ORIGINAL PAPER

Patients' perceptions on factors contributing to defaulting from antiretroviral treatment at a selected clinic in Vhembe District, Limpopo Province

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Abstract

Introduction: South Africa has the world's largest antiretroviral therapy (ART) program. However, a high default rate was observed in most districts of Limpopo Province among people living with human immunodeficiency virus (HIV) on antiretroviral treatment, which has an impact on the achievement of 95-95-95 strategy. In that strategy, the second and third 95s are retention into care and viral load suppression, which are severely affected. The current study seeks to determine patients' perceptions regarding the factors contributing to defaulting from antiretroviral treatment at a selected clinic. The study aim to explore and describe patients' perceptions on the factors contributing to defaulting from antiretroviral treatment. The study was conducted in a selected clinic in the Vhembe District.

Material and methods: A qualitative descriptive, exploratory, and contextual study design was used in this study. A non-probability purposive sampling method was applied to select adults living with HIV, who have defaulted from ART and were lost to follow-up. Unstructured individual face-to-face interviews were employed to collect data from 13 participants, and obtained data were evaluated using Tesch's eight-step data analysis.

Results: The findings of the study resulted in three themes: 1) challenges faced by patients while on ART; 2) social problems experienced by patients on ART; and 3) healthcare workers' attitudes contributing to patients defaulting from ART. The identified factors contributing to patients defaulting from ART included staff attitude, treatment side effects, lack of knowledge, and lack of family support.

Conclusions: Patients' defaulting from ART is a marker of poor adherence to treatment, leading to resistance. Healthcare system will continue to bear the burden of the disease affecting socio-economic status of the country and reduction in the life span of the population; therefore, these factors should be considered decisively.

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Introduction

South Africa has the largest human immunodeficiency virus (HIV) epidemic globally, with approximately 8.5 million people living with HIV (PLHIV) in 2022, and has the world's largest antiretroviral treatment (ART) program [1]. HIV prevention and treatment programs in South Africa were partially disrupted by the COVID-19 outbreak. According to the Statistic South Africa (Stats SA), the 2022 mid-year population estimates reported 60.6 million people living in the country, of which 8.5 million were PLHIV. Since 2017, South Africa has taken a huge step in ensuring that ARTs are funded from domestic resources; the country has been investing more than $1.54 billion annually to run its HIV programs [1]. The success of South Africa's ART program is evident in the increase of rate of national life expectancy: from 56 years in 2010 to 63 years in 2018 [2]. However, in 2021, life expectancy declined again after almost two decades due to the COVID-19 pandemic. Now, life expectancy improved by 0.8 years for men (60 years) and 1.4 years for women (65.6 years), an improvement observed since 2018.

On daily basis, about 4,000 people are infected with HIV, including 1,100 young people (15 to 24 years old) [1]. If this trend continue, 1.2 million new HIV infections will occur in 2025, as opposed to a 370,000 aim. Human toll of HIV research stagnation is terrifying. In 2021, one person per minute died due to acquired immune deficiency syndrome (AIDS)-related causes, totaling 650,000 (range, 500,000-860,000) deaths [3]. These are avoidable fatalities, given the availability of cutting-edge antiretroviral drugs and efficient methods to correctly prevent, detect, and treat opportunistic diseases, such as cryptococcal meningitis and tuberculosis [1]. During this era of universal test and treatment (UTT), where ART is provided for free at public institutions, deaths due to AIDS-related illnesses are supposed to be reduced substantially. Testing for HIV is also easy, ensuring that all public health institutions offer HIV counselling, testing services (HTS), and antiretrovirals (ARVs). However, most PLHIV who started ART are defaulting from treatment, which influence retention into care and viral load suppression and HIV program outcomes [4].

Adherence of 95% or more is required for people to reach an HIV undetectable level in their bodies [4]. Furthermore, a study conducted in Johannesburg, South Africa, indicated that some reasons for discontinuing or defaulting from treatment were relocation, use of traditional medicine or religious beliefs, fear of disclosure or other family barriers, and employment obstacles [5]. Moreover, a study conducted by Kim *et al.* in 2018 [5] also showed that 25% of patients who initiated ART were lost to follow-up (LTFU), which means they defaulted from treatment for more than 90 days, or died two years after starting the treatment. Another study conducted by numerous academics [6] had similar findings, revealing that most patients present late for care when qualifying for HIV and AIDS treatment. It was also discovered that most PLHIV were defaulting from ART mostly in their first six months of care, while 74% of them did not return within one year for their visit. The cumulative loss to follow-up rate for this clinic was 20.6% in 2015 [7].

Hence, a research study was needed to determine patients' perceptions on factors contributing to defaulting from antiretroviral treatment. The current study objectives were to explore and describe patients' perceptions regarding the factors contributing to defaulting from antiretroviral treatment, and answer the following question: What are the factors contributing to the increasing number of patients defaulting from ARV treatment in the Vhembe District primary healthcare clinic?

Material and methods

Study design and setting

The study was conducted at a selected primary healthcare clinic and patients' residence in Collins Chabane municipality in the Vhembe District, Limpopo Province, following all ethical principles, and obtaining permission from the Institutional Review Board of Limpopo Province. Collins Chabane municipality's primary healthcare (PHC) facilities are found in rural areas, and patients use gravel roads to access these facilities. Most patients walk for more than 5 km to access healthcare services, while they obtain a source of income from South African Social Security Agency and working on surrounding farms. The PHC clinics operate 7 days a week, from 7:00 am to 6:00 pm every day, and from 6:00 pm until 7:00 am for emergency cases only. There are dedicated days for different programs; patients are grouped according to their conditions and on that specific day, they are given priority. The selected PHC clinics started initiating patients on ART in the year 2010, while previously patients have been treated at a hospital only.

An exploratory, descriptive, and contextual qualitative research design was used in this study. This study design was chosen because it allows the researchers to explore and describe participant's existed experiences of the phenomenon under investigation, within natural circumstances, background, or environment, in which a participant, thing, or idea exists or occurs [8].

Population and sample size

Target population was adult patients living with HIV who were LTFU between January 2015 and January 2017 at a selected PHC clinic. A non-probability, purposive sampling was utilized to sample participants who had defaulted from treatment, to obtain first-hand information regarding their perceptions on the factors contributing to non-adherence to ART. Inclusion criteria were adult PLHIV who were 18 years and above, defaulted from ARTs, and considered LTFU in Three Interlinked Electronic Register (Tier.net) system. Tier.net system is a facility-based district health system used for capturing and monitoring PLHIV and TB cases. The researcher interviewed thirteen participants (*n* = 13), and data saturation was reached with this sample as there was no more new information provided by participants [9, 10].

Data collection procedure

An unstructured individual face-to-face interview was employed to collect qualitative data to extract rich, in-depth information from participants regarding their lived experiences and factors, which contributed to ART treatment defaulting. Interviews were audio-recorded and transcribed verbatim simultaneously during data collection. Participants were informed on the right to withdraw their consent for participation at any stage of the study. The researcher retrieved a list of LTFU patients, spoke to them on the phone, and arranged interviews with dates and times convenient for them. The interviews were conducted in private rooms, without interruptions. Numbers instead of participants' names were applied to ensure anonymity and confidentiality, and each interview lasted for 40-60 minutes. The central question was: "What are the factors contributing to defaulting from ART treatment in your clinic?" Clarity was sought through probing, followed by accurate paraphrasing of what participants were saying. Data were analyzed with Tech's eight-step qualitative analysis. Additionally, a pilot study was conducted in another PHC that was not part of the study, to enable the researcher to review and rephrase the question, ensuring that the central question was well-understood by participants and that quality data were collected.

Data analysis

In a qualitative research, data collection occur simultaneously with data analysis. Qualitative data are presented by using illustrative quotes, which are raw data indicating what participants have said [11]. Here, data were analyzed following Tech's eight-step qualitative analysis. The researchers transcribed data verbatim and started reading and re-reading while coding similar data using different colours [9]. During this stage, feelings and expressions of participants were added, as these facilitated exploration and description of the phenomenon under study. Also, the researcher identified, labeled, and extracted significant statements on the factors contributing to defaulting from ART. The researcher who collected data handed over the transcribed coded data to two other researchers to examine, code, and categorize the data. The two researchers were employed to ensure confirmability and credibility of data findings.

The researchers started to formulate meaning from the statements made by participants and discuss their findings for peer review to ensure that the meanings were consistent. Then, the researchers agreed on the same description, with few deviations, and a consensus was reached. Data were classified and categorized into themes. Field notes and transcribed data were shared with the experienced researcher in qualitative studies, to verify all processes undertaken during data collection; for quality assurance, feedback was provided and corrections were made. An exhaustive description of study findings was achieved by combining themes and describing them to create an overall meaning about factors contributing to ART defaulting by PLHIV. Member check was done to validate study findings by discussing the results with participants [12].

Trustworthiness in qualitative research

Measures to ensure trustworthiness were applied through criteria of credibility, transferability, dependability, and confirmability [13]. Credibility was ensured via prolonged engagement with participants in the field, until data saturation was reached. A complete clarification of research methodology used was ensured through transferability by the authors. Dependability was guaranteed by follow-up interviews of participants again after data saturation to see if they will produce the same results; audio recorder and field notes were kept in a locked cupboard. Confirmability was ensured by quoting all participants' responses to avoid interpretations of the researcher.

Ethical considerations

Ethical clearance was obtained from the University of South Africa, Department of Health Studies Higher Degree Committee, with the reference number of HSHDC/680/2017. The permission to conduct the study was obtained from the Limpopo Department of Health and Vhembe District PHC. Voluntary informed consent was acquired from all participants. The researchers who collected data, first explained the purpose of the study, procedures, and processes, and participant's rights with the right to withdraw from participating at any stage of the study, were explained to individuals. Audio tape and field notes were securely locked, and only the researcher who collected the data had access to it for control purposes. Numbers instead of participants' names were employed, and the name of the clinic was not mentioned to ensure anonymity of participants.

Results

After data analysis, three themes and eight sub-themes emerged, as presented in Table 1. The findings included: 1) challenges faced by the patients while on ART in the Vhembe District; 2) social problems experienced by ART patients in ethnic groups in the Vhembe District; and 3) healthcare workers' challenges contributing to patients defaulting from ART. The different themes and sub-themes

Table 1. Themes and sub-themes found in the study

No.	Themes	Sub-themes
1	Challenges faced by patients while on ART in Vhembe District	1.1 Side effects of ART
		1.2 False HIV-negative test results created by undetectable viral load amongst HIV-positive patients on ART
2	Social problems experienced by patients on ART among ethnic groups in Vhembe District	2.1 Participants' fear of stigmatization
		2.2 Lack of support from the family
		2.3 Fear of being seen by neighbors and community members while in the queue to collect ARVs
3	Healthcare workers contributing to patients defaulting from ART	3.1 Staff attitudes toward patients on ART
		3.2 Appointment date and time as a barrier to accessing ART
		3.3 Patients 'voices as a tool to reduce default rates

shown in Table 1 were discussed thoroughly, supported by the quotations from the participants.

Theme: Challenges faced by patients while on ART in Vhembe District

In this study, it was discovered that patients on ART experienced treatment side effects, and that they lacked knowledge on ART; therefore, the patients defaulted from treatments. Below, there are the sub-themes identified by the researchers.

Sub-theme 1.1: Side effects of ART

The study revealed that some patients stopped using ART due to side effects. They were not given sufficient information and counselling regarding side effects. Side effects experienced by the participants included skin conditions, bad dreams, and insomnia. A participant said:

"I used to see strange and scary things in my dreams, and I couldn't sleep well at all" (P7, 38 years old, female).

A participant who also experienced similar problem reported:

"When I take the ARV, I feel dizzy and irritable, and it caused me not to sleep once I wake up in the middle of the night after some bad dreams, it is difficult to sleep again" (P3, 42 years old, male).

In this study, four participants experienced side effects, and only one consulted about them but later defaulted from ART due to continuous side effects; the other three discontinued ART without consulting. A participant who experienced comparable challenges highlighted:

"I was having bad dreams and it played a role in me stopping my ART" (P12, 38 years old, male).

Another side effect reported was vomiting; a participants said:

"I sometimes vomited after taking the treatment [laughing], and I never came to the clinic to report what I was experiencing" (P11, 29 years old, female).

Sub-theme 1.2: False HIV-negative test results created by undetectable viral load amongst HIV-positive patients on ART

The participants showed little knowledge regarding the relationship between ART adherence and undetectable viral load. Two participants who were on ART for more than six months went to another clinic to be tested; they were found negative and stopped taking their treatment. One of them said:

"I was going for family planning to another clinic, and they offered to test me, and I told them I was HIV-positive, but they didn't believe me, and they tested me, and I was found to be HIV-negative [laughing]" (P11, 29 years old, female).

Another participant reported a similar incident:

"I went to another clinic, they asked for my permission to be tested, I agreed, and they tested me; surprisingly, the results came back HIV-negative" (P7, 38 years old, female).

Theme 2: Social problems experienced by patients on ART among ethnic groups in Vhembe District

Being on ART requires a life-long commitment to adhere to ARVs. How the family and community view the patients may either have a positive or negative impact. HIV is still perceived as a disease occurring among promiscuous people, and having HIV or being seen collecting ARV treatment, or disclosing to a family member about HIV status, are still difficult for PLHIV. The participants were openly talking about their emotional hurdles, particularly due to their familiarity with the researcher.

Sub-theme 2.1: Patients' fear of stigmatization

People living with HIV are subjected to different kinds of discrimination, resulting in stopping using their treatment, and finding it difficult to disclose their status to family members due to fear of rejection.

A participant was recorded saying:

"I was diagnosed HIV-positive while I was pregnant and given treatment, but when I told my husband, he said that he has been tested and found to be negative, and I do not have another person that I sleep with except him, so I stopped taking the treatment. Now I am waiting for him so that we can go to test together and take treatment together" (P4, 36 years old, female).

Other person further highlighted:

"I have never disclosed my HIV status to anyone at home, even my boyfriend didn't know that I was HIV-positive, we even separated and until today, he does not know that I was HIV-positive [laughed]" (P10, 27 years, female).

One participant said:

"I have stopped taking treatment because I have met my neighbor and some people that I know at the clinic when collecting the treatment" (P6, 45 years, female).

Another participant indicated:

"Community member talks badly when people are having signs of HIV, so one day I was afraid because my neighbor came to me and ask why I am taking treatment, and I told her that I am doing it so that I can take care of my children because if I die, they will suffer" (P13, 44 years old, female).

Sub theme 2.2: Lack of support from the family

The researcher reflected that patients on ART reported that they needed support and had to be reminded to continue their treatment by family members as well as to be shown affection all the time. In this study, most participants disclosed their status to their partners or family members, but only a few received support at home.

Two LTFU participants were a couple, and a sibling of a participant was also LTFU. She said:

"I never disclosed my status at home because my mother will not agree to remain with my baby even though my baby is not sick" (P10, 27 years old, female).

Sub-theme 2.3: Fear to be seen by neighbors and community members whilst in the queue to collect ARVs

The issue of stigma and discrimination was shown as a hindering factor for patients to collect their treatment regularly, and a need for healthcare workers to conduct continuous community engagements was observed. Participants number 6 and 13 experienced problems while going to collect their treatment. One of them said:

"I have stopped taking treatment because I have met my neighbor and some people that I'm used to at the clinic when collecting the treatment" (P6, 45 years old, female).

The other participant said:

"I was afraid because one day my neighbor saw me going to collect treatment, and came to me and ask why I am taking the treatment" (P13, 44 years old, female).

Theme 3: Healthcare workers contributing to patients defaulting from ART

Sub-theme 3.1: Staff attitudes toward patients on ART

The way the staff treat patients is very important. Patients want to feel welcome, free, and at home, so that they can be able to discuss anything that they might experience. Clinic staff must be approachable to patients; however, the patients reported that they received negative attitudes from the staff, and there was a need for staff support to address the problem. One participant said:

"If I come on another date, they do not talk well with us and even do not want to listen to my reasons" (P1, 43 years old, male).

A participant stated:

"...the nurse insulted me because they were forcing me to use injectables contraceptive and I did not want, so I decided to stop coming to the clinic. The nurse never discussed other contraceptive methods, she just forced me to be injected and injection gives me a problem" (P2, 33 years old, female).

Another patient expressed his anger by saying:

"I stopped taking treatment due to bad attitude of the nurse. Because I missed an appointment, we ended up not understanding each other, and it left me sad. The nurse ended up giving me a few tablets and gave me a return date, and because I was still angry due to the way they talked with me, I never returned" (P8, 48 years old, male).

A participant highlighted:

"The staff was friendly towards me; the only problem was that they didn't give me the blood results for CD4 and viral load" (P7, 38 years old, female).

Sub-theme 3.2: Appointment date and time as a barrier for accessing ART

Many patients experienced problems in arranging the time to go to the clinic on their appointment dates. A participant reported:

"I was working in town as a maid to clean the house, wash, and do other things that they requested me to do. They refused to give me a day off during the week, so that I can come to the clinic. I used to stay there and travel home on Friday and I did not tell them that I am HIV-positive and on treatment, and now I am unemployed" (P5, 37 years old, female).

Another person said:

"I only get time off on Fridays. During the week, I am on the farm, they refuse to give us time off" (P12, 38 years old farm worker, female).

Another one highlighted:

"I asked for permission at work to go to the clinic and they refused, and I came on a weekend, and I was given a few tablets, and told to come during the week" (P8, 48 years old, male).

Sub-theme 3.3: Patients' voices as a tool for reducing default rates

Patients need to be allowed to have a decisive voice regarding their health, and to be empowered to take charge of their well-being. In this study, the participants faced many challenges of being unable to get their vital medications in order to suppress the virus in their bodies. They were not allowed to come during the weekend, and they needed to skip work to be able to come to the clinic. The ART clinic operates on Tuesdays only, and those who come during the weekend face possibility of not getting treatment and coming back during the week. A participant said:

"I came during the weekend and was given a few tablets, and told to come back during the week on Tuesday" (P8, 48 years old, female).

Another person stated:

"The nurse told me that I must come during the week only, and told me that it's not allowed to come and collect ARVs during the weekend" (P5, 37 years old, female).

Discussion

Theme 1: Challenges faced by patients while on ART

Lack of patients' knowledge on ART treatment contributes to their defaulting from clinic appointments and patients fail to engage in care or take charge of their own condition. Those who do not know the ARTs' side effects are likely to default from treatment when they experience the complications. Lack of information on when the patients must return to the clinic while experiencing side effects, leads to patients defaulting from ART without reporting to the clinic.

In this study, it was shown that patients lack information regarding the importance of taking ART because they do not know that while they are virally suppressed, they will test HIV-negative. Instead, they stop adhering to ART, assuming they are HIV-negative. This was supported by a study conducted in Ethiopia by Cruz *et al.* in 2020 [14], which indicated that patients defaulted from ART because of experiencing side effects, such as bad dreams and turning of the head. According to a study from Botswana, the most common side effects reported were headache, nausea, and rashes, which made several patients seek alternative treatment, whereas some stopped adhering to ARV protocols [15].

Dutts *et al.* in 2022 [16] revealed that it usually takes three to six months for the viral load to become undetectable after starting ART. Most people will eventually have an undetectable viral load after taking ART; however, a person must continue strict adherence to treatment in order to maintain undetectable viral load over time. Therefore, when the participants in this study stopped taking their medications, the virus started to multiply, worsening the patients' conditions.

Having an undetectable viral load does not mean the person is cured from HIV. If that person stop taking treatment, his/ her viral load will increase, and once again will be detectable [7]. Hence, teaching patients about the importance of strict adherence to ART and side effects is the key factor for South Africa to reach 90% of undetectable viral load for all patients who are on ART [17, 18].

Theme 2. Social problems experienced by patients on ART

The study showed that it was the fear of stigma, which led to non-disclosure of their condition to family and friends or participation in community-based organizations that provide psycho-social support. The patients defaulted from ART treatments because they met their neighbors in the healthcare facility when collecting treatments. Some patients were afraid to disclose their status due to family stigma and rejection. The researchers observed that the community is lacking information regarding the importance of treatment adherence, hence, they choose to default from treatment rather than being virally suppressed. In this study, stigma was additional reason for patients stopping taking their treatment, as evidenced by the participants, because they did not receive support from their partners; some decided to quit taking ART and were perceived as unfaithful to each other.

This was supported by a study conducted in Ethiopia by Mohammed *et al.* in 2019 [18], who indicated that HIV-positive people experience both discriminatory exclusion and isolation from society, which further discourages disclosure, while health-seeking behavior could be negatively affected. Part of the underlying explanation for undisclosed HIV status can be the fear of stigma and rejection from household members, and the community at large. It was also found that patients who did not disclose their HIV status to their family members had three times higher risk of being lost to follow-up. However, in this study, even though a majority of participants did disclose HIV status to family members, they did not receive support needed for remaining under treatment, resulting in LTFU, which was contrary to a study by Mohammed *et al.* [18].

In a study conducted in Windhoek in Namibia, it was found that participants' fear of stigma and discrimination was the main barrier to HIV treatment, stating that many patients preferred not to be seen at HIV clinic or taking antiretroviral medications due to the fear of revealing their status [19]. Another study conducted by Kim *et al.* in 2018 [5] in Johannesburg indicated that some patients were unwilling to remain in care because of the fear of disclosing their HIV status to their partner or families and due to other family-related reasons. In a systemic review of studies conducted in sub-Saharan Africa, stigma regarding HIV status and fear of disclosure to a partner or family members, both proved to be the major barrier to the uptake of ARV interventions. Almost all of the qualitative research studies reported associations between stigma measures and PMTCT ARV use, including self-stigma [20]. Mutabazi *et al.* in 2019 [21] found that patients fear rejection by the family members and community due to stigma associated with HIV/AIDS as well as stigma associated with disclosure. Therefore, stigma resulted in patients not taking their medication openly and being afraid to be seen at the clinic. Most patients said that they would go to a hospital or a clinic far from home rather than be seen at a local clinic collecting their ARV treatment.

Theme 3. Healthcare workers' contributing to patients defaulting from ART treatment

Grouping patients' appointment dates according to their conditions was observed as a serious problem. The community knew that Tuesday was the day for collecting ARTs, but the patients were worried about disclosing their status unintentionally. Most patients were going to the clinic on different day, not dedicated for ART collection. In this study, the participants experienced problems leaving their workplace for the clinic to collect treatments. The only time they had was during the weekend, but the clinic forced them to come during the week, which means the participants were required to choose between work or their health; hence, family responsibility obliged them to decline treatments.

Nurses' attitudes toward the patients contributed to their defaulting from ART. Patient's adherence plan and appointment date were not discussed with the patients, thus, they were given return dates without considering their availability. The choice of contraceptives and blood results were not provided to the patients, and they decided to stop taking treatments because of not given information. Dissatisfaction with care or health personnel behavior, costly transportation, perceived improved health, and drug toxicity, were important reasons for therapy discontinuation. Farhoudi *et al.* in 2018 [22] found that dissatisfaction with healthcare, poor understanding of treatment commitment, and medical follow-up, were likely to relate with high workload and task shifting, with insufficient training and supervision.

Another research identified that patients on ART felt that there was a lack of confidentiality among healthcare workers, e.g., drugs were given without privacy [23]. They were disappointed when different ART regimens to help manage their side effects were not executed. Also, patients felt reluctant to come to healthcare clinic due to limited space and lack of privacy. They got frustrated because of long waiting-time for their appointment at the hospital, and they experienced anxiety about going back to the clinic after missing many appointments, hiding from follow-up. In this study, the patients were reported to be changing their names, addresses, and dates of birth when they moved to another next clinic for treatment continuation. On this note, the patients would not share their exact identity documents with the clinic staff members.

A study conducted in Mozambique discovered that certain patients do not want to be in the support group or to come to the clinic on specific days with other patients. The reason was the fear of disclosure, and that they might lose their social status within the community as the group members might fail to keep their secrets. Lack of privacy in clinic causes a major problem, as HIV-related stigma is high within the community [24]. It was noted that most patients had negative experiences with the staff, especially nurses, which caused distress to visit the clinic again [21]. The experience of negative staff attitudes was a frequent barrier for returning to facilities [20]. Overcrowded waiting rooms and lack of privacy during counselling sessions made the clinic an unpleasant place [21].

Again, Kim *et al.* [5] showed that several other participants expressed fear of losing their jobs if they took time off to visit the clinic. Furthermore, the study highlighted that a significant number of patients who discontinued treatment or transferred to another local clinic, indicated that the main obstacle they faced was a conflict with employment. The study site was open 7 days a week, but issuing ARV drugs during the week and during working hours, while others resisted taking time off due to fear of revealing HIV status to their employers.

In a study conducted by Brittain *et al.* [25] in Johannesburg, South Africa, it was found that many participants mentioned the need to find a safe space where they could be supported and where they did not need to hide their condition or medication. In the same study, the participants described experiences of stigma and rejection. The research indicated that once an HIV-positive status is revealed, there is usually some support from the immediate family, such as their mother or partners. However, fear is often the main factor behind the deep reluctance to disclose their status to family members, employers, and sexual partners.

Limitations

The study was undertaken only in one selected PHC facility in the District of Limpopo Province, which cannot be generalized to other facilities or districts in the Province. The study enrolled participants who were readily available and accessible to reduce the cost of the study.

Recommendations

Healthcare providers need to empower PLHIV with knowledge on how ARV works, what are their actions and side effects, and how to overcome side effects through health education, awareness campaigns, and adherence counselling sessions on every visit.

Health facilities should adopt WHO recommendations on using case facilitators or case counsellors to enhance adherence and retention into care.

The community must be made aware that HIV/AIDS is a chronic disease, and nowadays is manageable through the use of ARV treatment, re-establishment of community and facility-based adherence clubs as well as post-COVID pandemic support groups.

Healthcare providers have to educate patients about undetectable equals to untransmissible (U = U) strategy to reduce new HIV infections.

The Department of Health should ensure that all PHC clinics are open 24 hours a day, so that working patients may obtain treatments and clinical reviews.

Optimizing the utilization of community-based organizations (CBOs), adherence clubs, and local pharmacies to improve adherence and delivery of medications, especially to PLHIV who are stable on ART.

Patients' contact details and physical addresses must be updated all the time when they visit the clinic, so that they can be traceable on follow-ups.

The clinic must strengthen tracking and tracing through the use of ward-based outreach teams (WBOTs) to trace patients who are lost to follow-up, including continuous community engagement to deal with stigma and discrimination more specifically in the Vhembe District, coupled with transport challenges in villages.

A quantitative study should be conducted on ART adherence for 12 months, with several ARV sites, as adherence is believed to be progressive, and findings might be compared across ARV sites around the Vhembe District.

Conclusions

The study showed that patients on ART still experience inadequate knowledge about ARV treatment, side effects, the importance of adherence and undetectable viral load in reducing new HIV infections, and that stigma and discrimination continues to be a barrier in accessing treatment and HIV services, which need to be considered decisively. Inadequate support from family and CBOs as well as negative attitude from staff continue to contribute to defaulting from treatment, and these challenges are crucial as they can lead to preventable complications and hospitalization. Moreover, defaulting from ART can lead to a treatment or drug resistance. The mentioned information is important for our healthcare system because most patients are going to be admitted when they are very ill, and should be switched to second-line ART, which is costly to the healthcare system already experiencing financial difficulties. The socio-economic status of the country will be affected by the high mortality rate caused by HIV/AIDS-related complications. Failure to comply with ART may have detrimental effects on the spread of HIV, new infection cases, prognosis of the disease, development of resistance to ARVs, complications, and premature death.

The study findings revealed the significance of adherence counselling, appointment date recommendations, and allowing patients to visit the clinic any day. It is crucial to group patients with different conditions to improve adherence, as grouping patients of the same condition is part of unintended disclosure. As a result, strategies to improve adherence and counselling services are vital in healthcare services to achieve the UNAIDS' 95-95-95 target, and end the HIV pandemic by 2030. According to the study, a number of variables need to be confirmed in a quantitative research in the future.

Disclosures

1. Institutional review board statement: This study was approved by the University of South Africa, Department of Health Studies Higher Degree Committee, with the reference number of HSHDC/680/2017.
2. Assistance with the article: The authors would like to express their gratitude to the Department of Health, the Vhembe District for permission to conduct the study. Special thanks is extended to all patients who participated in the study.
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