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Coping strategies and lived experiences of pregnant women living with HIV in Ghana

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Abstract

Human Immunodeficiency Virus (HIV) has caused significant health, social, and economic challenges globally. Women are disproportionately affected, comprising more than half of all HIV-positive individuals globally, with sub-Saharan Africa facing an even more pronounced disparity. The study aimed to explore Coping Strategies and Lived Experiences of Pregnant Women Living with HIV in Ghana. A purposive sampling technique was used to select 10 pregnant women living with HIV for the study. A semi-structured interview schedule was employed to collect data from the participants. Thematic analysis was used to analyze the data. The findings revealed that pregnant women with HIV often experienced shock, fear, and uncertainty following diagnosis. Two main themes emerged: emotional and psychological coping mechanisms and social support systems and networks. Within emotional and psychological coping mechanisms, four subthemes were identified: initial emotional coping, stress management strategies, emotional regulation, and psychological well-being. The study highlighted the various sources of emotional, practical, and psychological support women relied on to navigate the challenges of HIV. Regarding social support systems and networks, four subthemes emerged: family support, friendship networks, support groups, and healthcare providers. Family support was particularly crucial, offering both emotional reassurance and practical assistance. Policy makers should develop and implement policies to reduce stigma and discrimination against people living with HIV, particularly pregnant women, to ensure they receive comprehensive care and support services without fear of judgment or rejection.

Keywords Coping strategies, Family support, Healthcare providers, HIV, Pregnant women, Psychological support

1 Introduction

Human Immunodeficiency Virus (HIV) remains a major public health concern, particularly for pregnant women who must manage their own health while preventing mother-to-child transmission (MTCT). In 2024, approximately 1.1 million pregnant women were living with HIV globally, representing 2.7% of the 40.8 million people living with the virus (World Health Organization [WHO], [59, 62]. Of these, about 84% (940,000) received antiretroviral therapy (ART), reflecting substantial progress in reducing MTCT

and improving maternal outcomes (WHO, 2024). Despite these gains, disparities in access to care persist, especially in low-resource settings, underscoring the need to strengthen ART coverage and prevention strategies. In addition to clinical challenges, pregnant women living with HIV experience considerable psychological and social burdens. They are more likely to experience depression and anxiety than HIV-negative women [10], often driven by stigma, fear of disclosure, and social isolation. Internalized stigma and discrimination further undermine quality of life and adherence to ART [40, 65]. Although the importance of integrating mental health support and stigma reduction into HIV care is increasingly recognized, these services remain insufficient in many settings.

Sub-Saharan Africa, particularly Western and Central Africa, continues to bear the greatest burden of the epidemic [5]. Persistent structural barriers—including limited healthcare access, socio-economic inequalities, cultural stigma, and low public awareness—impede effective responses. Women are disproportionately affected due to gender-based vulnerabilities that increase both their risk of infection and challenges in accessing care [59]. While the expansion of ART programs, HIV testing, and community-based interventions has significantly reduced new infections and AIDS-related deaths, stigma and healthcare access constraints continue to limit their full impact (WHO, 2024). Although mental health services are increasingly integrated into HIV care, they remain under-resourced and insufficiently tailored to the needs of pregnant women [43].

Mental health conditions such as depression, anxiety, and stress are highly prevalent among pregnant women living with HIV. These are often linked to fears of health deterioration, MTCT, and uncertainty about future caregiving responsibilities. Depression prevalence ranges from 25% in Ukraine to between 59 and 61% in sub-Saharan Africa [4, 5]. These challenges are further compounded by stigma, intimate partner violence (IPV), poverty, and social isolation.

In Ghana, the HIV epidemic reflects broader regional trends while exhibiting distinct national dynamics. As of 2022, 342,307 people were living with HIV, including 219,986 women, with estimates increasing to 350,000 by January 2023 [43, 45]. National responses—such as ART scale-up, MTCT prevention, and public education campaigns—have improved outcomes. However, stigma, gender inequality, and socio-economic barriers continue to hinder access to care. Among pregnant women, these challenges are intensified by risks of adverse birth outcomes, including low birth weight and preterm delivery [39], as well as stigma-related non-disclosure, avoidance behaviors, and social isolation [57]. Coping strategies, including resilience and behavioral interventions, are therefore essential for mitigating psychological distress and improving treatment adherence [17]. At the local level, evidence from the Assin Central Municipality indicates an HIV prevalence of 2.6% in the general population, with similarly elevated rates among pregnant women. Notably, 85.7% of pregnant women receive ART for MTCT prevention [3]. Despite this progress, the persistence of HIV among pregnant women highlights ongoing gaps in support and care. While previous studies have examined coping strategies among women living with HIV globally and regionally, there is limited evidence on how pregnant women specifically navigate diagnosis, stigma, disclosure, treatment adherence, and social support within this context. This study therefore aims to explore the Coping Strategies and Lived Experiences of Pregnant Women Living

with HIV in Ghana. By addressing this gap, the study seeks to generate context-specific insights to inform targeted interventions, policies, and support systems for HIV-positive pregnant women.

2 Materials and methods

2.1 Research design

This study employed a descriptive phenomenological qualitative research design to explore the Coping Strategies and Lived Experiences of Pregnant Women Living with HIV in Ghana. Phenomenological design was chosen for its ability to provide an in-depth, subjective understanding of the participants' lived experiences, acknowledging the complexities and nuances of living with HIV during pregnancy. According to Amoako et al. [2], phenomenological design is a qualitative research design that focuses on exploring and describing the lived experiences of individuals. This design is particularly useful for studying complex, subjective phenomena, such as coping strategies and support systems, and seeks to understand the essence of a shared human experience. In this case, it allowed for an exploration of the lived experiences of pregnant women living with HIV in the Assin Foso region.

2.2 Study area

The study was conducted in the Assin Foso Municipality, located in the Central Region of Ghana. The municipality was established in 2012 through Legislative Instrument (L.I.) 1856 and was carved out of the Assin North Municipality, which previously had Assin Foso as its capital. Assin Foso is the capital town of the Assin Central Municipal, located in the northwestern part of the region. The municipality covers a geographical area of approximately 1,419 square kilometers [20]. According to the 2021 Population and Housing Census, the municipality has a total population of 88,753, with 43,549 males and 45,204 females. The population is a mix of both urban and rural residents, with 49,046 people living in urban areas and 39,707 in rural areas, indicating a predominantly rural demographic [20]. The municipal comprises 25,657 housing units, with an average household size of 3.5 persons. The average number of persons per room is 1.5, reflecting a moderate level of crowding in the housing units [20]. The primary economic activity in the municipality is agriculture, though there has been notable urbanization and development over the years. These developments have led to improvements in infrastructure, healthcare, and education within the region. The town is also known for various renowned institutions such as the Immigration Training School, Obiri Yeboah Senior High School, Foso College of Education, Assinman Nursing and Midwifery Training College, St. Francis Xavier Hospital, Polyclinic and Banks. The municipality is also known by its famous Member of Parliament—Hon. Kennedy Agyapong. The study area, Assin Foso was purposively selected for this study due to its unique characteristics and relevance to the research questions. The site is a rural town with a prevalence of HIV/AIDS, making it an ideal location to explore the Coping Strategies and Lived Experiences of Pregnant Women Living with HIV in Ghana.

2.3 Population

Shukla [48] states that, population is set of all the units which possess variable characteristics under study and for which findings of research can be generalized. The target

population for this study comprised all pregnant women living with HIV in Assin Foso in the Assin Central Municipality. This population was selected due to their unique experiences and challenges related to living with HIV during pregnancy. The accessible population, from which the study sample was drawn, comprised pregnant women living with HIV who received antenatal care at St. Francis Xavier Hospital in Assin Foso during the study period. This population was deemed accessible due to their regular interaction with healthcare system, thereby facilitating recruitment and data collection.

2.4 Sample and sampling procedure

This study employed a qualitative design involving 10 pregnant women living with HIV who were receiving antenatal care at St. Francis Xavier Hospital in Assin Foso, within the Assin Central Municipality. Participants were selected based on the following inclusion criteria: being pregnant and living with HIV, receiving antenatal care at the facility, aged between 20 and 40 years, and able to communicate in English or Twi. These criteria ensured that participants had relevant lived experiences of managing HIV during pregnancy and could effectively engage in the interviews. A purposive sampling technique was used to recruit participants who could provide rich, in-depth insights into the phenomenon under study. This approach is appropriate in qualitative research where participants are selected based on their relevance to the research objectives and their ability to provide detailed experiential data [12]. Recruitment was facilitated through collaboration with healthcare providers at St. Francis Xavier Hospital, who assisted in identifying eligible participants.

The sample size was guided by the principle of data saturation, defined as the point at which no new themes or meaningful insights emerge from additional data collection (Creswell & Poth, 2018). In line with recommendations for qualitative interview studies, which suggest a range of 5–25 participants (Polkinghorne, 1989), a total of 10 participants were initially interviewed. Saturation was reached by the 10th interview, as no new codes or variations in participants' experiences emerged, particularly regarding coping mechanisms, psychological challenges, and social support systems. To confirm saturation, three additional interviews were conducted, which yielded no new information. The sample size and sampling strategy were appropriate given the homogeneity of the study population and the depth and richness of the data obtained. This approach ensured credibility, depth, and completeness of the findings, prioritizing meaningful insights over numerical representation [18].

2.5 Data collection tool

This study used a semi-structured interview guide to collect data from the participants. The interview guide was developed based on the research objectives and consisted of open-ended questions and probes to explore participants' experiences with HIV during pregnancy, including coping strategies related to living with HIV during pregnancy. The interview guide was developed into three sections. Section A: Background characteristics of participants (8 questions), Section B: common coping strategies adopted by pregnant women diagnosed with HIV (5 questions) and Section C: coping strategies in managing the emotional and psychological challenges faced by pregnant women with HIV (6 questions). The interview guide was pilot-tested with two pregnant women living with HIV to ensure its credibility and dependability. Feedback from the pilot helped

confirm that the questions were understandable and effective in eliciting in-depth responses relevant to the study objectives. This also helped assess clarity, flow, and the effectiveness of prompts, and allowed the researchers to practice bracketing.

Data collection took place at the St. Francis Xavier Hospital in Assin Foso, where the participants received antenatal care. Each interview lasted approximately 30–35 min and was conducted in a private room to ensure confidentiality. The researchers took detailed notes during each interview and audio-recorded the conversations with the participants' consent.

2.6 Data collection procedures

Interviews took place in an assigned office at the Antiretroviral Therapy Clinic of St. Francis Xavier Hospital, Assin Foso, at a time agreed upon with each participant. Each interview lasted approximately 30–35 min. Interviews were conducted in the participant's language of choice (English, and Twi). Four interviews were conducted in Twi and six interviews were conducted in English. Conducting interviews in the participants' preferred language (English or Twi) ensured that participants could express their thoughts and experiences comfortably and accurately. This approach enhanced the depth, authenticity, and cultural relevance of the data collected. Using both languages also helped minimize potential misunderstandings or loss of meaning that might occur if participants were restricted to a non-native language. Conducting interviews in the participants' preferred language (English or Twi) ensured that participants could express their thoughts and experiences comfortably and accurately. This approach enhanced the depth, authenticity, and cultural relevance of the data collected. Using both languages also helped minimize potential misunderstandings or loss of meaning that might occur if participants were restricted to a non-native language. To ensure accuracy, an equally proficient translator who was a trained member of the research team compared the translated versions with the originals, making adjustments as necessary [55]. This approach preserved the linguistic complexity and cultural context of the participants' original voices during coding [47]. As part of the research team, the translator adhered to the study's confidentiality protocols to ensure participant anonymity and data protection.

2.7 Ethical considerations

The ethical consideration was based on the Declaration of Helsinki [64]. Ethical approval was sought from the Institutional Review Board of the University of Cape Coast (IRB-UCC-653/2024). Permission to conduct the study was formally obtained from the management of the hospital in Assin Foso prior to the commencement of data collection. Informed consent was obtained from all participants, and measures were taken to protect their privacy and confidentiality, such as using pseudonyms and secure data storage. Participants were informed of their right to withdraw from the study at any time without consequence. Additionally, the research team had a plan in place to provide referrals to counseling services if any participant experienced emotional distress during the interviews. This approach allowed for an in-depth exploration of the data, providing rich insights into the emotional, social and psychological coping mechanisms and support systems for pregnant women living with HIV in Assin Foso in the Assin Central in the Central Region of Ghana.

2.8 Ensuring trustworthiness

To ensure the trustworthiness of this qualitative study, the researchers employed several strategies. Credibility was established through prolonged engagement with participants and this allowed for the development of trust and rapport between the researcher and participants. Member checking with three participants was also conducted, where participants verified the accuracy of the transcript. This ensured that the findings accurately reflected the participants' experiences and perspectives. Interviews were conducted in Twi for participants who preferred their local language, the member checking process was adapted to ensure accessibility and comprehension. For participants interviewed in Twi, the researcher translated key themes and interpretations back into Twi and presented them verbally during follow-up sessions, allowing participants to confirm, clarify, or correct the researcher's understanding of their narratives. For participants interviewed in English, transcripts or summaries of their interviews were shared for review. This bilingual approach to member checking ensured that language barriers did not compromise the validation process, and participants could engage with the verification process in their language of comfort regardless of literacy levels. Dependability was ensured by maintaining a detailed audit trail of the research process. This included documentation of recruitment procedures, data collection methods and data analysis techniques. The audit trail provided a transparent record of the research process, allowing for the replication of the study if necessary. Confirmability was enhanced through the use of a semi-structured interview guide developed specifically for this study, based on the research objectives. The guide ensured that all participants were asked comparable questions while allowing flexibility for follow-up probes. This consistency reduced the risk of researcher bias and supported a transparent and systematic approach to data collection and analysis. Researcher bias here means the unintentional influence of the researcher's own beliefs or assumptions on data collection and interpretation, which the use of consistent and systematic methods helped to reduce. Transferability was facilitated by providing rich descriptions of the research context, participants and methods. This included information about the setting, participant demographics, and data collection methods. By providing detailed descriptions, readers can assess the applicability of the findings to their own contexts and make informed decisions about how to use the research.

2.9 Data analysis procedure

This study employed a qualitative data analysis, a thematic analysis approach to analyze the data. Each interview was transcribed verbatim and then checked for consistency and accuracy. For interviews conducted in English, transcription was completed directly in English. For interviews conducted in Twi, the audio recordings were first transcribed verbatim in Twi and subsequently translated into English by a bilingual research assistant fluent in both languages. To ensure accuracy and fidelity of meaning, another bilingual team member reviewed the translations against the original Twi transcripts. The interview data were analyzed using NVivo 12**,** a qualitative data analysis software that facilitates systematic coding, organization, and thematic development.

Transcripts were read several times to enable familiarization with the data to appreciate the text [6]. A thematic analysis approach was employed to analyze the data, following Braun and Clarke's six-step framework [7]. All interviews were transcribed

verbatim, and transcripts were checked for accuracy. The analysis process began with repeated readings of the transcripts for data familiarization. Coding was conducted inductively, allowing themes to emerge from participants' narratives rather than imposing pre-existing categories. Two data coders independently coded the data. Initial codes were then generated based on patterns and meaningful features within the data. Codes were grouped into potential themes, which were then reviewed and refined by multiple members of the research team to ensure coherence and alignment with the research objectives. Themes and sub-themes were developed based on similarities, contrasts, and overarching narratives present in participants' accounts. The final themes were supported by direct quotations from participants to preserve their voices and enhance the authenticity of the findings.

2.10 Description of the coding tree

The coding tree demonstrates the systematic organization of qualitative data from participants' narratives into themes and subthemes using an inductive thematic analysis approach. Verbatim interview transcripts from pregnant women living with HIV at Assin Foso formed the raw data and were analyzed through repeated reading to identify meaningful units relevant to the study objectives. Initial codes were generated through line-by-line analysis of the transcripts and reflected recurring experiences such as emotional distress following diagnosis, acceptance of HIV status, concerns about the unborn child, seeking emotional support, and support from family members, friends, healthcare providers, and support groups. These codes were then grouped into related subthemes.

Two overarching themes emerged from the analysis. The first theme, emotional and psychological coping mechanisms**,** comprised subthemes including initial emotional reactions to diagnosis, discovery of HIV status, stress management strategies, and emotional regulation and psychological well-being. This theme captured participants' internal emotional responses and coping efforts during pregnancy. The second theme, social support systems and networks**,** included subthemes of family support, friendship networks, social group support, and healthcare providers' support, reflecting the external sources of assistance that influenced participants' ability to cope emotionally and psychologically.

All interview data were managed with strict confidentiality. Audio recordings and transcripts were stored in password-protected folders on a secured laptop accessible only to the lead researcher, with backup copies kept on an encrypted external storage device. Transcripts were anonymized by removing personal identifiers and assigning unique participant codes. Hard-copy consent forms were stored in a locked cabinet, and no data were stored on public or cloud-based platforms, ensuring the security and privacy of all study materials.

3 Results

The results and analysis are presented generally under the demographic information of respondents and the research questions that guided the study. However, themes were developed under each research question to help bring out the emerging issues. Table 1 presents the themes and subthemes. 10 pregnant women living with HIV and were residents of Assin Foso were selected for the study.

Table 1 Themes and sub themes of the results

S/No	Theme	Subthemes
1	Emotional and psychological coping mechanisms	Initial emotional reactions to diagnosis Discovery of HIV status Stress management strategies Emotional regulation and Psychological well-being
2	Social Support Systems and Networks	Family support Friendship networks Social groups support Healthcare providers support

3.1 Age distribution of participants

The participants in this study comprised ten individuals whose ages ranged from 20 to 40 years. Most of the participants (n = 4) were within the 36–40 age range, (n = 3) were between 20 and 25 years. A few participants were in 26–30 age range (n = 1), and two were in 31–35 age range(n = 2). This age variation provided a broad range of perspectives and experiences relevant to the study, allowing insights to be drawn from both younger and more mature participants.

3.2 What are the lived experiences of pregnant women diagnosed with HIV?

3.2.1 Theme 1: Emotional and psychological coping mechanisms

This explored the emotional and psychological coping strategies used by pregnant women with HIV to cope with their diagnosis, including initial emotional coping, emotional regulation and psychological well-being. Four main sub-themes emerged namely: initial emotional reactions to diagnosis, discovery of HIV status, stress management strategies, emotional regulation and psychological well-being. Sub-themes were generated in relation to the main themes where necessary.

Note: Expressions such as "Oh," "Eii," and "Hmm!" are common Ghanaian interjections used to convey surprise, emphasis, or emotional reflection.

3.2.1.1 Sub -theme 1.1. Initial emotional reactions to diagnosis This sub-theme explores the immediate emotional responses of pregnant women upon learning of their HIV-positive status. While initial reactions included shock and distress, participants also described early efforts to manage these emotions through acceptance, focusing on their unborn child, and drawing on inner strength. The emotional experiences described revealed interrelated patterns of denial, turmoil, and the gradual emergence of coping mechanisms. Most participants were nearing delivery when they learned of their HIV status, as illustrated by their reflections:

> *Please this pregnancy is getting to eight months. It's been a challenging journey so far but I'm trying to stay positive and focus on my health and the baby's health (Participant 1, 27yrs).*
> *I'm about 32 weeks pregnant now. It's surreal to think about how much my life has changed since finding out I was pregnant and HIV positive (Participant 2, 24yrs).*

The narratives indicated that HIV was often diagnosed during pregnancy or after a child's illness, suggesting a lack of prior awareness or testing. This late diagnosis triggered emotional distress, fear, and anxiety about stigma. However, with the help of antiretroviral therapy (ART) during pregnancy, participants reported successfully giving

birth to HIV-negative babies. Their experiences underscored the importance of timely diagnosis, effective treatment, and the role of resilience and faith in coping with the challenges of living with HIV. Participants vividly recalled their initial thoughts and emotions upon receiving the diagnosis. Many expressed devastation, confusion, and fear of death or social rejection:

> *"Eii! [expression of surprise] Hmm! [sigh expressing distress or reflection] When I was diagnosed with HIV, I was shocked and feared the worst, having heard it described as a deadly disease. I lost my appetite and was consumed by worry and uncertainty. However, after sharing the news with my mother, she encouraged me to stay focused on my treatment. With her support and the doctor's guidance, I continued taking my medication as prescribed." (Participant 3, 21 years)*
>
> *"Eii hmm! [expression combining surprise and sorrow] Receiving my HIV diagnosis was tough, and I initially struggled to tell my husband. Things became harder when our child fell ill and needed a blood test, prompting me to open up. We both got tested, and luckily, mine was an early onset. I started Anti-Retroviral Therapy but faced side effects like itching and discomfort. After reporting them, my medication was adjusted." (Participant 4, 38 years)*

The accounts revealed that participants' primary fear centered on the risk of transmitting the virus to their unborn children:

> *I was initially worried about my child being affected, but they assured me that as long as I adhered to the treatment regimen, my baby would be safe. They also emphasized delivering at the hospital, so I reported early. Being Aware of my condition, the doctors and nurses promptly gave my baby the necessary medication right after birth (Participant 5, 34yrs).*

These responses reflect the profound emotional distress associated with diagnosis marked by shock, fear, and even loss of appetite often linked to the perception of HIV as a fatal condition. Disclosure to partners proved difficult, but in some cases, the illness of a child prompted shared testing and subsequent initiation of ART. Support from family, particularly mothers, and guidance from healthcare professionals played a critical role in enabling women to cope and adhere to treatment. The side effects of medication, such as itching and discomfort, led to drug adjustments, highlighting the value of personalized treatment and open communication between patients and providers. Some participants also expressed intense anxiety about their unborn children's futures, with a few even contemplating abortion due to fear of transmission:

> *Yes it was my headache. I've been worried about passing HIV to my unborn child. I considered abortion as the way of escaping my unborn child's chances of being affected if not the child would have to take medication for life and might refuse treatment, leading to severe symptoms (Participant 6, 39yrs).*

This reflection revealed deep-seated fears about the child's quality of life and long-term health. they were concerned about transmitting HIV to their unborn child and revealed a deep-seated fear about the child's future quality of life, potential suffering, and lifelong dependence on medication, hence wanted to abort the unborn child. However, others expressed reassurance due to education and motivation provided by healthcare workers:

"Oh [expression of emphasis], it has not affected me so much because the doctors have motivated me enough." (Participant 4, 38 years)

These accounts demonstrate that adequate counseling and motivation from healthcare providers significantly influence maternal psychological adjustment and confidence in ART. Pregnant women with HIV understood that adherence to treatment and professional medical guidance could prevent mother-to-child transmission, reinforcing the critical role of patient education and provider support in sustaining emotional well-being and treatment adherence.

3.2.1.2 Sub – theme 1. 2: Discovery of HIV status This theme explores how participants became aware of their HIV-positive status during pregnancy. The women described various circumstances leading to their diagnosis, including symptoms that prompted medical visits or the illness of a child. These accounts reveal that for many, the diagnosis came as a shock but also marked the beginning of their journey toward treatment and acceptance. The respondents indicated different scenarios and signs in which they found out that they were HIV positive during the pregnancy, as highlighted below:

Please yes. I started falling sick frequently, with rashes and boils in my armpit. I went to the hospital, had lab tests done, and was diagnosed with HIV. That's when I began treatment (Participant 7, 30yrs).

Sure I can share with you; I discovered I was HIV-positive when my second child fell ill and tested positive. After confirmation, I started ART during my next pregnancy at Techiman Hospital. Thankfully, I gave birth to a healthy, HIV-negative baby, now seven years old. Despite my fears, God blessed me with a safe delivery and a healthy child (Participant 8, 34yrs).

"Hmm! [sigh expressing reflection or sadness] I discovered my HIV-positive status during pregnancy at the Hospital. Receiving the unexpected positive results was a shock, and I was overwhelmed with emotions. However, with faith in God and adherence to medication, I've been able to manage my condition." (Participant 9, 37 years)

3.2.1.3 Sub-theme 1.3: Stress management strategies This sub-theme explores the coping mechanisms employed by pregnant women living with HIV to manage and regulate the stress associated with their diagnosis and pregnancy. It highlights how participants actively sought to maintain their physical and emotional well-being through health management, emotional regulation, and reliance on support systems. Participants described taking proactive steps to manage their health and adhere to medical advice throughout pregnancy. One woman explained:

"Oh [expression of emphasis], I have been taking action since the onset of my pregnancy. I have been going to a health center as I told you. So one day, I disclosed it to a nurse about my condition, and she further encouraged me to continue taking my drugs." (Participant 5, 34 years).

Another participant shared how she adapted her lifestyle to promote a healthy pregnancy and reduce anxiety related to her condition:

"Oh [interjection expressing agreement], they told me to eat foods that would trengthen and give me more energy. So I have been eating fruits and abstaining from oily foods so I can deliver and have my child safely." (Participant 6, 39 years).

These narratives indicate that participants' interactions with healthcare providers played a crucial role in fostering positive health behaviors and self-efficacy. Through guidance and reassurance from nurses and other health professionals, the women developed greater confidence in managing both their HIV status and pregnancy. Their accounts reflect the significance of patient-centered and family-focused care in enhancing emotional stability and promoting adherence to treatment.

> *"Oh yes [expression of affirmation], pregnancy brought a lot of issues, but because of my case, I don't isolate myself. I am always with people because none of them knows about my status, and that has been helping me to manage my stress." (Participant 2, 24 years)*

From all indications, the majority of the pregnant women with HIV have developed coping mechanisms to manage the challenges of living with HIV during pregnancy. It can be deduced from the respondents' responses that, respondents have chosen to maintain social connections and avoid isolation, despite the potential stigma associated with their HIV status. By keeping their status private, they have been able to manage their stress levels and maintain a sense of normalcy. However, some respondents indicated that, due to the public knowledge of their status, they do not adequately involve themselves in activities that are of public concern such as businesses and for that reason, they have adapted their business to accommodate their new circumstances, with the help of their children.

> *You remember I told you I sell rice, so during the pregnancy I continued selling it. And even the day of delivery I was carrying rice on my head and labour set in. My son has been helping in all the cooking. So I was not doing a lot, what I do is after the food is ready, my son will carry it to the market and I will only go and sell it (Participant 1, 27yrs).*

This sense of continuity and purpose has likely helped them cope with the challenges of living with HIV during pregnancy.

3.2.1.4 Sub-theme 1. 4: Emotional regulation This sub-theme explores the strategies pregnant women living with HIV used to manage and regulate their emotions related to their diagnosis. It highlights how participants developed emotional resilience and coping skills to navigate the psychological challenges associated with both pregnancy and living with HIV. Key aspects of this emotional regulation included emotional awareness, adaptive coping strategies, and self-care practices. Participants described experiencing persistent worry and emotional distress after learning about their HIV-positive status. One participant shared her struggle with the lifelong implications of her diagnosis, saying:

> *Since my diagnosis, I've been worried about taking medication for the rest of my life, especially at 23. I think about how I'll be on medication for 70 years. But I've realized that overthinking can be harmful, and everyone has their own mortality risks (Participant 7, 30yrs).*

Another respondent emphasized the critical role of continuous counseling and education from healthcare providers in promoting emotional stability and positive outlook:

> *In fact, the doctors' teachings during my ANC visits motivate and encourage me. They educate me on my condition, which helps me stay positive. I don't worry about dying during childbirth or losing my child. However, when im alone, I think about how I contracted the disease, but I remind myself it's already happened and there's nothing I can do to change it (Participant 9, 37yrs).*

These accounts reveal that living with HIV during pregnancy evokes complex emotions such as fear, worry, and self-blame. However, the participants also demonstrated remarkable emotional resilience through cognitive reframing, self-acceptance, and drawing strength from healthcare support. The education and reassurance provided during antenatal visits appeared to play a significant role in alleviating anxiety, promoting optimism, and sustaining adherence to treatment. Furthermore, many participants indicated that spiritual and cultural practices also served as vital coping mechanisms, providing comfort, meaning, and emotional balance in managing their diagnosis.

> *"Oh yes [expression of affirmation], as for me, what I know is that God said we should glorify Him in all things. So, I have not planned to visit any idol. I'm counting on God alone—He can do all things. So, I always praise God when I wake up in the morning. Some people don't face the problems I'm facing but do not live to see the next day. But for me, God has been faithful." (Participant 4, 38 years)*
> *"Oh [expression of emphasis] me, I don't have any cultural or spiritual practice. What I know is that it's Sunday, then I dress up and go to church." (Participant 2, 24 years)*

From the participants, it is evident that, they rely on spiritual practices to cope with HIV. They find comfort in praising God daily and trusting in His faithfulness as well as attending church every Sunday which suggests a sense of ritual and community, even though, some respondents initially denied having a spiritual practice, their Sunday church attendance implies otherwise.

3.2.1.5 Sub-theme 1.5: Psychological well-being This sub-theme highlights the factors that influence mental health and overall well-being among pregnant women living with HIV. It examines the role of social support, self-care practices, and access to mental health services in shaping their psychological adjustment and coping experiences. The key aspects identified within this category include lifestyle changes, emotional impact, and mental health management. The majority of respondents reported making noticeable changes in their lifestyle after learning about their HIV status. Many described becoming more cautious and self-aware, adopting behaviours intended to protect both themselves and others. One participant explained:

> *"Hmm yes [reflective expression], after learning my HIV status, I made significant changes. I used to be carefree, but now I'm more cautious. I didn't want to infect others, so I became more reserved. Interestingly, this change led to a positive outcome. I met someone who accepted me despite my status, and we got married." (Participant 8, 34 years)*

This response illustrates that awareness of their HIV status led to heightened self-awareness, behavioral restraint, and positive life adjustments. For some, this transformation also resulted in improved self-esteem and strengthened interpersonal relationships. However, a few participants reported little to no change in their daily routines, suggesting variability in how individuals internalize and respond to their diagnosis. These differences reflect the complex and individualized nature of psychological well-being among pregnant women with HIV, where some experience personal growth and acceptance, while others continue to navigate emotional uncertainty and adjustment.

> *"Oh no [expression of emphasis], honestly, my lifestyle hasn't changed much since my diagnosis. I've continued living my life as usual, without any significant adjustments." (Participant 1, 27 years)*

Further responses from the women revealed that, pregnancy could intensify concerns and fears about HIV status, particularly regarding the potential impact on the unborn child.

> *Honestly, finding out I was pregnant while living with HIV was tough. I worried about passing it to my child and considered abortion (Participant 9, 37yrs).*
> *Thankfully, it hasn't affected me much; my doctors' motivation and reassurance helped alleviate my concerns (Participant 4, 38yrs).*

Clearly, the respondents in their responses indicated that, pregnant women living with HIV may experience heightened anxiety and concern about transmitting the virus to their unborn child, which can lead to difficult decisions and emotional struggles but supportive healthcare providers can play a crucial role in alleviating these concerns.

3.3 How effective different coping strategies can be used in managing the emotional and psychological challenges faced by pregnant women with HIV?

3.3.1 Theme 2: Social support systems and networks

This highlighted the various sources of emotional, practical and psychological support that pregnant women with HIV rely on to cope with the challenges of the disease. This encompasses the different types of relationships and networks that provide support, guidance and connection to pregnant women with HIV. Four main themes emerged (family support, friendship networks, social groups support and healthcare providers support).

3.3.1.1 Sub-theme 2.1: Family support This sub-theme explores the role of family support in helping pregnant women living with HIV cope with their diagnosis. It focuses on how women disclose their HIV status to family members and the subsequent reactions and supportive responses they receive. Three key dimensions were identified: disclosure, family reactions, and supportive roles. During the interview, majority of the respondents indicated that, they have disclosed their status to their family members, in their comments;

> *Yes I have disclosed it. I informed my mother about my HIV status. She's kept it confidential (Participant 6, 39yrs).*

Further responses revealed that, respondents disclosed their status because, they expected sympathy and support due to maternal bond. As for their husbands, some were even aware before they got marriage to avoid potential future issues.

> *I told my mother because she's my mother and would have sympathy for me. I also informed my husband before we got married so he wouldn't find out later. We both went to the hospital to get checked (Participant 7, 30yrs).*

However, some respondents indicated that, apart from their husbands, none of their family members was aware of their status and even in the case of their husbands, doctors informed them about their HIV status, as it was necessary for understanding their child's condition.

> *Yes my husband is aware. I was crying at the hospital and he asked why, but I didn't tell him. The doctor asked if they could inform him, and I agreed. In fact, I wanted him to know, even if he might divorce me. The doctor had already told us the condition was affecting our child, and the lab results showed my husband didn't have the disease. It was clear I was the one with the condition so I allowed the doctors to inform him (Participant 8, 34yrs).*

It can be inferred from the respondents' responses that, they were hesitant to disclose their HIV status to anyone close to them especially their husbands, with the fear of their potential reaction and allowed the doctors to inform them instead. They were even prepared for the possibility that their husbands might divorce them after learning about their status. They realized that, the fact that their child was affected by the condition and their husbands tested negative made it clear that they were the one living with HIV, which was why they ultimately allowed the doctors to inform them. Further responses respondents revealed indicated that, their family members were surprised and angry due to misconceptions about how HIV is acquired but ultimately provided support.

> *"Hmm! [expression of reflection or sadness] My mom was initially surprised and angry, thinking I got HIV from sleeping around. But she still supported me, especially when I was staying with her before marriage." (Participant 5, 34 years)*

However, some respondents also shared that, their husbands were not angry when he found out, possibly because he had already experienced the loss of a child and was more concerned about the health of their current child, who was affected by the condition.

> *My husband wasn't angry when he found out. We'd already lost a child, and our second child was affected by HIV, so he was more concerned about our child's health (Participant 1, 27yrs).*

Based on the responses, it can be inferred that there may be a stigma or misconception about HIV in their family, as evident from their mothers' initial reactions of anger and surprise. However, the mothers' subsequent support suggests that family ties and love can overcome initial shock and stigma. Also, it may be suggested that, their husbands' calm reaction implies that they may have been more concerned about the health and well-being of their children, and that the experience of losing a child may have put things into perspective for them. These responses suggest that family support and love can play

a crucial role in coping with an HIV diagnosis, and that education and awareness can help overcome stigma and misconceptions.

3.3.1.2 Sub-theme 2.2: Friendship networks This sub-theme explored the support received by pregnant women with HIV from their partners, friends, and peers. It examined the emotional support and practical help received from friends. Three key dimensions were identified; partner support, friend support and social connections. From the responses of majority of respondents revealed that, their partners assist them in diverse ways.

> *"Oh [expression of emphasis or reference to a prior statement], as I told you, I have a son — he is now nine years old. My husband has been taking care of him, and my family sometimes supports me too. Even when it comes to getting my medications at the hospital, my husband has been very supportive." (Participant 4, 34 years)*

Further responses indicated that majority of respondents have not informed their friends or peers about their status due to that they do not receive any support from them.

> *No, I don't really receive support from friends, as I haven't disclosed my status to them. However, like I said earlier, my partner is aware and provides some emotional support. I wish I had closer friends to talk to, but im afraid of being judged or rejected (Participant 3, 21yrs).*

It can be inferred that they have limited social support, relying mainly on their partner for emotional and feel isolated due to fear of stigma and judgement or rejection from friends or peers. They wish they had closer friends to confide in, but the fear of being judged or rejected holds them back from disclosing their HIV status.

3.3.1.3 Sub-theme 2.3: Social groups support This highlighted the participation of pregnant women with HIV in support groups or online community related to HIV. It sought to look at how support groups help women cope with their diagnosis. Three key dimensions were identified as participation benefits and online communities. From the responses revealed by the majority of the respondent indicated that, the community in Assin Foso holds misconceptions about HIV transmission and stigmatizes those living with the condition.

> *"Hmm! [expression of reflection or concern] The people in my community think that if an HIV-positive woman gets pregnant, she'll definitely pass the virus to her child." (Participant 9, 34 years)*

However, some respondents shared personal their personal experience and conversation with someone who was afraid of transmitting HIV to her child.

> *"Hmm! [expression of reflection] I met a woman who was afraid to give birth because she thought her child would definitely contract HIV. I reassured her that if she adheres to treatment, her child won't get infected. I shared my personal experience, having given birth to a healthy 7-year-old who doesn't have HIV." (Participant 6, 39 years)*

This suggests that there is a lack of awareness and education about HIV and its transmission, particularly among pregnant women, leading to fear and misconception. Some respondents indicated that, in an unlucky event and outsiders get to know that, they were HIV positive, people may hold negative and misinformed views about those living with the disease, assuming they are sick and contagious.

"Oh [expression of emphasis], they might think I'm sick and that if I have a child, they'll contract the disease too. However, people who also have the disease and come to collect their medication are more understanding and discreet, unlike those outside the HIV community." (Participant 2, 24 years)

Further responses from respondents indicated that, some women face barriers to accessing emotional support and connection.

No, I haven't participated in any support groups, but I think it would be really beneficial to connect with others who understand what I'm going through. I just don't know where to find one or how to join (Participant 7, 30yrs).

However, some other respondents also commented that, they have had the opportunity to participate in support groups which were beneficial to them, providing them emotional support and connection.

Actually, I have participated in a support group for pregnant women living with HIV. It's been really helpful to connect with others who are going through similar experiences (Participant 1, 27yrs).

In the responses of the respondents indicated that, those who have had opportunity to join support group have had some benefits which has helped reduce feelings of isolation, stigma and empowerment to manage their health.

"Oh [expression of emphasis], the support group has helped me feel less isolated and more empowered to manage my health. We share tips and advice, and it's comforting to know I'm not alone." (Participant 4, 38 years)

However, some respondents also indicated that, because they have not had the opportunity to join any support, they have not had the benefit but they believed it would have received benefit as well.

if I were to join a support group, I think it would help me feel more connected to others and less stigmatized. I've heard that support groups can provide a safe space to share experiences and receive emotional support, which I think would be really helpful (Participant 6, 39yrs).

3.3.1.4 Sub-theme 2.4: Healthcare provider support This examined the experiences of pregnant women with HIV with healthcare providers since learning about their diagnosis. It investigated satisfaction with healthcare support received. Three key dimensions were identified as healthcare experiences, satisfaction and communication. From the responses, respondents described their experiences with healthcare providers since learning about their HIV status.

Yes I can. The healthcare providers have been amazing! Nurses, doctors and midwives are all supportive, smiling and encouraging. Doctors motivate me to stay on medication, saying things will be fine (Participant 1, 27yrs).

However a respondent indicated that, a male healthcare provider in hospital was unhelpful but was later transferred and his replacement was supportive.

One brother at the Techiman facility was really unhelpful and rude. He even denied me medication when I missed a dose. But after he was transferred, things improved. The new staff were supportive and we HIV patients felt more at ease (Participant 2, 24yrs).

Based on the responses, it can be inferred that the quality of care and support for HIV patients is heavily influenced by attitude and behaviour of some healthcare providers. Respondents further demonstrated the quality of support received from healthcare providers by rating them in terms of percentage from one to hundred.

Once that brother is not part of the hundred percent, I will not remove anything from it (Participant 9c, 37yrs).
I can say the nurses and doctors have really done well and have given me the needed support since diagnosis (Participant 5, 34yrs).

4 Discussion

4.1 Emotional and psychological coping mechanisms

The findings demonstrate that coping among pregnant women living with HIV is a dynamic and context-dependent process shaped by emotional responses, social relationships, and healthcare experiences. Rather than occurring linearly, coping evolves from initial distress toward gradual adaptation, influenced largely by the availability and quality of support systems.

4.2 Initial emotional reactions to diagnosis

Participants' early reactions, including shock, fear, denial, and uncertainty, align with existing literature [41, 42, 52], confirming that HIV diagnosis during pregnancy remains a profound psychological disruption. However, in contrast to Labadarios et al. [31, 32], where prior health education facilitated immediate acceptance, this study indicates that acceptance is gradual and socially mediated. This suggests that knowledge alone is insufficient, as emotional adjustment depends more on supportive relationships and contextual factors. The implication is that early interventions should extend beyond information provision to include structured psychosocial support.

4.3 Discovery of HIV status

The diagnosis process, often occurring during routine antenatal screening, served as a critical turning point that initiated both vulnerability and adaptation. While the importance of post-test counseling is consistent with Mthembu et al. [36], contrasting evidence [13, 56] highlights that inadequate or insensitive healthcare responses can intensify distress. These findings underscore that the quality of disclosure and immediate care significantly shapes coping trajectories, emphasizing the need for compassionate, patient-centered communication during diagnosis.

4.4 Stress management strategies

Participants' coping strategies, including ART adherence, lifestyle adjustments, and engagement with healthcare providers, are consistent with Zungu et al. [66, 67]. However, their effectiveness was shaped by contextual factors such as stigma and provider attitudes [13, 26]. Evidence that stigma reduces engagement in health-promoting behaviors [11] reinforces that coping cannot be understood solely as an individual effort. Instead, this study highlights that coping is co-produced through the interaction between personal agency and the social environment, suggesting that interventions must address both structural and interpersonal barriers.

4.5 Emotional regulation

Emotional regulation strategies, such as positive reframing and spiritual reliance, supported psychological stability, consistent with Sithole et al. [50, 51]. However, persistent anxiety and fear of disclosure [1, 26] indicate that coping remains fluid and fragile. While community engagement has been shown to enhance emotional regulation [65], this study suggests that its benefits are context-dependent due to stigma-related constraints. This reinforces the idea that coping is an ongoing process influenced by shifting social dynamics rather than a fixed outcome.

4.6 Psychological well-being

Improvements in psychological well-being over time were linked to increased knowledge, counseling, and supportive healthcare interactions, aligning with Kaufman et al. [27–29]. However, persistent stigma and self-isolation [58] continue to undermine these gains. Mixed outcomes regarding community engagement [24, 33] further indicate that support mechanisms are not universally beneficial. These findings suggest that psychological well-being is highly contextual and dependent on both the availability and perceived safety of support systems.

4.7 Social support systems and networks

This study highlights that social support systems function as both protective and limiting factors, depending on their nature and context. The effectiveness of these systems is shaped by relationship quality, cultural norms, and stigma.

4.8 Family support

Family support played a critical role in enhancing emotional stability and treatment adherence, consistent with Moyer et al. [34, 35] and Mugavero et al. [37, 38] disclosure outcomes [19, 25, 30] indicates that support is not guaranteed. Its effectiveness depends on pre-existing relationships, HIV awareness, and socio-cultural interpretations [14, 15, 44, 49]. This suggests that family support should be understood as conditional, highlighting the need for family-centered education and counseling interventions.

4.9 Friendship networks

Partner and peer support were important for improving adherence and psychological well-being, consistent with Wagner et al. [60, 61] and Gill et al. [21, 22]. However, limited engagement with peer networks due to stigma reveals a gap between the availability and utilization of support systems. This suggests that interventions must move beyond

establishing peer groups to actively addressing stigma and ensuring safe participation, as emphasized by the Global Fund [23].

4.10 Social groups support

Broader social groups played a limited role due to fear of discrimination, consistent with findings by Nyasulu et al. [46] and Sweeney et al. [54]. This highlights the persistent influence of stigma in restricting collective coping mechanisms. The implication is that community-level interventions, particularly stigma reduction and social reintegration programs, are essential to create safe environments for shared experiences and support.

4.11 Healthcare providers' support

Healthcare providers were central to shaping coping outcomes. Positive, empathetic interactions enhanced trust and adherence, supporting Brennan et al. [8, 9] and WHO [63], while negative encounters discouraged engagement [26]. However, even supportive provider relationships may not fully mitigate broader societal stigma or systemic gaps such as limited mental health resources [53]. This underscores the need for integrated, patient-centered care that combines clinical treatment with psychosocial support.

4.12 Synthesis

Taken together, the findings indicate that coping among pregnant women living with HIV is not a static or purely individual process but a dynamic and relational one, shaped by continuous interactions between personal experiences, social relationships, and healthcare systems. Women's ability to adapt is influenced not only by internal coping strategies but also by the nature and quality of support available to them.

A key contribution of this study lies in demonstrating that social support systems function in complex and sometimes contradictory ways, acting as both protective and constraining forces depending on context. Family, partners, and healthcare providers can facilitate emotional stability and treatment adherence, yet stigma, fear of disclosure, and negative social reactions can simultaneously undermine these benefits. This reinforces the understanding that support is conditional and deeply embedded within sociocultural and relational dynamics.

Furthermore, stigma emerges as a pervasive, cross-cutting structural barrier that shapes experiences at multiple levels, including psychological well-being, healthcare engagement, and participation in social networks. The findings therefore extend existing literature by highlighting that coping is co-produced through the interaction between individual agency and broader structural conditions, emphasizing the need to move beyond individual-focused interpretations toward more context-sensitive frameworks.

4.13 Implications for practice and policy

The findings underscore the need for a more integrated and holistic approach to HIV care for pregnant women. At the clinical level, there is a critical need to incorporate mental health services into routine antenatal and HIV care, ensuring that psychological support is provided alongside biomedical treatment. Early-stage counseling, particularly at the point of diagnosis, should be strengthened to address emotional distress and facilitate adaptive coping.

Healthcare providers play a central role in shaping women's experiences, highlighting the importance of ongoing training in empathetic, patient-centered communication. Strengthening provider capacity in this area can improve trust, enhance treatment adherence, and support long-term engagement in care.

At the community level, interventions should prioritize stigma reduction through sustained education and awareness initiatives. Creating safe and supportive environments is essential to enable women to access and benefit from social and peer support systems without fear of discrimination or disclosure-related consequences. Efforts to strengthen peer support structures should therefore focus not only on availability but also on accessibility and perceived safety.

From a policy perspective, these findings call for the integration of psychosocial care into national HIV and maternal health programs, alongside increased investment in community-based support systems. Addressing structural barriers such as stigma and limited mental health resources is essential for improving both maternal and child health outcomes. Overall, effective responses must adopt a multi-level approach that simultaneously addresses individual, interpersonal, and systemic factors influencing coping among pregnant women living with HIV. These insights reinforce the importance of holistic and context-sensitive approaches to HIV care [1, 16, 23], emphasizing that effective interventions must address both individual coping capacities and the broader social environment.

5 Conclusion

This study highlights that pregnant women living with HIV navigate a complex process of emotional distress, adaptation, and resilience. Participants relied on treatment adherence, faith, and support from family, partners, and peers, yet persistent stigma and social challenges shaped their coping experiences. The findings underscore the need for structured psychosocial support programs integrated into antenatal and HIV care, training for healthcare providers to enhance empathetic communication and patient trust, and community-based stigma-reduction initiatives to create safe environments for disclosure and support. Strengthening peer support systems is also essential to improve emotional well-being and treatment adherence. At the policy level, integrating mental health services into national HIV and maternal health programs and investing in community-based support are critical to addressing structural barriers. Future research should explore coping across diverse regions, employ longitudinal designs to track changes over time, and consider mixed-method approaches to capture both measurable outcomes and lived experiences. Improv ing outcomes for pregnant women lving with HIV requires a holistic approach addressing clinical, psychological, social, and structural dimensions of care.

5.1 Limitations and future research

This study has several limitations that should be considered when interpreting the findings. First, the relatively small sample size, though appropriate for qualitative inquiry and guided by data saturation, limits the breadth of perspectives captured. While the study provides in-depth insights into the experiences of pregnant women living with HIV, the findings may not fully represent the diversity of experiences across different populations or settings.

Second, the study may be subject to social desirability bias, as participants could have shaped their responses to align with perceived expectations, particularly given the sensitive nature of HIV status, stigma, and healthcare experiences. Although efforts were made to create a safe and confidential interview environment, the possibility of underreporting negative experiences or overstating positive coping strategies cannot be entirely ruled out.

Third, the narrow geographical focus on Assin Foso within the Assin Central Municipality limits the transferability of the findings. Social, cultural, and healthcare dynamics vary across regions, and as such, the experiences documented in this study may differ from those of pregnant women living with HIV in other parts of Ghana or in different socio-cultural contexts.

Despite these limitations, the study offers valuable context-specific insights into coping processes among pregnant women living with HIV. Future research should consider larger and more diverse samples across multiple regions to enhance transferability. Comparative studies examining urban and rural contexts would be particularly useful in understanding how structural and cultural factors shape coping experiences. Additionally, longitudinal research could provide deeper insights into how coping strategies evolve over time, particularly from diagnosis through postpartum stages. Further studies may also benefit from incorporating mixed-method approaches to triangulate findings and reduce the potential impact of self-report bias.

Abbreviations

HIV	Human immunodeficiency virus
AIDS	Acquired immunodeficiency syndrome
PLHIV	People living with HIV
PWHIV	Pregnant women living with HIV
WHO	World Health Organization
CD4	Cluster of differentiation 4
CMV	Cytomegalovirus

Supplementary Information

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Supplementary file 1.

Author contributions

VA and CA conceptualized the study. EFOA was involved in the design data collection, analysis, and initial writing. All authors read and authorized the final draft for publication.

Data availability

The data that support the findings of this study are available from the corresponding author, but restrictions apply to the availability of these data, which were used for the current study and so are not publicly available. The data are, however, available from the corresponding author upon reasonable request.

Declarations

Ethics approval and consent to participate

All methods and procedures were conducted in accordance with the principles outlined in the Declaration of Helsinki. Ethical clearance was obtained from the Institutional review board (IRB) of the University of Cape Coast (IRB-UCC-653/2024). Permission to conduct the study was formally obtained from the management of the hospital prior to the commencement of data collection. Informed consent was obtained from all participants.

Consent to publication

Not applicable.

Competing interests

The authors declare no competing interests.

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