

# Experiences of Antiretroviral Therapy Initiation Among HIV-Positive Adults in Ethiopia: A Descriptive Phenomenological Design

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**Purpose:** The aim of the study was to explore and describe the lived experiences of HIV-positive adults on antiretroviral therapy (ART) initiation in West Shoa Zone, Ethiopia.

**Materials and Methods:** A descriptive phenomenological design was utilized in the study to gain insight into participants' lived experiences regarding ART initiation in West Shoa Zone, Ethiopia. Data were collected through semi-structured in-depth interviews and analyzed by means of thematic analysis.

**Results:** The study found that spousal influence, denial of status, inconsistent ART initiation protocol, poverty, fear of side effects, religion and shortages of staff were factors that caused delayed ART initiation. A low CD4 count, the development of opportunistic infections and the prevention of future illness were factors that promoted ART initiation.

**Conclusion:** This study provides an overview of experiences of adults living with HIV regarding ART initiation. The study emphasizes the need to improve adequate provision of resources to address issues related to finance, human capital, guidelines and inequity to enhance early ART initiation among HIV-positive adults in West Shoa Zone. The study findings have implications for policy implementation, ART service delivery, and the enhancement of prompt ART initiation in the study settings.

**Keywords:** antiretroviral therapy, early antiretroviral therapy initiation, HIV, lived experience

## Introduction

Initiating antiretroviral therapy (ART) as early as possible following a human immunodeficiency virus (HIV) diagnosis is an emerging global strategy to contain the HIV epidemic and to optimize the health outcomes of people living with HIV and AIDS (PLHIV).<sup>1</sup> The Joint United Nations Program on HIV/AIDS (UNAIDS) and the World Health Organization (WHO) embarked on a strategy of ending the acquired immune deficiency syndrome (AIDS) epidemic by 2030, envisaging that 95% of all people living with HIV should know their HIV status, 95% of all people with diagnosed HIV infection should receive sustained ART, and 95% of all people on ART should suppress viral load.<sup>2</sup> Achieving universal access to HIV treatment and care and ending AIDS as a public health threat could be achieved by escalating the immediate initiation of ART during the early stages of HIV infection. Globally, by the end of 2021, 28.2 million people were accessing antiretroviral therapy.<sup>2</sup> Initiating ART immediately after a person's infection with HIV assists in sustaining a higher CD4 count, inhibiting viral replications, and decreasing the likelihood of mortality and morbidity.<sup>3</sup>

There has been a widespread congruence on the clinical, social, and economic benefits of initiating antiretroviral therapy during acute HIV infection. Study endorses that the success of HIV treatment is mainly reliant on early ART initiation irrespective of CD4 count.<sup>4</sup> A prospective cohort study in Canada affirms that initiating ART at higher CD4 count was significantly associated with optimal viral response and improved health outcomes.<sup>5</sup> Likewise, the United States' health and health services on its guideline, implies that immediate ART initiation on the same day of HIV diagnosis as a strategy to enhance early ART uptake, engagement in care and to shorten the length of viral suppressions.<sup>6</sup>

Despite the clinical benefits of earlier initiation of ART, there is also substantial economic impact including improving longer and healthier living thereby reducing the hospital care costs attributed to AIDS and its co-morbidities.<sup>7</sup> Besides the economic benefits of ART initiation during the early course of HIV infection, it is also imperative in improving a person's quality of life.<sup>8</sup> Furthermore, early ART initiation has a considerable public health benefit on reducing transmissions.<sup>9</sup>

A study in Uganda and Zimbabwe revealed that HIV-positive people perceived antiretroviral therapy as helpful in a condition of severe illness as some symptoms can be resolved or be self-manageable.<sup>10</sup> This view was also elaborated that PLHIV do not want to seek medical care unless they encounter severe illness.<sup>11</sup> The authors suggested the need to integrate post-diagnosis counseling to enhance treatment accessibility. Furthermore, a study conducted in Ethiopia showed that late enrollment to HIV/AIDS care was remained a problem.<sup>12</sup> Moreover, several studies in Ethiopia have shown that HIV-infected patients seek treatment at a health facility when their CD4 count has already dropped.<sup>13–15</sup> HIV-infected patients seek treatment after their CD4 count has already dropped because of several reasons, which have been extensively examined in various studies done in low- and middle-income countries. The reasons for late presenter to HIV care outlined in the literature include the following: denial of status,<sup>16–18</sup> fear of side effects,<sup>19,20</sup> spousal influence,<sup>21,22</sup> poverty,<sup>23,24</sup> religion,<sup>25,26</sup> initiation protocol,<sup>1,11,27</sup> and shortages of staff.<sup>20,21</sup>

The late initiation of ART is occurring in West Shoa Zone, which is the zone with the highest number of people living with HIV in the Oromia region of Ethiopia. This situation represents a threat as far as the further transmission of HIV is concerned. Regardless of this late initiation of ART, there is a dearth of studies that focus on the experiences of adults living with HIV in West Shoa Zone, Ethiopia, in relation to ART initiation. Therefore, the aim of this study was to explore the lived experiences of adults living with HIV in West Shoa Zone regarding ART initiation.

## Definitions of Key Concepts

The following key concepts guided this study:

### Antiretroviral Therapy

Antiretroviral therapy (ART) is defined as the use of a combination of three or more antiretroviral drugs for treating HIV infection.<sup>30</sup>

### Antiretroviral Therapy Initiation

Antiretroviral therapy initiation is a process of administering ART to all people with HIV, regardless of their CD4 cell count or the clinical stage of disease in which they find themselves.<sup>30</sup>

### Early Antiretroviral Therapy Initiation

Early antiretroviral therapy initiation is defined as ART initiation within seven days following HIV diagnosis if there are no contraindications.<sup>31</sup>

### Lived Experience

The meaning of lived experience pertains to the natural world in which humans live or exist. Examining this meaning is aimed at gaining an understanding of how people live through and respond to experiences.<sup>32</sup> In this study, lived experience refers to the content of thoughts, feelings, and observations in the context of adults living with HIV regarding HIV testing and ART initiation from their viewpoint.

## Materials and Methods

### Study Design and Settings

A descriptive phenomenological design was used to gain insight into participants' lived experiences regarding ART initiation in West Shoa Zone, Ethiopia. Descriptive phenomenology is a "discrete" philosophical approach pioneered by Edmund Husserl.<sup>33</sup> This type of phenomenology places the emphasis on descriptions of personal experiences and delineations of how and what the individual hears, sees, feels, believes, remembers, decide and evaluates.<sup>34</sup> In this

particular instance, the researcher engaged in a search for meaning with regard to the experiences of HIV-positive adults in respect of ART initiation.

In keeping with the conventions of a qualitative study, the researcher conducted the study in participants' natural settings.<sup>35</sup> The study was conducted at selected hospitals and health centers that provide ART services in West Shoa, Oromia. The administrative center for West Shoa Zone is Ambo, which is located 112 km west of Addis Ababa, the capital city of Ethiopia. The zone is further divided into 19 woredas, 528 rural kebeles and 58 urban kebeles. The woredas are administrative divisions; each woreda has an average population of 100,000. Kebeles are the smallest units in Ethiopian local government. West Shoa Zone has a total population of 2,568,694 and an adult HIV prevalence of 0.7%.<sup>36</sup>

## Study Population

The study participants were HIV-positive adults who had started with ART at health facilities in West Shoa Zone.

## Eligibility Criteria

Adults in the age range 18 to 65 years who were living with HIV, who had started with ART, able to give informed consent and render breadth information were eligible to participate in this study. Mentally or physically ill persons were excluded from the study. Pregnant and breastfeeding women were also excluded because they fall in the Option B+ category<sup>37</sup> according to WHO guidelines, which is not in line with the study aims. Consequently, their inclusion would have affected the credibility of the study findings.

## Sampling, Sample Size and Recruitment of Participants

This study used a non-probability purposive sampling method to select the study participants. A sample of eighteen adults living with HIV who had started with ART in West Shoa Zone was enrolled in the study. In phenomenological studies, the samples are selected based on the participants' experience of the phenomenon being studied.<sup>38</sup> Moreover, for sample selection in the phenomenological study, the participants must be able to articulate the lived experience.<sup>34</sup> Therefore, the purposive sampling approach was considered a suitable choice for this study to explore the experience of ART initiation among HIV-positive adults. Participants were recruited from one hospital and five health centers. Individuals who met the inclusion criteria were recruited to participate in the study while they were visiting the ART clinics to collect their antiretroviral treatment. They were informed about the purpose of the study and all relevant ethical aspects as discussed under the ethics section. They were also informed that participation in the study was voluntary. The researcher obtained both verbal and signed consent from each study participant. However, the researcher read the consent form aloud and obtained consent verbally supported by the thumbprint for the participants with limited reading ability. The participants who signed the consent form have received a copy, and the researcher kept the original form in a locked file cabinet in a locked room. The individuals who were willing to participate in the study and who had the time to do so were requested to go to one of the consultation rooms at the clinics. These consultation rooms were not used for the interviews.

## Data Collection Tools and Procedures

Data were collected through semi-structured in-depth interviews with 18 adults living with HIV who had started with ART at selected public health facilities in West Shoa Zone. Before the actual data were collected, the researcher conducted a pilot study by means of in-depth interviews that were recorded. The pilot study was conducted at a health facility situated outside the study area. As part of the interview process, the researcher also took field notes on the verbal and non-verbal reactions of the participants. Finally, the researcher laid aside her preconceived ideas, assumptions, and knowledge about the topic of inquiry during the interview sessions. Data collection continued until data saturation was achieved. In this study, data saturation was reached at participant number 15, which was the point at which no new ideas, essences or insight emerged. However, the researcher interviewed three more participants. Following data collection, the researcher transcribed all the recordings verbatim.

## Data Analysis and Procedures

The data were analyzed by means of thematic analysis. Data analysis was guided by the seven steps highlighted in Colaizzi's method of data analysis, as follows:<sup>39</sup>

- Step one: The researcher read each transcript repeatedly in order to gain a thorough understanding of its content while bracketing her attitudes and perceptions regarding ART initiation.
- Step two: The researcher identified important statements and phrases related to ART initiation.
- Step three: The researcher formulated meanings based on the phrases and statements identified.
- Stage four: The researcher organized the formulated meanings into clusters of themes.
- Step five: The researcher combined the theme clusters, emergent themes and formulated meanings into a description to create an overall structure. A similar process involving steps one to five was followed independently by an independent coder who was knowledgeable of qualitative research.
- Step six: The researcher and the independent researcher reviewed the description of the themes to identify key elements and transposed the key elements into a definition of ART initiation experiences. This involved discussion until consensus was reached.
- Step seven: The description of themes was validated with some of the participants who were available, and also understand English in the form of member checking.

The data analysis in this study provided detailed descriptions of individual experiences of ART initiation among people living with HIV. The data analysis in this study was carried out concurrently with data collection. The first step of data analysis was to read and reread the transcripts several times to identify patterns and themes. Each transcript was coded individually. Next, the researcher employed an independent coder to analyze the interview transcripts. Thereafter, the researcher organized the condensed data into coding to refine the aim of the study, thus making it possible to identify themes. Then the researcher carefully reviewed the results obtained from the independent coder and compared them with the initial transcriptions to ensure confirmability of the study.

## Measures to Ensure Trustworthiness

The term "trustworthiness" can be defined as a set of criteria for judging and examining the quality and rigor of a qualitative research study to make the study noteworthy to audiences.<sup>40</sup> The researcher employed measures to ensure credibility, dependability, confirmability and transferability in the study. Credibility refers to confidence in the truth value of data and interpretations of findings.<sup>34</sup> The researcher implemented multiple validity indicators to convey credibility throughout the study in order to build a rapport with the study participants through prolonged engagement, peer debriefing, verbatim accounts and member checking. To enhance dependability, the researcher used probing and paraphrasing to ensure that the participants repeated what they had previously mentioned or confirmed what they meant during the discussions. The researcher also ensured the confirmability of the study findings through bracketing, reflexivity and triangulation. The researcher provided thick and vivid data descriptions of the participants meaning, emotions, and actions enough to ensure transferability of the findings. This study used purposive sampling to select HIV-positive adults who initiated ART since the test and treat strategies were implemented in Oromia region, Ethiopia. The study findings would have a similar meaning to other people living with HIV in the study setting.

## Results

### Demographic Characteristics of Participants

A total of 18 HIV-positive adult men and women aged 18 to 65 years participated in the study. Regarding the educational level of the participants, seven had no formal education, four had a primary education and seven had a secondary education and above. Three of them were unemployed and the rest were employed. All of them had tested HIV positive and started with ART at the health facilities in the study settings (refer to [Table 1](#)).

**Table 1** Socio-Demographic Characteristic of HIV-Positive Adults in West Shoa Zone Public Health Facilities

Code	Age	Sex	Marital Status	Educational Status	Occupation	Area of Residence
P1	19 years	Female	Divorced	No formal education	Small-scale merchant	Ginchi health center
P2	56 years	Male	Married	Secondary	Community adherence supporter	Guder health center
P3	22 years	Female	Divorced	Primary	Daily worker	Ginchi health center
P4	43 years	Female	Widowed	Secondary	Adherence supporter	Ginchi health center
P5	46 years	Male	Married	No formal education	Farmer	Ambo health center
P6	27 years	Male	Married	Secondary	Steel worker	Ambo hospital
P7	42 years	Female	Widowed	Primary	Merchant	Ginchi health center
P8	42 years	Female	Married	No formal education	Housewives	Ambo hospital
P9	33 years	Male	Married	Secondary	Small-scale merchant	Bako health center
P10	38 years	Female	Married	No formal education	Local alcohol trader	Ambo health center
P11	36 years	Male	Married	No formal education	Farmer	Ginchi health center
P12	64 years	Female	Widowed	No formal education	Unemployed	Jaji health center
P13	62 years	Male	Married	Secondary	Farmer	Ginchi health center
P14	42 years	Male	Married	Primary	Building worker	Ginchi health center
P15	56 years	Male	Married	Primary	Carpenter	Ambo health center
P16	34 years	Female	Widowed	No formal education	Unemployed	Ginchi health center
P17	22 years	Female	Single	College student	Unemployed	Ambo hospital
P18	43 years	Male	Married	Diploma	Health professional	Ambo health center

## ART Initiation

Superordinate themes containing two themes and several sub-themes in respect of the experiences of HIV-positive adults who had initiated ART at one hospital and five health centers in West Shoa Zone, Ethiopia, emerged from the data analysis.

### Theme 1. Factors That Caused Delayed Initiation of ART

This theme represents factors that contributed to delayed ART initiation among the study participants. The sub-themes include: (i) spousal influence, (ii) denial of status, (iii) inconsistent ART initiation protocol, (iv) poverty, (v) fear of side effects, (vi) religion and (vii) shortages of staff.

#### Spousal Influence

The condition of poverty, unemployment and inequality would expose women to an increased risk of contracting HIV/AIDS. It was observed that women faced the double problem of contracting the disease and being unable to access the care they needed. Their decision to initiate antiretroviral therapy was highly dependent on their partners' or husbands' permission.

The following extract reflects the spousal influence experienced by one of the participants:

While I was with my husband, he forbid me from taking the medication, then I left the house and went to Addis Ababa for a job then I started taking the treatment after six months. [P3]

Despite the advancement of women's access to healthcare services, gender inequality has remained a social determinant of health. Women have less privileged access to resources, education and decision-making in low-income countries. Likewise, women who are living with HIV face multiple personal, economic and social challenges. This study revealed that spousal influence affects early engagement to HIV care. One participant shared her experience in this regard as follows:

When I told my husband I wanted to start the treatment, he did not allow me to do so. He said it needs a lot of money for the medication bill. He refused to give me money. Later on, I found out that HIV medication is free of charge. Then I started to take my treatment after a long time. My husband upset me. For this reason, I could not start the medication immediately. I started taking the treatment after six months of following the HIV result. [P1]

### Denial of Status

The study found that the participants were confused, distressed and in disbelief over their HIV serostatus would result in difficulty initiating antiretroviral therapy immediately after their HIV-positive diagnosis. In this study, participants shared various accounts of coping with the emotional distress they experienced upon learning they were HIV positive. One participant indicated that the perception that he was at low risk of contracting HIV and coupled with his partner's HIV-negative status contributed to his denial of being infected with HIV.

The participant remarked as follows:

I did not start the treatment immediately. One day after I knew myself (HIV positive), I refused the diagnosis of how this happened to me. I work at the health center in a rural area. I'm a health professional. My wife and my children are HIV-negative. I'm only positive from my family. I was in a dilemma for a longer time. I could not accept the result for one year. I could not immediately start the treatment. [P18]

A similar opinion was expressed by another participant regarding difficulty in accepting a positive diagnosis, quoted below:

You know it is not an easy disease like other diseases you can cure. It took me time to accept my positive result. Then on another day, I retest at a private clinic to be sure. [P1]

### Inconsistent ART Initiation Protocol

The study showed that variable ART initiation protocol at the health facilities would contribute for late ART initiation among asymptomatic HIV-positive people. In addition, participants indicated that they had encountered a barrier to early treatment initiation because their CD4 counts did not meet the existing ART guidelines.

I wanted to start the treatment earlier. But, because my CD4 count was high above 350, I was not allowed to start. I only started very late when my CD4 count was below 200, and I was already lost so much weight. [P5]

### Poverty

The study revealed that unemployment and financial dependency could constrain women in respect of pursuing an advised clinical schedule. The influence of poverty, such as transportation costs and hospital costs, impeded participants' readiness to initiate antiretroviral treatment. A woman described how poverty limited her from accessing antiretroviral treatment:

I did not have any money in my hand to go to the clinic. I worked being a housemaid in Addis Ababa. Meanwhile, I became sick badly, weakened, I could not work. [P1]

According to the study findings, a lack of money for transportation appeared to be a barrier to participants' HIV care and treatment. The study participants expressed that they experienced financial pressure, which hindered their ability to access healthcare services and to go for clinical follow-up visits.

The other participant remarked as follows:

I sometimes miss my doctor's appointment because I did not have money for transportation. I had to wait for my husband to give me transport money. [P8]

### Fear of Side Effects

The study revealed that the anticipation of drug side effects would hinder participants from initiating antiretroviral therapy early. One participant remarked as follows:

Because my CD4 four was high above 350. They said it was good. I was healthy; I did not want to face the treatment side effects. You know I heard from my friends how the drugs did to them, so when I see myself I was healthy, I could work like before. [P5]

### Getting Advice from Religious People

Some participants reported that they had received advice from religious people, which delayed their commencement of ART. Participants used religious belief as a coping mechanism to deal with and accept their HIV diagnosis. The belief in life after death also served as a form of healing. One participant commented as follows:

One day, by hiding my HIV-positive status, I started to ask people living with HIV what does the virus does to them and how do they live with it. I thought that it good to talk to other people about their personal experiences regarding HIV problems. If they give me a little from their experience, it will help me to talk to other people about their personal experiences regarding HIV problems. I deal with the new diseases I encountered. People talk about holy water, but I am a Protestant believer, I said to myself if I die, I will go to God, and I should not worry. I started to build faith. I can live as long as God let me live. [P3]

Some participants in this study favored holy water as an alternative to seeking a complete cure for HIV/AIDS. A participant remarked as follows:

Some clients said 'what does the treatment help? Since we no longer cured, why would we swallow it?' Others believed by holy water and others by prayer. This holy water is very powerful, you know, so you have to believe you know. [P4]

### Shortages of Staff

The study established that the quality of health services plays a pivotal role in attracting patients to care provision. The participants mentioned that shortages of healthcare providers had delayed the timely initiation of their antiretroviral treatment. One participant stated the following:

I was appointed before I started the treatment after I was diagnosed with HIV. When I went to the hospital, I had to wait for a long time. I left the clinic because I was afraid someone would see me. The hospital was crowded. I remember I came back after a year when I felt sick. I believe if I get medication in time, I mightn't be ill. I know the nurses do what they could, but it is better to have more examination rooms and doctors. [P7]

Patients would feel uncomfortable going to health facilities due to the long waiting times. Long-waiting times related to the shortage of staff at the health facility would expose the participants to the likelihood of being seen by others. The participants mentioned that they feared being seen by people they know and they preferred receiving healthcare services without delay. Moreover, long waiting times caused patients to lose interest in healthcare services. One participant made the following remark in this regard:

When I came to the hospital for pre-HIV treatment during my appointment, I prefer not to wait long in the corridor because I felt worried and guilty about what if somebody saw me. I wish I could go out without delay. I have a complaint about doctors; they usually come only they get a phone call. Usually, they are not available in the hospital. We have to wait for him [the doctor] for long hours until he arrives. [P10]

## Theme 2. Factors That Contributed to the Initiation of ART

This theme focuses on factors that promoted ART initiation among the study participants. It is composed of the following sub-themes: (i) low CD4 count, (ii) having opportunistic infections and (iii) the prevention of future illness.

### Low CD4 Count

Some participants started with ART during hospitalization when they had a decreased CD4 count. One participant commented as follows:

The diseases weaken my body. I remained in bed also. My neighbor who works here in this health center explained to me the situation. They said, 'now a day no more dying' why don't you go and check your blood, get to know yourself and use medications like other person and able to live for your children.' Then I said, Oh, is there such thing? Yes, they said. Okay then. I travelled to another city and reached Ambo hospital, and gave my blood for an HIV test. Then I started the treatment quickly as soon as HIV was diagnosed because my CD4 was lowered 120 cells/ $\mu$ L. [P4]

### Having Opportunistic Infections

The study established that the participants had opted to receive HIV care after they had been exposed to opportunistic infections. The participants indicated that they had been impelled by illness to start with antiretroviral therapy. One participant made the following comment:

I was tested for HIV in 2005 because I often get tired and had rash developed on my body. The results were positive and I started the treatment immediately without even arguing with anyone. [P12]

### The Prevention of Future Illness

The study found that some participants had started with ART rapidly without having experienced manifestations of illness. One participant described being determined to initiate ART to prevent future illness:

When I started the medication, I was healthy and in good CD4 condition. I started with health status to prevent future illness. At that time, my CD4 level was once up and down, it was a dilemma. Sometimes 300, other time 400. When I started ART, my CD4 was 438. [P17]

## Discussion

The study found that spousal influence had been a significant barrier to the early initiation of ART among the participants. Women's decision-making on ART initiation was shown to be highly dominated by their husbands. This finding is consistent with the findings of a study carried out in Swaziland,<sup>21</sup> which also reported that women's decision to start with ART had been greatly influenced by their male partners. Similar findings were made in studies conducted in Zambia and South Africa, which established that men in the household determined whether women could start with ART or not.<sup>22</sup> What drove the participants the most to decline ART was the issue of denial of their HIV diagnosis. Some participants explained that their late initiation of antiretroviral therapy had been due to ambiguity over their HIV-positive diagnosis. In line with these findings, a study in Kenya demonstrated that denial of HIV-positive serostatus was the reason why individuals had declined to start with ART following their HIV diagnosis.<sup>16</sup> Similarly, a study in Rwanda found that perceptions of being at a low risk of HIV infection among PLHIV were likely to delay ART initiation.<sup>18</sup> Likewise, a study in South Africa found that individuals' inability to adjust to an HIV-positive diagnosis had caused them to delay treatment initiation.<sup>17</sup> A study in Swaziland found that the shock and surprise of being diagnosed with HIV had caused the participants to defer treatment initiation.<sup>41</sup> This study found that there were variable ART initiation guidelines in the research settings. Despite the national guideline, some participants reported being advised to delay ART initiation until their CD4 count was below 350 cells/mm.<sup>3</sup> This finding concurs with that of a previous study in Ethiopia, which reported that the implementation of the national Test and Treat strategy in accordance with updated treatment guidelines across the regions and districts was sup-optimal.<sup>27</sup> With regard to ART initiation, studies conducted in Malawi, Zimbabwe, South Africa, Tanzania, and Uganda reported that contradictory government protocols impacted the



immediate initiation of ART.<sup>11</sup> Deferring ART initiation until clients' CD4 counts declined put them at risk of progressing to AIDS-defining illnesses and increased the risk of HIV transmission to sexual partners.<sup>1</sup> Besides government policies and guidelines, some clients deferred ART initiation owing to fear of side effects of the treatment. The study revealed that unemployment and financial dependency would constrain women in pursuing an advised clinical schedule. These results are consistent with the findings of a study done in Ghana. According to the study, financial challenges related to food insecurity prevented patients from initiating antiretroviral therapy.<sup>23</sup> Another study conducted in Kenya found a significant link between lack of access to treatment and poverty.<sup>24</sup> The author argues that the correlation between treatment access and poverty considerably affects these countries' HIV/AIDS response. Likewise, a previously reported study in India ascertained that patients tended to postpone engaging in medical care until their CD4 counts became lower owing to economic limitations.<sup>42</sup> Apart from poverty, fear of adverse effects of ART would also potentially contribute to the non-initiation of ART among PLHIV. This study revealed that the anticipation of drug side effects could discourage the participants from initiating antiretroviral therapy early. A study done in Kenya found that the estimated side effects of antiretroviral drugs had caused the participants to avoid ART.<sup>19</sup> Similarly, a study in Swaziland found that the participants' preconceptions of potential side effects of ART had made them wary of ART initiation.<sup>20</sup> The study revealed that advice from religious leaders would prevent the participants from starting with ART. Some participants indicated that they chose holy water over ART in their search for a complete cure for HIV/AIDS. These findings are consistent with a study conducted in Botswana, which found that certain religious leaders had forbidden individuals from going to hospital to start with treatment.<sup>26</sup> Shortages of staff also could delay ART initiation among the study participants. The study revealed that the non-availability of physicians, coupled with late arrivals and long waiting times, would cause the involuntary disclosure of patients' HIV status and led to their dissatisfaction with the health services delivered. This finding is consistent with a previous study in Ethiopia, which reported that inadequate staff contributed to poor linkage to care.<sup>28</sup> In addition, the issue of long waiting times related to shortages of staff was a commonly reported barrier to access to ART uptake among people living with HIV.<sup>29</sup>

This study found that most participants had started with ART at a later stage of HIV infection and of being immune compromised. The findings of this study concur with a study in Uganda, which found that the majority of PLHIV who participated in the study had started with ART at a declined CD4 count and at an advanced stage of disease.<sup>43</sup> Similarly, most studies conducted in Ethiopia have shown that people with HIV sought treatment at health facilities after their CD4 count had already diminished.<sup>13–15</sup> Other participants initiated treatment after they had developed opportunistic infections. This study revealed that HIV-positive adults in the research settings had started with ART when they were at an advanced stage of disease. These would expose PLHIV to opportunistic infections. This finding is consistent with a study in South Africa, which found that patients who had presented with higher CD4 counts at baseline were unlikely to start with ART within the first month of engaging in medical care.<sup>44</sup> Conversely, other participants were inclined to start with ART to prevent future illness. A study in Swaziland found that an understanding of treatment as prevention among asymptomatic HIV-positive people had motivated them to start with ART immediately.<sup>45</sup>

## Limitations of the Study

The study has the following limitations that should be taken into consideration. The study only focused on the patients who are already initiated and on ART. As only participants were recruited at the clinic, there is a possibility that, some participants who are still reluctant to initiate's view were missed. Data was collected during COVID-19 restrictions, which made some of the participants to be reluctant to participate due to fear of contracting the infection. As the participants were only people on ART, the views we have is only from their side. Therefore, study did not incorporate the health care providers' view and opinion regarding ART initiation. Time of ART initiation was determined and used self-reported measures, which are often imprecise and unreliable. The researcher also involved participants from different health care facilities of West Shoa Zone, to maximise data sources.

## Conclusion

The study found that the majority of the participants had started with ART during a later stage of HIV infection after their CD4 count had dropped and they had developed opportunistic infections. The study revealed that this late initiation of

HIV care among the participants could be attributed to poverty, spousal influence, late HIV testing, inconsistent ART initiation protocol, misconceptions and misperceptions, fear of side effects and denial of HIV status.

## Abbreviations

AIDS, acquired immune deficiency syndrome; ART, antiretroviral therapy; FMOH, Federal Ministry of Health; HIV, human immunodeficiency virus; HSTP, health sector transformational plan; MOH, Ministry of Health; PLHIV, people living with HIV and AIDS; SDG, sustainable development goal; UNAIDS, Joint United Nations Program on HIV/AIDS; WFP, World Food Program; WHO, World Health Organization.

## Ethics Approval and Informed Consent

In line with ethical considerations in research, the study complies with the declaration of Helsinki. Permission to conduct the study was obtained from the Research Ethics Committee of the University of South Africa, Department of Health Studies (HSHDC/778/2017). Permission was also obtained from the Oromia Regional Health Bureau's Research Ethics Review Board (ref. no. BEFO/UBTFU/1016/1260). Verbal and or written informed consent was obtained from each participant before data collection commenced. The ethics committee approved this consent process. The participants were assured that their informed consent included publication of anonymised responses. Furthermore, the study participants were informed that their identity remains unknown to any other person except the researcher. Therefore, the researcher used code numbers (P1-P18 for participants) of records, transcripts, and reports.

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## Author Contributions

All authors made a significant contribution to the work reported, whether that is in the conception, study design, execution, acquisition of data, analysis and interpretation, or in all these areas; took part in drafting, revising or critically reviewing the article; gave final approval of the version to be published; have agreed on the journal to which the article has been submitted; and agree to be accountable for all aspects of the work.

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## Disclosure

The authors declare that there is no competing interests in this work.

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