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Perceptions of patients and healthcare providers regarding barriers and enablers of HIV anti-retroviral therapy among women at a regional hospital in Ghana: implications for national HIV/AIDS control

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Abstract

Background The Acquired Immune Deficiency Syndrome (AIDS) pandemic has created a lot of devastation over the last four decades and continues to be a public health threat. Anti-retroviral treatment (ART), a group of medications that people who have been diagnosed with the Human Immunodeficiency Virus (HIV) infection take, has been shown to be efficacious and has significantly improved the fight against the disease. In Ghana, women carry a higher prevalence and incidence of HIV. The study's objectives were to understand the experiences of women living with HIV/AIDS on ART and determine the barriers and enablers for ART uptake from the perspective of both the females living with HIV and their healthcare providers in the Upper East Regional Hospital of Ghana.

Methods This was a qualitative study that used interviews to acquire data from women living with HIV on the perceived barriers and enablers for ART. The Upper East Regional Hospital in Ghana was the study site. We used a phenomenological approach to explore the lived experiences, perceptions, and meanings associated with ART among women. We collected data until we reached thematic saturation, interviewing a total of sixteen women living with HIV. We conducted a focus group discussion with nine healthcare workers providing care at the ART clinic. Data were analysed using thematic analysis.

Results Women living with HIV and their healthcare providers viewed an environment that provided encouragement and support from healthcare workers and patients' relatives, the ability to conceal HIV status, peer counselling, and the perceived benefits of therapy as enablers of ART uptake and medication adherence. The following were barriers to ART uptake and adherence: ill health, forgetfulness, long distances to ART clinics, cultural and spiritual beliefs, and fear of stigma.

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Conclusions Enablers of ART uptake should be expanded upon and encouraged so that women living with HIV/AIDS can access drugs in a timely and stress-free manner. On the other hand, the barriers identified can be addressed through education, the expansion of healthcare infrastructure, and the economic empowerment of women.

Keywords Acquired immune deficiency syndrome, Anti-retroviral treatment, Barriers, Enablers, Human immunodeficiency virus

Background

Acquired Immune Deficiency Syndrome (AIDS), is a condition that shows a deficit in cell-mediated immunity in a person who has the Human Immunodeficiency Virus (HIV) as the only known cause of this immune deficiency [1].

HIV was first discovered in 1981 and within just a generation, it has grown to be the most widespread and harmful epidemic the world has ever seen, with females carrying a disproportionately high burden particularly in sub-Saharan Africa (SSA) [2]. In SSA, HIV/AIDS is a major cause of death and burden of disease. In 2023, there were a total of 25.9 million persons living with HIV and some 390,000 AIDS-related deaths, according to UNAIDS in their 2024 global fact sheet [3]. With 68% of the world's HIV/AIDS patients living in SSA countries, this region continues to be the most severely impacted by the pandemic [3, 4].

The HIV/AIDS pandemic has also affected Ghana, with the identification of the first HIV/AIDS patient in 1986 [5]. Although Ghana has lower HIV rates than surrounding nations, over 1% of its population is HIV positive. In 2021, there were 350,000 people living with HIV in Ghana; 220,000 (62.9%) were women aged 15 years and older, while 99,000 (22.3%) were men. In the same year, there were 17,000 new infections, with women aged fifteen years and older accounting for 9,900 (58.2%), and men aged 15 years and older accounting for 4,100 (24.1%) of the new infections. In terms of AIDS-related deaths, 4,000 were women aged 15 years and older and 3,300 were men aged 15 years and older [6, 7].

One of the main drivers of the AIDS epidemic is gender inequality. The same disadvantages that lead to a higher prevalence of HIV among women can also hinder their engagement with ART. Women are more likely than men to be uneducated, unemployed, and poor, which makes them more inclined to engage in transactional sexual relations. Also, women have less power to negotiate safe sex [4]. Overall, AIDS-related conditions constitute the top cause of death for African women, and among younger women (aged 15 to 29), they are the second-highest cause of death behind maternal mortality [8].

Research has demonstrated that antiretroviral therapy (ART) significantly aids in combating the disease, yet its effectiveness hinges on strict adherence [9, 10]. Since 1996, the use of ART has enhanced immune responses and significantly decreased morbidity and mortality among people living with the virus. HIV prevalence peaked in 1997, and since the middle of the 2000s, the number of HIV-related deaths has been dropping; currently, the life expectancy of people living with HIV/AIDS (PLWHA) is about the same as that of those without HIV [10, 11]. Despite the generally encouraging uptake of ART, further efforts are necessary. In Ghana, 71% of all people living with HIV in Ghana are on treatment; 79% of women 15+living with HIV and 60% of men 15+living with HIV are on ART. Research is needed to ascertain what barriers and enablers exist for the initiation and continuation of treatment [6].

Despite the widely acknowledged fact that the disease disproportionately affects women and young girls, there remains a dearth of evidence-based interventions to address this issue, as well as little research evidence about the challenges women on ART encounter in Ghana [12–14]. This study addresses a knowledge gap in the existing literature and aims to provide valuable insights into treatment-seeking behaviour and adherence among women and their experiences in terms of what encourages them to initiate and stay on ART or otherwise. It also gives further insight into the attitudes of medical professionals towards women living with HIV/AIDS (WLWHA) and how these attitudes affect the uptake of ART. The aim of this study was to gain an understanding of the experiences of WLWHA in northern Ghana on ART and the enablers and barriers to ART uptake, both from the perspectives of the women themselves and the health workers that care for them.

Methods

Study area

The study was conducted at the Upper East Regional Hospital (UERH). The hospital is located in Bolgatanga, the capital of Ghana's Upper East Region. The region has a total population of 1.29 million, which is 4.2% of the total Ghanaian population [15].

The hospital provides secondary-level healthcare to people throughout the entire region, as well as neighbouring Burkina Faso and Togo. In 2022, there were a total of 17,713 new out-patient visits to the hospital, with an average of 1,476 visits per month; males constituted 7,204, while females made up 10,509 of the total number that year. The hospital has an ART clinic, and this is where the data were collected. The average number of monthly visits is 356, with an average yearly male-to-female ratio of 3:7. The ART clinic has 10 healthcare workers.

Study population

All WLWHA who visit the ART clinic of the UERH, as well as all healthcare workers who provide services to PLWHA in the UERH. The inclusion criteria were WLWHA who were 18 years of age and older, and who had been receiving ART for at least 1 year prior to the study period. We excluded all WLWHA who did not meet the inclusion criteria or were on admission.

Study design

A qualitative phenomenological design was employed, allowing for an in-depth exploration of the individuals' perspectives, experiences, and perceptions. This design enabled us to gather rich, contextual data from both patients and healthcare providers, capturing their views on the barriers and enablers of ART for women, and the lived experiences, perceptions, and meanings associated with ART among women was gathered.

Sample size determination

Interviews were conducted purposively until thematic saturation was reached [16]. Recruitment ended when no new themes emerged from the interviews. In all, sixteen interviews were conducted with WLWHA, and one focus group discussion was conducted with nine healthcare providers. These were all the healthcare workers who were currently employed at the ART clinic and not on work leave. The group comprised 6 females and 9 males and included nurses, a pharmacist, and a doctor.

Sampling procedure

A purposive sampling method was used to enroll WLWHA who presented at the UERH ART clinic for their routine ART medications between January and March of 2024. We targeted and recruited licensed healthcare providers of both genders at the UERH who provide care to PLWHA for the focus group discussion.

Data collection methods and tools

We collected data from WLWHA and health providers using in-depth interview and focus group discussion (FGD) guides, respectively. Recording was done with digital recorders. Two trained research assistants, who were experienced in data collection, conducted the interviews with respondents at the ART clinic. The data collection tool was piloted before being used for actual data collection, by collecting data purposively from WLWHA who were visiting the ART clinic of the Tamale Teaching Hospital. The tool for the FGD was also piloted with four staff at the ART clinic. We fashioned a makeshift interview room from a comfortable private office at the ART clinic to serve as the location for data collection. We conducted interviews in the respondent's preferred languages: Twi, Frafra, or English. A session lasted on average of 20 min. The FGD was conducted in English and lasted approximately 90 min. The second author moderated the FGD, while one of the research assistants was a note-taker. Strict adherence to the study's inclusion and exclusion criteria prevented selection bias.

Data analysis

The recorded interviews were digitally transcribed in English and then organised after being checked against the consolidated criteria for reporting qualitative research (COREQ) to ensure a literature-backed comprehensive reporting of the qualitative data [17]. A thematic analysis approach was used to analyze the data manually; we read and coded the data to identify meaningful units of information and then grouped them into themes that captured key ideas or concepts.

Ethical considerations

The study received ethical clearance (No. GHS-ERC:025/08/23) from the Ghana Health Service Ethics Review Committee prior to initiation. The research was conducted in accordance with the principles of the Declaration of Helsinki. Informed and written consent were obtained from the respondents before they were interviewed. We explained the purpose, benefits, and risk of participation to the respondents, making it clear that the data derived from the study were not going to contain personal identification and that they had the right to withdraw at any point during the data collection process and even after without having to provide a reason. Confidentiality was maintained during the data collection process by conducting interviews in a private room, and anonymity was ensured by using numbers to identify respondents' responses. All recorded data were stored on a password-secured hard drive that was only accessible to the authors.

Results

Background characteristics of the participants in the study

Table 1 below shows the background characteristics of the study participants. Mean age of the WLWHA was 39.4 (±10.9), with the youngest being 18 and the oldest being 57. Furthermore, 4 (25%) of the participants had no formal education, while 12 (75%) had either basic, secondary, or tertiary education. In terms of employment, 14 (87.5%) of the study participants were employed. Finally, 7 (43.8%) were married, 8 (50%) were widowed, 1 (6.2%) was separated, and none of the study participants were single. In terms of the FGD participants, 6 were female and 3 were male. Out of the total number of FGD

Table 1 Background characteristics of the participants in the study

Characteristics	Women living with HIV	Health-care providers
Age, mean (± SD)	39.4 (± 10.9)	36.8 (± 8.8)
Sex, n (%)		
Female	16 (100.0)	6 (66.7)
Male	0 (0.0)	3 (33.3)
Highest level of education, n (%)		
No formal education	4 (25.0)	0 (0.0)
Basic	6 (37.5)	0 (0.0)
Secondary	5 (31.3)	1 (11.1)
Tertiary	1 (6.2)	8 (88.9)
Employment status, n (%)		
Unemployed	2 (12.5)	0 (0.0)
Employed	14 (87.5)	9 (100.0)
Marital status, n (%)		
Married	7 (43.8)	
Single	0 (0.0)	
Widowed	8 (50.0)	
Separated	1 (6.2)	

participants, 6 were nurses, 1 was a nursing assistant, 1 was a pharmacist, and 1 was a medical doctor.

Emerging themes and subthemes

Modalities of HIV discovery and diagnosis

This theme describes how HIV status was discovered among the WLWHA. The analysis revealed three subthemes to the discovery and diagnosis: personal illness, sick partner or sick child, and antenatal screening.

Personal illness

Most of the participants experienced persistent sickness, which prompted medical attention, including diagnosis. One of the participants shared her experience of persistent ill health characterised by chronic diarrhoea, leading to hospitalisation and subsequent diagnosis:

> *When it started, I would fall sick quite often. My stomach would hurt, and as soon as I ate, then I would defecate everything. My husband was a driver, so he was away often. I went to Epsona hospital, they checked me and said they couldn't handle my condition, so I had to be referred to the central hospital. A lady who works there brought me here on her motor bike. I was admitted and given intravenous infusions and blood transfusion. Sorry they didn't give blood transfusions, just the infusions. They discharged me, but Fati brought me back here and said we should do test. We did it but they found nothing. They then gave me a brush to brush my teeth with. They took it and told me to come back on Wednesday or Thursday with my husband. So, I came with him and he also did the test, that's when they told us the diagnosis and started giving us the drugs. (Respondent 14)*

Another participant described experiencing symptoms such as coughing, which led to hospitalisation and the revelation of their HIV status:

> *I was sick and coughing and was brought to the hospital. That's when I tested and was told that was the case [HIV]. I was then told I had to take the medication, so that's when I started. They also made my husband come for the test too, and it was also like that, and my husband also started taking the drugs. But right now, he doesn't come for the drugs, since last year until now. (Respondent 8)*

Through sick partner or child

Additionally, some of the participants reported becoming aware of their HIV status through their sick partners and children. One respondent stated:

> *My husband got sick, and we brought him to the hospital, when he checked, he was positive so when I came, they asked me to also check. When I checked I also had some. (Respondent 1)*

Another respondent who discovered her status after her sick child tested positive for HIV detailed her experience:

> *The reason I started was because it started with my child. The child was always sick, so I brought him to the hospital, but they couldn't tell us what was wrong with him, but they were managing him until I also suddenly became sick. When it started, I was running diarrhoea, and I wasn't myself, so both me and my child were always going to the hospital. They would give us medicines, intravenous infusions, and some drugs to take home. We continued like that until I went to Dr Amia Hospital, where my child was admitted, because at that time I was better. It was there that the doctor gave me a note and told me to come here, saying that it was HIV/AIDS that the child had. I didn't believe it because the child was just 13 years old. I wondered how that was possible. I didn't know how I could have gotten it to be transferred to my child. So, I brought the note here, and I was told that was the case. I didn't believe it, but who am I to say that is not it when the doctors are saying so? Later, the doctor wrote another note for me to take the test on myself, and that was the case for me too. (Respondent 11)*

Antenatal care screening

Moreover, prenatal screening played an important role in establishing the diagnosis, according to the narratives. It was revealed that some of the participants were screened at antenatal care and subsequently diagnosed with HIV.

A participant confirms:

> *It was at my first antenatal visit, the midwife told me, I was positive. I was far from here, so she was the one who used to come for the drugs for me, but later I told her to let me come for them myself. That's when I started coming. (Respondent 16)*

Motivations for initiating and adhering to antiretroviral therapy

This theme examines the various reasons why women living with HIV decide to start and maintain their ART. The interviews revealed a range of motivations why WLWHA started taking the anti-retroviral medication. Three subthemes emerged regarding motivations for initiating ART, namely personal health concerns, advice from significant others, and social and community considerations, including a sense of responsibility to prevent transmission to their children, as detailed below.

Maintain health and prevent worsening disease state

Some participants recognised the importance of taking ART to maintain their health and prevent sickness. Participants noted that taking ART led to improvements in physical appearance, which also boosted their confidence and self-esteem. Not initiating ART was perceived as worsening the disease state.

> *I realised that taking ART was very important for keeping my health in good shape and avoiding getting sick. Not only did I feel better physically after starting the treatment, but I also saw that I looked better, which made me feel much better about my confidence and self-esteem. I promised myself that I would take the medicine because I knew that if I didn't start ART, my situation would only get worse. (Respondent 9)*

Advice from healthcare providers and relatives

The analysis brought to light that some of the women living with HIV started taking the medication because they were encouraged by healthcare providers or relatives.

> *I can personally attest that I started taking the medicines [ART] because the nurses at the clinic encouraged me, and my family supported this decision. It is their encouragement that helped me to decide to take the medicines. (Respondent 2)*

> *My decision to begin medication was heavily influenced by my family. It was my sister who told me that when I take the drugs, I will feel better, and the disease will not become worse. She encouraged and supported me to start taking the medicines. (Respondent 8)*

To live long and take care of dependents, and prevent transmission to children

For some participants, their motivation for taking medication is driven by their sense of responsibility and love for their dependents. They recognised the importance of their own health and longevity to ensure that they can provide and care for their children:

> *The reason is that I am a widow, I have nobody to help me so I knew I had to take the drugs and live longer so that I can take care of my children. I started [taking the drugs] in 2012; my last born was 10 years by then but now he has completed Navrongo SHS (senior high school). Let's say I was not taking the drugs and had died, who would have taken care of him? (Respondent 9)*

Regarding medication adherence, three subthemes emerged, namely improvements in health and physical appearance, counselling and continued encouragement by healthcare providers, and prevention of transmission to children.

Improvement in health and physical appearance

Respondents notice significant health improvements after starting ART, which reinforces their commitment to continue the treatment.

A participant responded:

> *Since I started taking them [ART], I have seen many changes in my life. At first, I was looking weak and ugly, but now I am called sweet sixteen because I have taken the drugs, and I am looking very beautiful. (Respondent 9)*

Continued counselling and support from healthcare providers

Another participant who adheres to medication due to continued counselling and support had this to say:

> *The truth is that the woman working here, the one checking. When the result came and I was positive,*

> *I cried a lot, then the nurse picked me up with a car and brought me here to show me the place. They also tested and said it was positive. They counselled me and told me to have patience and not think of suicide, but that if people came around, I would see that I was not alone. That's when I agreed. Then I started taking the drugs and have continued to take them up to now. (Respondent 12).*

To avoid transmission to unborn baby

One of the clients indicated that her motivation for medication adherence stemmed from the fact that she was pregnant and wanted to avoid transmission to her unborn baby. She said:

> *The time I started, it was the doctor who brought me. I was pregnant by then, and the doctor told me that if I didn't take the drugs, then my child would also have it [HIV] by the time I delivered. Because of that, I started taking and have been taking even after I delivered my child. (Respondent 3)*

Barriers to ART uptake

We explored the challenges with adhering to medication schedules by asking respondents if they had missed their schedules since initiating antiretroviral therapy and the reasons behind it. Some respondents indicated that they had never missed a schedule. Some respondents, who revealed they had never missed their schedules, explained:

> *I have never done that [missed a schedule]. I cannot read, so I am always asking [about my scheduled date]. It was three days ago that I asked a boy to read for me, and he told me it was today. As it is, I have a headache, but I still had to come. I have never missed my appointment. (Respondent 13)*

> *No. I always come. As soon as it is my appointment date, I come. I have never missed a schedule before. (Respondent 14)*

However, some respondents missed their schedules, and this theme explored the reasons behind some respondents missing their schedules. Three subthemes emerged from the perspective of the WLWHA: ill health, forgetfulness, and long distance to ART clinics.

Ill health

One patient who missed her schedule due to ill health justified:

> *Yes, I have missed twice. The other day my leg hurt, and I missed an appointment, plus my mother-in-law was sick, and we were going up and down, so that makes two. (Respondent 8)*

Forgetfulness

Another patient who missed due to forgetfulness admitted:

> *Since I started, I cannot say I have never missed a day because sometimes I forget. (Respondent 11)*

Long distances to ART clinics

Another challenge mentioned by some patients was the long distance to ART clinics, which is sometimes caused by their desire to avoid meeting people they know, with the fear that it may lead to the disclosure of their HIV status.

> *You know I am from Sandema; I should have been taking my drugs [ART] there, but because people know me in the hospital, I decided to change the place that I go for my drugs. I was working in Tamale but there was nobody to take care of my mother, so I decided to release myself to Sandema and take care of my mother. That's why I am now living there. That is why I decided to come here for the drugs because people know me at Sandema. There was a time another woman was also taking the drugs; she saw me there [at the ART clinic in Sandema] and went to inform people while she was also taking the drugs. (Respondent 10)*

Barriers to ART uptake from healthcare providers' perspectives

This theme presents the barriers to ART uptake from the perspective of the healthcare providers. Overall, four subthemes emerged from the analysis and are discussed below.

Geographical location and long distance to antiretroviral therapy clinics

The discussion with the healthcare providers confirmed some of the challenges mentioned by the patients and revealed certain challenges faced by WLWHA in relation to medication adherence that were not mentioned by the respondents themselves. For example, they confirmed that patients sometimes have to travel longer distances to other areas for treatment, even when there is an ART clinic in their location, to avoid people knowing about their status. However, they also added that these long-distance travels are sometimes due to the unavailability of ART clinics in some geographical areas.

> *I think location is an issue, actually yes, it is a factor, but let's put it this way: if the ART clinic is not located in their various communities. Where there is an ART clinic, stigma becomes a concern because the person wouldn't want to go to the clinic in their locality and therefore would like to travel to another locality, which is most of the time very far from where they come from. (Male nurse 1)*

Transport challenges

Transportation challenges were also mentioned, which are exacerbated by the long distance to ART clinics and compounded by financial challenges.

> *Okay so I would like to tackle the financial issue. Sometimes, the location or where they live makes it difficult for them to come to the facility for their medication. There is often no money, and they might have partners who are not willing to support them or refuse to accept that they have the virus or disease so, yes, financial constraints. (Female nurse 1)*
>
> *So like they rightfully said, the location coupled with transportation and the fact that, like my sister said, they've not disclosed their status to their relatives for that support and everything is on them alone, and if the person has been sick for some time and has lost their job, how will they be able to take care of all these transportation issues? It becomes a demotivating issue for that particular person, so coming to the hospital is a problem. If they come once and get the drugs, but then don't have the time to return, they tend to lose interest in the whole process. (Male nurse 1)*

Challenge with obtaining permission to visit the clinic

It was brought to light that the female clients faced challenges with obtaining permission from their husbands and families before they could visit the ART clinic, largely because they were unaware of their status, and did not want to make it known to them either. Some patients often devise excuses or schedule their healthcare visits around other activities to avoid suspicion.

> *I will also add the fact that for some of them, their partners or their families are not aware, so the excuse they will give them to come all the way is a problem, so some of them have to wait until it's market day so they can use shopping in the market or wherever they are picking their drugs, then they will find something to use as a reason to come. Just to come and take their drugs so the fact that families are not aware, and they wanting to keep it to themselves is also another factor. That is what I have to add (Female nurse 2).*

Cultural and spiritual beliefs, and misinformation

In our discussion, healthcare professionals highlighted the significant impact of cultural beliefs and societal pressures on patients' decisions regarding their medication adherence. A striking example comes from a male nurse, who recounted an interaction with a patient from a royal family:

> *Some too it's the society, and I mean cultural beliefs, because I personally had an encounter with someone who said that she is from the royal family so if they find out, they will ban her so I think all these things can demotivate them because the person might not want to take stuff that will expose her or let people know that she has it so as to avoid being banned so I think is one. (Male nurse 2)*

The healthcare providers acknowledged the influence of spiritual beliefs and misinformation in medication adherence, through assertions of religious leaders and false information by drug sellers. One healthcare provider noted:

> *And of late spiritual confusion, pastors are on air saying they can pray for you to recover from HIV/AIDS. Then the drug dealers and peddlers in town: I have drugs for HIV/AIDS. All these things are things that are hindering their adherence (Female nurse 3).*

Facilitators of ART uptake

An analysis into the factors that facilitated or made it possible for clients to adhere to their medications and schedules revealed various enabling factors. Our analysis identified three subthemes: enabling environment, perceived benefits of ART, and the model of hope concept.

The enabling environment to be able to keep their diagnosis private

One of the factors that enabled clients to adhere to their schedules was their ability to conceal their HIV status. This is made possible because the patients do not know people at the ART clinic whom they perceive will disclose their status, or the people they live with are not aware of their status.

> *It's not like I know someone here [the ART clinic] that will make me feel like if I come, someone will see me, so I won't come for the medications. (Respondent 1)*

> *As I'm sitting with you here [the ART clinic], the people I stay with don't know that something is wrong with me. I just say I want to go see a doctor or I'm stepping out for a while. I come take my drugs and go back, so no one knows what is wrong with me to insult me with it. (Respondent 11)*

Perceived benefits of antiretroviral medications

One other enabler is the perceived benefits of antiretrovirals, demonstrated by improvement in general health, increased longevity, and reduced disease progression.

> *I have seen that when I take the drugs I will live long. Many people who started the treatment before me are doing well and are still living, so I need to follow the instructions. (Respondent 2)*

> *Now that I have taken the drugs and I'm fine, that's why I take the drugs. Everyone has a disease of their own, and since I started taking the drugs, there have been no problems. I come because since I started taking the drugs, I'm not how I was before, so if I joke and do not come for the drugs, I will end up the way I was before. What will I do next? That's what encourages me to come for the drugs. (Respondent 11)*

> *The reason I didn't stop was because sometimes I come here and when they show me that maybe this person was on drugs but stopped, and you see how the person looks. When you see it, you won't even want to stop taking the drugs. And as for where I live, not everyone knows about my status, so I go about my business, but if I should stop and stay at home and it gets worse, that's when everyone will know that yes, that's why I can't stop. (Respondent 6)*

The clients' narratives were supported by our focus group discussions with healthcare providers. The healthcare providers confirmed that the drugs have significantly improved the health of many clients. They also provide constant emotional support to help clients adhere to their medication regimens.

> *The benefits of the drugs also stand in as an enabler. When you take the drugs, you get better because most of them came in very sick, unlike today, when people test to know their status even when they are not sick. But in those days, people waited until they were sick, when they were being diagnosed, and then they came for treatment because at that time, when you should compare those who were diagnosed with those who walked in for testing, that difference was very wide, and all of them who came in with WHO staging: stage two to stage four, it was only a few who came in with stage one. If you are talking about stage one, then where you are is asymptomatic, but most of them were symptomatic, so the fact that the drugs made them better and they were no longer getting sick or the frequency of the sickness and opportunistic infections were not there, that alone could have served as an enabler or as a factor in making them come for their treatment. (Male nurse 1)*

A female nurse had this to say in support:

> *I think what also can contribute to their coming for the drugs is the emotional support we give them when they come because some come in not in a good state, but when they come, through the education and the other interactions, I think they are able to feel at home and come in for their drugs. (Female nurse 2)*

Model of Hope

We also learned that a strategy called 'model of hope' was used by health care providers to provide an enabling environment that ensures medication adherence. Under this model, clients living with HIV who have benefited from adhering to their medication in various ways share their experiences to demonstrate the benefits to other clients. One of the healthcare providers described:

> *They [models of hope] are people living with HIV here in the clinic so what they do here is to serve as role models. Letting them know that they are also like them but because they adhere to taking the medicine well that is why are able to work here so if they also take the medicine, they can do same. They also mentor mothers; some of them are positive clients with negative children so they encourage others to know that if they are taking the medicine very well then they can give birth to HIV negative children. (Male nurse 2)*

Experience taking antiretrovirals

We explored the patients' experiences taking antiretrovirals. Two main subthemes emerged, the perceived efficacy of the drugs and the side effects associated with taking them.

Perceived efficacy

It was widely acknowledged that antiretrovirals are efficacious, as indicated by relieved infection symptoms and improved physical appearance. Furthermore, a section of the participants indicated that antiretrovirals made them live longer, which has enabled them to perform their daily activities and other responsibilities.

> *Before I started taking the medicine, I used to get rashes and would scratch my body due to the itching, but now those rashes are gone. The drugs give you the strength to work. If you don't come for it, then how will you work? If you are weak, will you be able to work? Right now, I have the energy; I can weave and go wherever I want to go, but if I were sick, could I have been able to go anywhere? I couldn't have. I wouldn't have been able to come here (Respondent 15)*

> *The medicine [antiretrovirals] has helped me a lot, now when they see me, they argue my status among themselves because it doesn't show on my body. (Respondent 9)*

> *It's good in the sense that, it is the drugs that are keeping me alive to take care of my children. If the drugs were not available, I would have died long ago leaving my children behind (Respondent 8)*

Side effects

Despite acknowledging the benefits of taking antiretrovirals, some patients also indicated that they experienced side effects of the drugs, including headaches, an itchy body, and vomiting. Some patients had to change their regimen due to side effects.

> *The beginning was not easy, but now I've gotten used to it. I used to vomit when I took it, but as time went by, I became used to it. (Respondent 2)*

> *Now they have changed the medicine, because the old ones used to give me severe headaches, so I came and complained, and they changed them for me. So right now, I have no problems with the new ones. (Respondent 12)*

Discussion

This study found that the women who were infected with HIV discovered their diagnoses through three main ways: antenatal screening, illness, or through a sick partner or child. This is in agreement with studies that have shown that missed opportunities for HIV testing are unacceptably high, leading to a situation where, for instance, a person might fall ill or have a sick partner before they are tested [18].

In terms of experiences of the WLWHA, this study learned that stigma and discrimination were things they feared and faced, and in response to this real or perceived stigma, they went to great lengths to conceal their diagnosis. Since the start of the HIV/AIDS pandemic in the late 1980s, stigma and discrimation have been a feature of the disease, although it has been shown to reduce due to education and a greater understanding of what the disease is and is not [19–21].

Among the motivations the women have in initiating and staying on ART, maintaining good health, the encouragement of family and healthcare providers, and in the case of pregnant women, the desire to prevent transmission to their unborn children were key, and these reasons were consistent with those found in various studies across SSA [22–24]. A meta-ethnography conducted in SSA was in consonance with some of the findings of this study, particularly the fact that individuals tended to intiate and stay on ART because they wanted to live longer to be able to care for dependents, although many of these studies included both sexes and was not focused on women [25].

An enabling environment that ensures the WLWHA have privacy when accessing care and obtaining ART came to the fore as one major enabler for ART uptake. A study conducted in Ghana argued that the limited uptake of ART in the country could be attributed to the poor level of privacy that is offered in the course of provision of HIV-related care [26]; this means that the more privacy that is offered to individuals living with HIV, the more likely they are to engage in health-seeking behaviours that are beneficial to treatment. Furthermore, it can be seen that, generally, the will to live a long and healthy life and the support system offered by family and friends create an enabling environment for ART uptake and retention in care [27–30]. The "model of hope" system used by the clinics to encourage ART uptake through peer counselling by other WLWHA closely mirrors similar systems used in other low resource settings [31]. This system ensures that one WLWHA (often a health worker) counsels another. This approach is considered effective because the individuals share similar challenges and can relate with each other more closely.

However, some enablers that have been found in literature but not mentioned by repondents in this study include trust in the government-run healthcare systems, affordability of health services, and community tolerance towards PLWHA [25]. The fact they were not mentioned does not mean they do not exist in the Ghanaian setting, but it is worth examining nonetheless, in order to find out if these factors are not prominent in the minds of these women because perhaps, they do not exist strongly.

Several studies have looked at barriers to ART uptake in the general population, and these largely agree with the findings of this study. Alhough some respondents stated that they never missed any ART doses or scheduled appointments, others stated that they sometimes missed due to forgetfulness, ill-health, or long distances. These closely mirror the reasons given by PLWHA in Uganda [32]. It can be seen that the adherence was generally encouraging, nevertheless, barriers did exist from the persepectives of these women.

The perspective of healthcare workers are also invaluable in shedding some light on the attitudes of their clients with regards to treatment of HIV. It can be seen that the locations of the clinics can be a demotivating factor since in the first place, a person who needs ART and is willing to get them might not be comfortable getting them at a clinic in their locale as a result of fear of stigma [20, 21]. Furthermore, transportation challenges, possibly as a result of the distances the women might have to travel, compound the difficulties they face [27]. This study also discovered that other barriers to uptake of ART were the challenges with getting opportunities to visit the clinics since they wanted to keep that information private, as well as the hindrance that cultural and spiritual beliefs pose. Cultural and spiritual beliefs sometimes can be a barrier to health-seeking behaviour when they are not in consonance with healthcare practices [33], also, the role of women in the family unit makes it more difficult to move around with ease and make autonomous decisions.

Conclusion

It is well known that even though no cure for HIV has been found yet, ART is highly effective at keeping progression to AIDS at bay and giving individuals living with the virus a comparative life expectancy with the general population. Despite the fact that females are disproportionately affected by HIV, their unique issues have received little attention in the literature on HIV/AIDS in SSA. Focusing on women's experiences is crucial, as they face unique socio-cultural, economic, and structural barriers that may hinder their engagement with HIV/AIDS care. If these issues are not well studied and dealt with, the spread of the virus cannot be curtailed. This study has found that although enabling factors exist for these women to access HIV-related healthcare, namely, an enabling environment characterised by privacy and professional healthcare workers, their own perceived benefits of the medication, and the model of hope system, these enablers should be expanded upon and encouraged so that the WLWHA can access drugs in a timely and stress-free manner.

On the other hand, barriers to ART uptake such as long distances and transportation costs; cultural and spiritual factors that serve as hindrances; ill health; and forgetfulness, are issues that have to be addressed through improved infrastructure, education, and healthcare provision at all levels. ART clinics should be more widespread and accessible so that the barrier of long distances and travel costs can be eliminated. In the cases where the clinics are in the localities of these women but they still travel due to fear of stigma, steps should be taken to deal with stigma in the community through consistent and thorough education so that women will not find the need to travel long distances for care. In addition, although they have a place in health, more education is necessary so that WLWHA are not distracted by spiritual and socio-cultural issues that prove inimical to the treatment of HIV. Finally, there is an urgent need for women empowerment especially in deprived areas of SSA. This ensures they have autonomy in some of their decisions, and possess the wherewithal to seek care when they need it.

This study has a limitation which should be addressed by future research. It has the weakness of not necessarily being generalizable because it is a qualitative study that only captures the views of a specific group of women in a specific area.

Abbreviations

HIV	Human Immunodeficiency Virus
AIDS	Acquired Immune Deficiency Syndrome
SSA	Sub-Saharan Africa
ART	Antiretroviral therapy/treatment
PLWHA	People living with HIV/AIDS
WLWHA	Women living with HIV/AIDS
UERH	Upper East Regional Hospital

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Author contributions

AMZ, ASI, and MB conceptualised and designed the study. ASI led the data collection process and MB analyzed the data. AMZ, ASI, and MB screened the data and critically revised the analysis. AMZ discussed the results and drafted the manuscript. All authors read and approved the final manuscript for publication. All authors confirm that they had full access to all the data in the study and accept responsibility for submission for publication. The corresponding author attests that all authors meet authorship criteria and that no criteria were omitted.

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Data availability

The datasets used and analysed during this study are available from the corresponding author on reasonable request.

Declarations

Ethics approval and consent to participate

The study received ethical clearance (No. *GHS-ERC:025/08/23*) from the Ghana Health Service Ethics Review Committee prior to initiation. Informed and written consent were obtained from the respondents before they were interviewed.

Consent for publication

Not applicable.

Competing interests

The authors declare no competing interests.

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