
No, I do not	38	38.1
I will inquire	3	2.9
I can't remember	2	1.9
Total	105	100.0

As seen from the table above, majority of the respondents 62(57.1%) believed that the complexity of the ART regimen would affect their adherence to ART regimen, followed by 38(38.1%) of the respondents who do not think that complexity of the ART regimen would affect their adherence to ART regimen, and the remaining 5(1.4.8%) of them stated they will inquire.

Knowledge score	Frequency	Percentage
0-5, poor knowledge	5	4.8
6-10, good knowledge	100	95.2
Total	105	100.0

A higher number of the respondents 95.2% of the respondents has good knowledge of adherence to antiretroviral regimen while only 4.8% of them has poor knowledge of adherence to antiretroviral regimen.

SECTION E: TESTING OF RESEARCH HYPOTHESIS

First hypothesis: There is no significant relationship between the attitude and perception towards adherence and the patient-level factors contributing to adherence of antiretroviral regimen.

Do you perceive that adherence to ART regimen would suppress the viral load in your blood	Do you think your income, education and literacy can affect your adherence to ART regimen							
	Yes, I do	No, I don't	I will inquire	I can't recall	Total	Chi square	Df	P-value
Yes, I do	45(43.9%)	18(31.6%)	14(24.6%)	0(0.0%)	77(100%)	25.610	2	0.000
No, I don't	15(46.4.0%)	9(54%)	0(0.0%)	0(0.0%)	24(100%)			
I will inquire	4(100%)	0(0.0%)	0(0.0%)	0(0.0%)	4(100%)			
Total	64(84.7%)	27(84%)	14(24.6%)	0(0.0%)	105(100%)			

It can be seen from the table above shows that there is a good relationship between the attitude and perception towards adherence antiretroviral regimen and the patient-level factors contributing to adherence of antiretroviral regimen(chi -square =25.610, p-value <0.05)decision: since the calculated value is more than the tabulated value, we therefore reject the null hypothesis and conclude that the patient-level factors has a positive influence on the attitude and perception towards adherence of antiretroviral

Second hypothesis: There is no significant relationship between the attitude towards adherence and the health institution-level factors contributing to adherence of antiretroviral regimen

Do you perceive that adherence to ART regimen would suppress the viral load in your blood	Do you know that negative attitude of health care workers can be a barrier to adherence to ART regimen						
	Yes I do	No, I don't	I can't recall	Total	Chi square	Df	P-value
Yes I do	20(85.1%)	1(61.9%)	1(4.8%)	21(100.0%)	21.115	9	0.002
No I don't	16(34.0%)	15(31.9%)	14(29.8%)	47(100.0%)			
I will inquire	11(28.9%)	11(28.9%)	8(21.1%)	35(100.0%)			
I cant recall	0(0.00%)	2(38.0%)	0(0.00%)	2(100.0%)			
Total	34(31.5%)	41(100.0%)	23(21.3%)	105(100.0%)			

There is also a statistical significant relationship between relationship between the attitude and perception towards adherence antiretroviral regimen and do you know that negative attitude of health care workers can be a barrier to adherence to ART regimen (chi -square =21.115, p-value >0.05) this indicated negative attitude of healthcare workers has a great influence on the attitude and perception towards adherence antiretroviral regimen

DISCUSSION

This study was carried out to assess the determinant factors contributing to adherence to the antiretroviral regimens of people living with HIV/AIDS attending Babcock University Teaching Hospital. Data was collected through the use of structured self-administered questionnaires with closed-ended questions and was analyzed using SPSS version 21.

However, the findings of this study showed that a greater majority of the respondents were female and most of them were married, also a higher number of them have had up to tertiary education in which most of the respondents were from the Yoruba ethnic group. And also quite a number of the respondent's average monthly income falls within the range of 50,001-100000naira. This is in line with the findings of Ojelade, Aiyedun and Aregebesola, (2019) agreed that both educated married male and female are aware of the happenings in their environment.

Furthermore, a greater majority of the respondents were fully aware that they are aware that the ART regimen is used to suppress the viral load of HIV/AIDS, also More than half of the respondents agreed to the fact that they can easily forget their ART regimen, more of the respondents believed that ART regimen will help in enabling them to even live longer than they expect. The majority of the respondents stated that they are fully aware that the use of illicit drugs and alcohol consumption has significantly resulted in non-adherence of respondents to ART regimens. More, so it was reported that a higher number of the respondents has good knowledge of adherence to an antiretroviral regimen

More than half of the respondents perceive that regular adherence to ART regimen would disallow the spread of HIV to their contacts, quite a number of the respondents do not perceive that adherence to ART regimen would remove HIV/AIDS stigma in their life because regular intake of the drug would disallow the community from knowing they are retroviral positive and also a greater majority of the respondents stated that their income, education, and literacy can affect their adherence to ART regimen,

Also, most of the respondents believed that the lack of appropriate health insurance scheme, emotional distress, and substance abuse, and forgetfulness can affect their adherence to the ART regimen

Furthermore, result from the chi-square analysis revealed that patient-level factors contributing to adherence to antiretroviral regimen are statistically significant to the attitude and perception towards adherence to antiretroviral regimen by the respondents which implies that means that the patient-level factors have a positive influence on the attitude and perception towards adherence of antiretroviral, also the negative attitude of health care workers was found to be highly significant to the attitude and perception towards adherence antiretroviral regimen by the respondents which also implies that the attitude of healthcare workers has a great influence on the attitude and perception towards adherence antiretroviral regimen

CONCLUSION

Generally, the level of knowledge and adherence reported in this study was high But more attention needs to be given attention to health insurance schemes and some other institutional factors that hinder the PLWHA from adhering to the ART regimen. . Several factors that could affect adherence were analyzed. Some of these factors, including stigmatization, financial constraint, the attitude of health workers, and experience of illness in the past months were associated with adherence of patients to ART Some forms of encouragement should also be given in terms of seminars against the

stigmatization of PLWHA. The other important factors related to optimal adherence include knowledge about HIV disease and antiretroviral therapy, disclosure of one's HIV status, social support, and use of reminders. Besides, perception of the patient-provider relationship and clinical setting aspects such as perception on confidentiality of information, convenience with appointment schedules, and attitudes of health workers were found to be significantly associated with adherence to antiretroviral therapy. Forgetfulness, the complexity of the ART regimen, and running out of medication pills were identified as the most common reasons for the patients to miss their HIV medications.

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