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ORIGINAL ARTICLE

Gender Differences in Experiences of Adherence to HIV/AIDS Management among HIV-Positive Adults attending a Tertiary Hospital in Rivers State, Nigeria

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Keywords

Adherence;

Experiences;

Gender differences;

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ABSTRACT

Background: Adherence to HIV/AIDS management is the fundamental mechanism for ending HIV/AIDS by 2030. Rivers State has the third-highest HIV/AIDS burden in Nigeria. This study aimed to gain insights into the gender differences in experiences of adherence to HIV/AIDS management among HIV patients attending the University of Port Harcourt Teaching Hospital, Rivers State Nigeria.

Methods: A qualitative study design was carried out among 24 adult HIV positive patients who were purposively selected. Four focus group discussions were conducted with six participants in each group (2-male groups and 2-female groups). Each session was audio-recorded with consent from participants, transcribed verbatim, and exported into ATLAS. Ti version-12 software for analysis. Results were presented in tables and diagrams, highlighting codes and quotations.

Results: The majority of respondents were within 30-39 years. Most participants understood adherence as the timely ingestion of antiretroviral medications. The commonest reasons for non-adherence among the female gender were shame, poor attitude of healthcare workers, lack of support from discordant spouses/partners, and long waiting times at the clinic. While the male gender reported financial constraints and fear of being embarrassed or stigmatized.

Conclusion: This study revealed the socio-cultural, economic, and psychosocial factors influencing adherence to HIV/AIDS management. Hence solutions proffered by discussants such as improving on personal efforts, disclosure to trusted persons, friendly behaviour of healthcare workers, family and spousal support should be considered by healthcare facilities, donor organizations, and the government.

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INTRODUCTION

Globally, the human immunodeficiency virus and acquired immune deficiency syndrome (HIV/AIDS) has been a major problem of public health importance, despite the progress made to address the pandemic through programmes, strategies, and policy development, especially in the last decade.[1,2] The core principles of HIV/AIDS programmes are to ensure that the prevention, treatment, care and support services are universally available, accessible and affordable to all people living with HIV/AIDS (PLWHA) in terms of

equality, equity, and social justice.[3,4] Regardless of the remarkable decline in the incidence and mortality rates of HIV/AIDS worldwide, adherence to treatment, care and support among PLWHA is higher in the western world than in low socio-economic settings.[5] However, the female gender compared to the male gender has shown higher prevalence, incidence and mortality rates but lower adherence and virologic suppression levels among PLWHA.[6–8] This may not be far-fetched from the gender inequality women experience in accessing health care services and adhering to treatment, especially in developing countries.[9,10] Additionally, the human rights of women are violated every day, as several of them are dependent on their male partners to provide the basic needs of life due to poverty, low female empowerment, inequalities in wealth and poor decision making power.[7,8] Also, economically deprived women are more likely to indulge in risky sexual behaviours to make ends meet, as they are unlikely to have access to HIV/AIDS information, and services, negotiate safe sex, control their sexuality, compared to their male contemporaries.[11,12]

Gender, a society's shared belief in the socio-cultural, psychological and behavioural traits that distinguish males from females plays a vital role in defining disparities in HIV/AIDS management.[13] This consequently influences adherence to HIV/AIDS treatment, care and support, knowing their status, achieving viral suppression, and retention in care.[10,14] Adherence to HIV/AIDS management is the consistently and accurately ingestion of antiretroviral therapy (ART), sticking to the scheduled appointments, nutritional plan, lifestyle modification, laboratory investigations, family and social support to reduce drug resistance and achieve virologic suppression.[15] The disparity in the level of adherence to ART disproportionately affects women especially those within the reproductive age compared to their male counterparts.[10] This suboptimal adherence level in the female gender can be attributed to the diverse cultural beliefs and practices in the various ethnic groups existing in sub-Saharan Africa.[16,17]

At the end of 2020, the total number of PLWHA was 37.7 million, with 1.5 million newly infected persons and a mortality of 680 000. However, within the adult population; 36.0 million PLWHA, 1.3 were newly diagnosed and 580,000 died from HIV/AIDS-related diseases. Of all PLWHA 84% [67– >98%] were aware of their status, 73% [56–88%] were accessing ART, while only 66% [53–79%] had achieved virologic suppression.[18] Only eight countries had reached the Joint United Nations Programme on HIV/AIDS (UNAIDS) 90-90-90 treatment target (Swaziland, Switzerland, Rwanda, Qatar, Botswana, Slovenia, Uganda, Malawi) and are currently on track towards achieving UNAIDS 95-95-95 target and eradicate the pandemic by the year 2030.[18] Nigeria, being the second largest HIV/AIDS burden in Africa only next to South Africa and the third in the world only behind India and South Africa, has a prevalence rate of 1.4% (women - 1.9%; men - 1.1%) and viral suppression of 44.5% (men - 40.9%; women - 46.2%).[19] The country is yet to achieve the UNAIDS 2015 90-90-90 treatment target and is still far from actualizing the current "95-95-95" treatment target. Moreover, the south-south region a multi-ethnic, oil-rich zone where the study area is located has the highest prevalence rate of 3.1% and the lowest virologic suppression level

(31.1%; males - 27.2%, females - 33.3%) among HIV-positive adults aged 15-64 in the country. Rivers State, with a prevalence rate of 3.8% is currently the third-highest burden in the country, almost thrice the national value with a virologic suppression level of <28%.[19] This may be tantamount to the fact that PLWHA within the study area still encounters diverse socio-cultural, economic and psychosocial barriers to HIV/AIDS management and consequent virologic non-suppression.[19]

This study aimed to assess the gender differences in the experiences of adherence to HIV/AIDS management among patients attending the University of Port Harcourt Teaching Hospital, Rivers State Nigeria. Findings from this study will enable key stakeholders (health care providers, donor agencies and healthcare policy-makers, etc.) to understand the challenges to ART adherence among patients with HIV/AIDS. Additionally, this will enhance the implementation of holistic client-oriented, community-driven interventions that will promote access to ART, achieve long-term adherence, virologic suppression, improve the well-being and life expectancy of the patients.[20]

METHODOLOGY

Study Area

The study was conducted in November 2020 at the University of Port Harcourt Teaching Hospital (UPTH) located in Alakahia, Obio-Akpor LGA, Rivers State Nigeria. The hospital is a 950-bed tertiary health facility with sixteen clinical departments. This health facility provides care for in-patient, out-patient, and emergency services. It serves as a referral point for primary and secondary health facilities in the state. The adult ARV therapy clinic in UPTH serves as the hub of HIV/AIDS management in the state, handling over 60% of the disease burden. It is the major referral centre for PLWHA due to the presence of multi-disciplinary experts. Records from the clinic register in the last 12-months before the study was conducted showed that an average monthly attendance of 2640 patients [males-792 (30%); females-1848 (70%)] at the ARV therapy clinic, while on each clinic day about 124 of them were seen.

Study Design

This qualitative descriptive study employed the grounded theory methodology[21] to gain insights into the gender differences in experiences in adherence to HIV/AIDS management among patients managed at the University of Port Harcourt Teaching Hospital, Rivers State Nigeria.

Study population

The study population were all HIV-positive adults (≥18-years) on ART attending the adult ARV therapy clinic in UPTH.

Eligibility Criteria

All HIV-positive adults (≥18-years) on ART with documented viral load measurements done in the last 6-12 months attending the ARV therapy clinic in UPTH were included in the study. While those who met the inclusion criteria but were too ill and required admission into the accident and emergency ward were excluded from the study.

Sample Size Determination

Previous analyses have shown that 3-6 focus groups are adequate to identify and discover 90% of all or most prevalent themes within a given data

set, thus sufficient to reach saturation for grounded theory studies.[11,21,22]

Sampling Technique

The purposive (non-probability) sampling method was employed to recruit HIV-positive adults on ART attending ARV therapy clinic in UPTH who met the inclusion criteria in November 2020, until the sample size was reached. A total of four FGDs sessions were conducted, two groups for males and two groups for females.

Data Collection

A study guide was used to obtain information on the sociocultural, socioeconomic, and psychosocial experiences of participants. Questions in the FGD guide were adapted from a previous study.[11] The questions below were used to assess the problems PLWHA face and their experiences while taking their treatment and attending clinic appointments. The topics for discussion were: What do you understand by adherence to HIV/AIDS management? What do you think are the factors (sociocultural, economic, psy-chosocial) that influence adherence to HIV/AIDS management? Give us examples of some of the experiences you had that influenced your adherence to treatment and attending clinic appointments? Tell us the ways you think these factors can be addressed?

Consent was obtained from all selected participants in each group before the start of the session. Discussants were identified based on the first letter of their first names and the colour of clothing he/she was wearing during the FGD session. Each session was taped with an audio recorder, lasting for between 30-45 minutes. The questions were asked in clear English language and translated into pidgin, while the researcher and research assistant wrote down key responses of each participant.

Data analysis

Completed audio recordings were assigned identification numbers and stored on a password-protected computer. Findings from each recording were summarized, transcribed verbatim, and entered into Microsoft word before being exported into ATLAS. Ti version-12 software for thematic content analysis. The transcripts were read by the researchers repeatedly to identify common views which were presented on tables and diagrams, highlighting the codes and quotations.

Ethical approval

Ethical clearance was obtained from the Research Ethics Committee of the University of Port Harcourt Teaching Hospital with the approval number: UPTH/ADM/90/S.II/ VOL.XI/885. Written informed consent was obtained from each participant before commencing the discussion. The objectives of the study were explained to the respondents in clear terms with the option to participate or not and to willingly refrain from answering any questions they were not comfortable with. Anonymity and absolute confidentiality were guaranteed by the use of colour-coded names during the discussion. Adherence counselling was offered after each focus group discussion session.

RESULTS

Table 1 shows that a total of 24 participants (12 males and 12 females), six in each of the four focus groups were selected. Participants between the

Table 1: Characteristics of participants

Variables	Males (n=12) n (%)	Females (n=12) n (%)
Age (years)		
<20	3 (12.5)	0 (0.0)
20-29	3 (12.5)	5 (20.3)
30-39	4 (16.7)	5 (20.3)
≥ 40	2 (8.3)	2 (8.3)
Marital status		
Single	3 (12.5)	0 (0.0)
Married	4 (16.7)	7 (29.2)
Divorced	1 (4.2)	3 (12.5)
Widowed	4 (16.7)	2 (8.3)
Religion		
Christianity	10 (41.7)	11 (45.8)
Islam	2 (8.3)	1 (4.2)
Ethnicity		
Igbo	3 (12.5)	3 (12.5)
Yoruba	2 (8.3)	1 (4.2)
Hausa	1 (4.2)	1 (4.2)
Ijaw	0 (0.0)	1 (4.2)
Ikwerre	2 (8.3)	0 (0.0)
Etche	1 (4.2)	1 (4.2)
Ogoni	0 (0.0)	2 (8.3)
Eleme	0 (0.0)	1 (4.2)
Ekpeye	1 (4.2)	0 (0.0)
Ogba	0 (0.0)	1 (4.2)
Kwale	1 (4.2)	0 (0.0)
Ibibio	0 (0.0)	1 (4.2)
Anang	1 (4.2)	0 (0.0)
Place of residence		
Urban	8 (33.3)	5 (20.3)
Semi-urban	2 (8.3)	3 (12.5)
Rural	2 (8.3)	4 (16.7)
Level of education		
No education	0 (0.0)	2 (8.3)
Primary	3 (12.5)	3 (12.5)
Secondary	4 (16.7)	4 (16.7)
Tertiary	5 (20.3)	3 (12.5)
Occupation		
Business/Trading	2 (8.3)	7 (29.2)
Artisan	2 (8.3)	2 (8.3)
Civil service	3 (12.5)	1 (4.2)
Retiree	2 (8.3)	0 (0.0)
Farming	0 (0.0)	1 (4.2)
Students	2 (8.3)	0 (0.0)
Unemployed	1 (4.2)	1 (4.2)
Drug regimen		
First line	6 (25.0)	4 (16.7)
Second line	6 (25.0)	8 (33.3)

Table 2: Respondents' understanding of the meaning of adherence to HIV/AIDS management

Codes	Quotation content Females	Quotation content Males
Positive mind set		*"It is having a positive mind set"* (Male/32 years, FGD 1)
Personal hygiene and a clean environment		*"It is maintaining good personal hygienic and clean environment"* (Male/45years, FGD 2)
Avoiding alcohol and non-prescribed drugs		*"Avoiding alcohol and drugs not prescribed by your doctor"* (Male/22years, FGD 1)
Spousal support	*"It is disclosing to the spouse to get his support"* (Female/32years, FGD 1)	
Taking medications timely	*"Maintaining a particular time for taking the drugs"* (Female/39years, FGD-2) *"It is taking your drugs at the right time"* (Female/23years, FGD 2) *"It is taking your drugs at the right time"* (Female/26years, FGD 1) *"Making sure you don't miss any dose of your drugs"* (Female/35years, FGD 2)	*"It is taking drugs every day at the right time"* (Male/ 65years, FGD 1) *"It is when I take my drugs at 8 am every day"* (Male/65years, FGD 1) *"It is taking drugs regularly"* (Male/34years, FGD 1)
Eating balanced diet	*"It is eating a balanced diet"* (Female/35years, FGD 1) *"Drinking enough water, eating plenty of fruits and vegetables"* (Female/29years, FGD 1)	*"Eating good foods"* (Male/28years, FGD 2)
Keeping to clinic appointments	*"It means coming to the clinic early at every appointment for drugs"* (Female/59years, FGD 2) *"Visiting the clinic on your dates"* (Female/46years, FGD 1)	*"Keeping to clinic appointments"* (Male/19 years, FGD 2)

ages of 30 and 39 years (males-4, females-5) had the highest proportion, while those aged <20 years (males-3; females-0) had the least proportion. The information on the drug regimen showed that 10 (41.7%) were on the first-line regimen (males-6, females-4), while 14 (58.3%) were on the second-line regimen (males-6, females-8).

Respondents understanding of the meaning of adherence to HIV/AIDS management

Table 2 shows the responses of discussants on their understanding of the meaning of adherence to HIV/AIDS management. The common definitions given by both the male and female gender were; taking

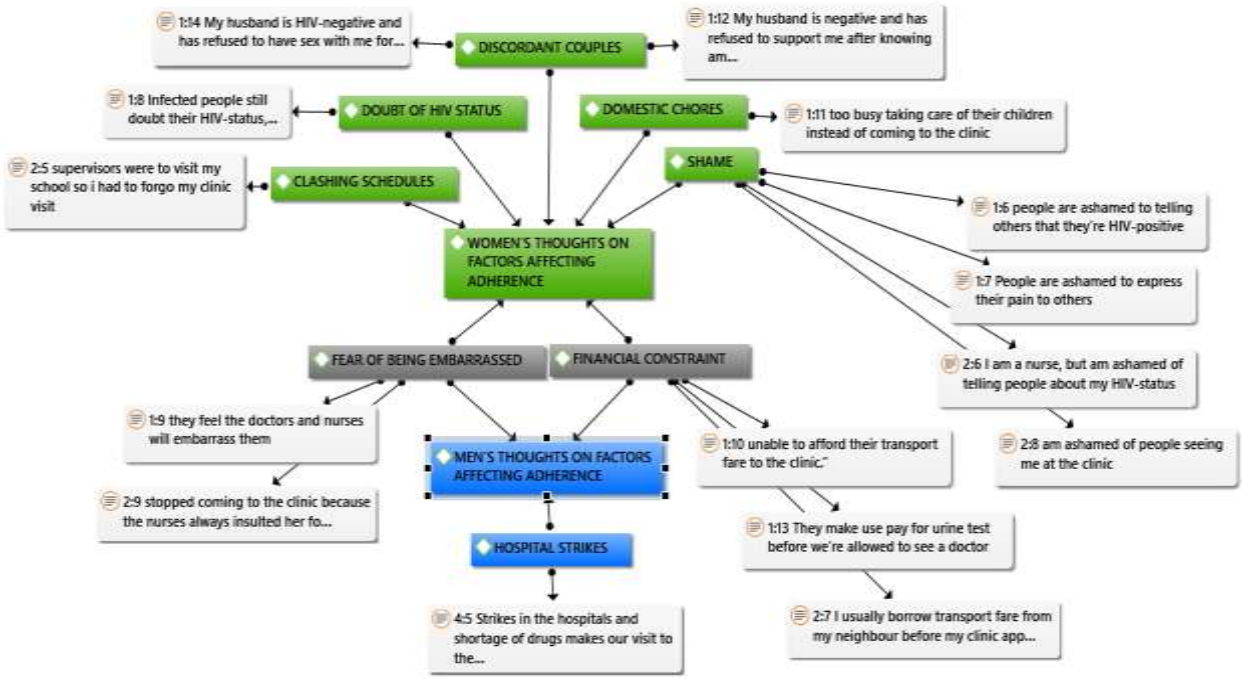

Figure 1: Factors influencing adherence to HIV/AIDS management

ARTs timely, eating a balanced diet and keeping to clinic appointments. While having a positive mindset, maintaining personal hygiene, clean environment, avoiding alcohol and non-prescribed drugs were responses given by only the male gender. However, having spousal support was the striking response the female gender gave as their definition for adherence to HIV treatment, care & support.

Figure 1 shows the responses discussants gave as factors influencing adherence to HIV/AIDS management. The common comments made by both the male and female gender were; fear of being embarrassed and financial constraints. In addition to these, the female gender mentioned that denial/doubt of HIV status, having a discordant spouse, domestic chores, engaging in schedules that clashed with their clinic visits and shame of being seen by people they know at the ARV therapy centres were other factors that deterred them from adhering to their treatment and clinic appointments. On the other hand, the male gender said that the incessant industrial strikes by the hospital personnel were one of their main reasons for non-adherence to treatment, care and support.

Table 3 shows the discussants' experiences on the factors influencing adherence to HIV treatment, care and support. Financial constraints in accessing the ARV therapy clinic and paying for HIV services in the past was the only common response made by the male and female gender. While the male gender gave heartbreaking experiences of being angry and denying their HIV status following diagnosis, how they lost job opportunities of being employed or dismissed from their place of work because of their HIV status, and the maltreatment they received from healthcare workers at the ART centre. The additional experiences of the female gender were; the long

Table 3: Discussants' experiences on factors influencing adherence to HIV/AIDS management

Codes	Quotation content Females	Quotation content Males
Long waiting hours at the clinic	*"My friend complained that it's a waste of time coming to the clinic because of the long time we spend here"*(Female/35years, FGD 2) *"They are telling me they cannot find my folder; they are wasting my time the more"* (Female/23years, FGD 2)	
Lack of spousal support	*"My husband run leave me after dem tell am say I get HIV"* (Female/31years, FGD 1) *"My husband does not support me"* (Female/29years, FGD 1)	
Denial		*"In the past, I refused to accept I had the virus, not to talk of taking the drugs until I broke free"* (Male/36years, FGD 1)
Being stigmatized		*"People are stigmatized even when they are successful in a job interview, the management look lay them off they are HIV-positive."* (Male/34years, FGD 2) *"I work offshore but I have been forced to stay at home for 8 months with pay after they found out am HIV-positive"* (Male/45years, FGD 2)
Poor attitude of health workers		*"Sometimes, health workers talk to us rudely and this affects us feel very badly"* (Male/32years, FGD 1) *"One of the nurses told a patient; Nah me make you get HIV?"* (Male/19years, FGD 2) *"If you don't have the money, they will abandon you and attend to another person"* (Male/28years, FGD 2)
Financial constraints	*"I didn't have money to come to the clinic"* (Female/46years, FGD 1)	*"They made us pay to see the doctor and urine test, it affected my coming to the clinic"* (Male/36years, FGD 1)
Anger		*"20-years I was angry that my husband infected me and died of HIV I felt bad and angry"* (Male/65years, FGD 1)

waiting time at the ARV therapy clinic and lack of support from their discordant spouses.

Figure 2 shows that both the male and female gender commonly advocated support from healthcare workers, family members and personal efforts of HIV-positive clients as ways to address the factors influencing adherence to HIV/AIDS management. Additionally, the female gender encouraged the need for disclosure of HIV status

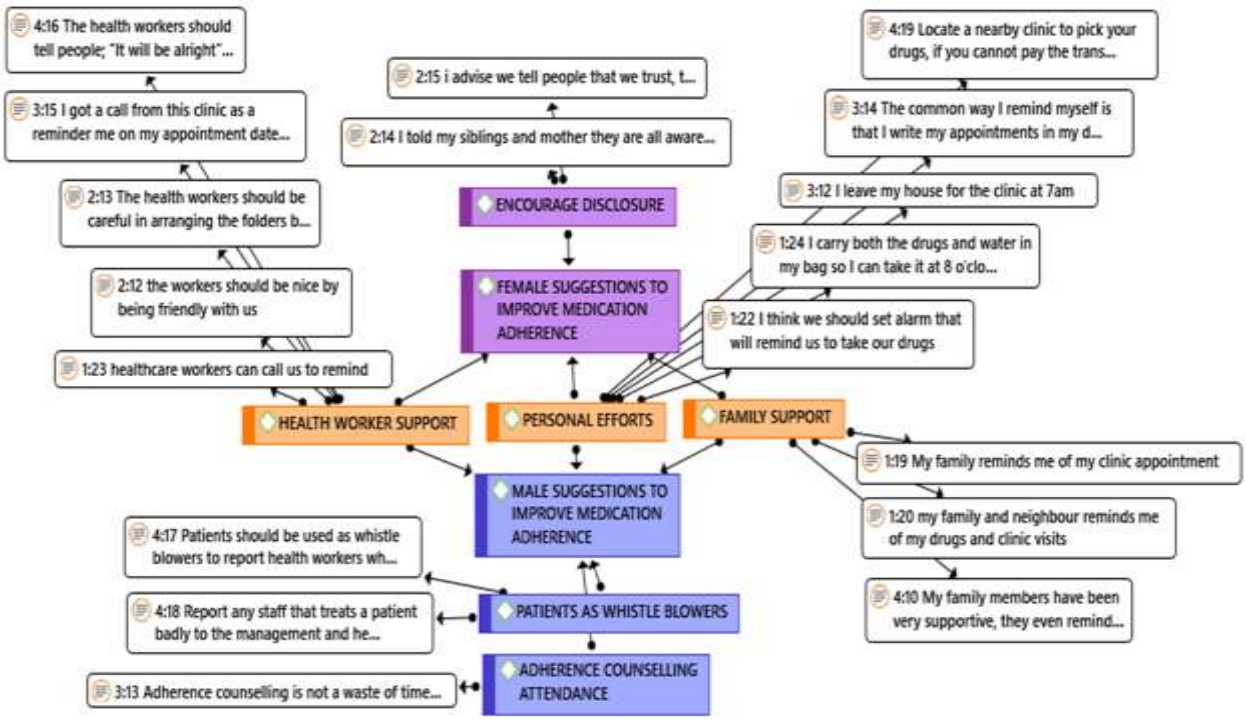

Figure 2: Ways to address factors influencing adherence to HIV/AIDS management

to trusted persons. While the male gender suggested that PLWHA should attend adherence counselling sessions and be used as whistleblowers to identify healthcare workers who discriminate against them and report such conduct to hospital management.

DISCUSSION

The qualitative data from the focus group discussion sessions held with participants showed diversity in opinions on the psychosocial, sociocultural, and economic experiences of the male and female discussants. Findings from this study revealed that discussants did not understand the appropriate meaning of adherence to HIV/AIDS management. However, the common responses of both genders were; taking medications timely, eating a balanced diet, and keeping to clinic appointments. The differing opinions of the male gender were; having a positive mindset, good personal hygiene and a clean environment. Similar responses were reported in a study done in Nigeria where adherence was defined as the magnitude to which PLWHA take their prescribed ART.[23] Another study carried out in Ethiopia reported adherence as going beyond taking medications regularly and included the ability to cope with the challenges associated with receiving ART, improved access to treatment, job and food security.[24] In other studies conducted in Uganda [30] and the United States of America,[31] adherence was commonly defined as taking ART at a scheduled time every day of the client's life in addition to eating healthy diets. On the other hand, the female gender defined adherence as having spousal support. Similar observations were made in other studies where adherence was defined as getting emotional support from their spouses and friends.[25,26] This study showed gender differences in the definition

of adherence, although none of the discussants gave an appropriate meaning as documented by Kay et al[27] Poor understanding of the meaning of adherence can be associated with suboptimal adherence level, health and socio-economic consequences.

Findings from the discussants' opinions on the factors influencing adherence revealed that fear of being embarrassed and financial constraints were the common factors reported by both the male and female gender; even though almost all the HIV support services in the study area are funded by the Institute of Human Virology (IHVN) and the Rivers State Government. However, studies have shown that financial constraints occur in the form of the inability of PLWHA to afford their transportation fare on scheduled clinic appointments.[28,29] This is mostly experienced by patients in developing countries who are of low socio-economic class. This is in concordance with studies conducted in south-west [30] and south-south [31] regions of Nigeria where HIV-positive patients with higher income levels adhered better to their treatment compared to those who earned lower income. Regarding respondents' fear of being stigmatized by friends and relatives, similar observations were reported in studies conducted in Tanzania,[32] Botswana,[33] and Nairobi[34] showed that respondents were unable to consistently stick to their medications due to fear of being seen at the ARV therapy treatment centre. Responses made by the female gender are similar to a study conducted in South Africa, Tanzania, and Ukraine which observed busy schedules due to domestic chores, lack of spousal support, and delay in accepting HIV status as major deterrents to adherence to treatment. Additionally, the male gender reported a varying opinion that the incessant industrial strike actions within the health sector, movement restrictions and lockdowns during the peak of the COVID-19 pandemic were the main reasons for non-adherence to treatment among PLWHA. Even though these factors may negatively impact the adherence level of patients on ART, the present study revealed that most of the discussants especially among the female gender make personal efforts such as; borrowing money from their relatives and friends just to ensure they do not miss any of their scheduled clinic appointments. Also, the ARV clinic management in collaboration with donor agency (IHVN) send reminders through *Short Message Service* (SMS), mobile phone call and even send ARTs to locations closest to where patients can pick them up at no cost. These measures have shown to improve the adherence level of patients at the study.

The experiences discussants narrated as reasons for non-adherence to HIV/AIDS management do not differ from their earlier comments on the factors that influence adherence. Both the male and female gender recounted anger and religious beliefs as the commonest experiences they suffered in the course of their management in addition to financial constraints. These findings are in line with studies conducted in Nigeria with reports of patients who either deteriorated clinically, switched to second-line ARTs, or even died following refusal to take their medications because their religious leaders declared them cured after prayers were offered.[30,36] Another study carried out in the United Kingdom reported that Black Africans and Caribbeans were nonadherent to treatment due to anger of being infected with the virus, religious beliefs, and the fear of side effects of ART.[37] Concerning the

responses of the male gender, studies conducted in Nigeria,[38] Ethiopia,[39] Uganda,[40] Tanzania,[32] and the United Kingdom[37] revealed that most participants poorly adhered to their treatment because of the cruel treatment from healthcare workers, fear of being despised, detested and treated as outcasts by friends and relatives. The experiences recounted by the female gender on lack of support from their discordant spouses as well as long-waiting time at the treatment centres were recorded in studies carried out in Nigeria,[41,42] and other parts of Africa.[32,43,44] The varying experiences of both the male and female gender reveal bottlenecks to the achievement of optimal adherence to treatment, retention in care and subsequent virologic non-suppression among PLWHA if not duly addressed.

The common suggestions put forward by the male and female gender on ways to address non-adherence to HIV/AIDS management which mainly focused on personal efforts of PLWHA, support from family members and healthcare personnel are consistent with studies carried out in Nigeria.[15,23,38] The recommendations made by the female gender which mainly focused on encouraging disclosure of retroviral status to trusted friend/relative who also may serve as a treatment supporter(s) have also been documented in previous studies carried out in Nigeria,[45] Uganda,[46,47] Peru,[48] Puerto Rico,[49] and United States.[49] Furthermore, contributions made by the male gender on attending adherence counselling and using patients as whistleblowers will help the standard of operations within the treatment centre as healthcare providers will treat patients with empathy, noting that there are sanctions for misconduct. More so, the long waiting hours will reduce since measures will be put in place to regulate the clinic's opening and closing time. These findings are similar to the studies done in Nigeria[41,42] and Zimbabwe.[50] The free HIV support services rendered at the study area by the state government and the donor agencies at no cost will improve patients' consistency in keeping to scheduled clinic appointments, adherence counselling sessions, medications adherence with help of a treatment supporter, retention in care, optimal adherence and viral load suppression. Additionally, HIV-infected persons should be fully informed on their rights to live and work without stigmatization, discrimination, and never hesitate to take legal actions whenever their rights are invaded

Study Limitations

This study sought insights into factors influencing adherence to antiretroviral medication adherence among patients receiving treatment in a tertiary healthcare facility located in an urban area. Their views and experiences may differ from those receiving treatment from health facilities in rural settings and this should be explored.

Conclusion

It is evident that the sociocultural, socioeconomic, and psychosocial barriers still influence and limit ART medication adherence among patients receiving Anti-retroviral treatment. Ongoing progress to scale up treatment access and achieve viral suppression among PLWHA should also include the adaptation of support systems from family, friends, healthcare personnel, and other organizations.

Recommendations

Efforts should be made on eliminating the fear of non-disclosure, stigmatization, and discrimination by improving support systems from friends, spouses, family members, and the society at large. This can be achieved by modifying the model proposed by Kay et al[27] on steps in managing non-adherence to ART i.e. Diagnosis→ Linkage to care→ Retention in care→ Adherence to ART→ Viral suppression→ Sustained viral suppression.

These steps are influenced by 5 key predictors: Selecting the appropriate ART (early testing and treatment of majority with TDF+3TC+DTG to reduce side-effects; Dedication of the healthcare providers including; continuous adherence counselling, confidentiality, empathy, and avoidance of discrimination; Patient's involvement concerning; acceptance, understanding adherence and the will to survive; Promote social and family support (encourage disclosure, avoid stigmatization, improve support); and taking HIV/AIDS information and services to the doorsteps of PLWHA (ARTs, viral load testing, electronic adherence counselling).

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Authors' Contributions: AL conceptualized the study and collected data. TCU analyzed and interpreted the data. Both authors jointly read, discussed and drafted the manuscript.

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