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Bypassing primary antiretroviral therapy centres in Sub-Saharan Africa: An integrative review of the theoretical and empirical literature

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ABSTRACT

The uptake of antiretroviral therapy (ART) is critical to meeting the global HIV treatment goal of 95-95-95 by 2025. Although a few Sub-Saharan African countries have already achieved this target, the prevalence of bypassing primary ART centres in many countries in the subregion has negative implications for ART uptake and use. This study used the access to health services framework to analyse the evidence and factors contributing to bypassing primary ART centres by individuals in the sub-region seeking HIV care and support. We found compelling evidence of the prevalence of ART clients bypassing their primary ART centres in search of specialised care in higher-tiered health facilities. Others use bypassing to conceal their HIV-positive status to avoid social stigma. We argue that introducing specialised and differentiated ART at the primary level of care can address this phenomenon. While we anticipate that this measure will satisfy clients' desire for specialised care, we recommend enhancing public awareness about the effectiveness of ART to reduce stigma towards ART clients. Legislation and strict enforcement of anti-HIV stigma laws, which outlaw and criminalise stigmatising people living with HIV (PLHIV), could potentially be an effective stigma-deterring measure. To complement this effort, PLHIV should be empowered to understand legislative instruments and steps to take when confidentiality and discriminatory issues arise. We recommend further research in Sub-Saharan Africa to investigate the relationship between bypassing primary ART centres and client adherence. The findings will help design appropriate strategies to increase ART uptake at primary ART centres.

1. Introduction

The spread of the human immunodeficiency virus/acquired immune deficiency syndrome (HIV/AIDS) has put a strain on health-care systems around the world, particularly in low- and middle-income countries.[1] This is especially true in Sub-Saharan Africa, where transmission rates and adverse health consequences are significantly higher.[2] According to the WHO, about 39.9 million people were living with HIV globally at the end of 2023, with 630000 AIDS-related deaths and 1.3 million new HIV infections recorded the same year. Although these figures remain alarmingly high, they reflect a reduction in HIV incidence and HIV-related mortality rates globally. The incidence of HIV decreased to 0.17 per 1000 uninfected population in 2023 from 0.32 in 2010.[2] HIV-related deaths also reduced by 51 % for the same period. Similarly, in the African region the number of people who acquired HIV decreased to 0.55 per 1000 uninfected population in 2023 from 1.56 in 2010. Additionally, HIV-related deaths in 2023 decreased by 56 % since 2010.[2] The decrease in HIV/AIDS-related deaths is credited to the introduction of antiretroviral therapy .[3] The conventional treatment is a combination of medications (commonly referred to as "highly active antiretroviral therapy" or HAART) that inhibit HIV replication. The combination of medications is used to boost potency while decreasing the risk that the virus may acquire resistance.[3] ART has changed HIV infection from a fatal to a manageable chronic disease, dramatically increasing the life expectancy of HIV-positive persons.[4] In addition to preventing AIDS, non-AIDS-related comorbidities, and mortality,[5] early ART significantly suppresses viral reservoirs in people living with HIV (PLHIV) and reduces new HIV infections.[3,6,7]ART centres serve as locations that provide a comprehensive package of care, support and treatment services to PLHIV. To make treatment more accessible, these centres are housed in health facilities and non-profit charitable institutions that provide care, support, and treatment to PLHIV. Each ART

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centre has a PLHIV network member who helps individuals to get access to care and treatment services. These centres also offer psychotherapy, follow-up on treatment adherence, and assistance through community care centres.[3] This package of services includes HIV testing,[8] ART uptake and retention,[8,9] and viral suppression monitoring.[8,10] This is reflected in the global target of 95-95-95 by 2025, where, by 2025, 95 % of people living with HIV should know their HIV status, 95 % of people living with HIV who know their HIV-positive status are on antiretroviral therapy, and 95 % of people who are on ART have suppressed viral loads.[11]

The current guidelines for providing HIV care take inspiration from the 'treat all' principle of these previous WHO guidelines for the use of antiretroviral drugs for treating all HIV-positive persons linked to care, irrespective of WHO staging of the disease or the CD4 T cell count [11]. It advocates the provision of people-centred care, and rapid ART initiation offered to people living with HIV following a confirmed HIV diagnosis and clinical assessment. The guidelines further advocate that ART initiation should be offered on the same day to people who are ready to start.[11] As of the end of 2023, 86 % of people living with HIV knew their status, 77 % of them were receiving ART, and 72 % had suppressed viral loads. In Africa, 90 % of the estimated 26.0 million people living with HIV in 2023 knew their status, 82 % were receiving treatment, and 76 % had suppressed viral loads.[2] Sub-Saharan African countries such as Botswana, Eswatini, Rwanda, the United Republic of Tanzania, and Zimbabwe, have already achieved the 95–95–95 targets, and other countries in the subregion are close to doing so.[12] Despite this progress in these countries, previous studies on HIV prevention in sub-Saharan Africa have attributed the low uptake of ART in some settings to the high prevalence of bypassing primary ART centres by clients. An ART centre is described as primary if it is the closest to the client's place of residence.[13] This review articulates the evidence of bypassing primary ART centres in Sub-Saharan African countries by ART clients. It advocates further research to provide a clearer understanding of the implications of the phenomenon for adherence to ART use in these settings. It is important to study this phenomenon because of its implications on the progress of countries towards achieving the global target of 95-95-95 by 2025. Previous studies on the barriers to ART uptake have tended to focus on the late linkage to care,[14–17] and ART initiation.[17–20] These studies identified a variety of structural, psychological, and perceptual risk factors for late HIV care and ART initiation among PLHIV in Sub-Saharan Africa. Barriers to health care delivery, such as distance to a health care facility, are frequently cited as structural constraints,[17,21–23] while psychosocial factors include limited social support and the unwillingness to reveal an HIV-positive status, for fear of stigma.[24–26] In addition, perceptions of the health benefits of early ART[27,28] and acceptance of an HIV-positive status[19,29,30] have been strongly linked to late engagement in care and ART initiation.

2. Methodology

This study discusses the theoretical and empirical literature on bypassing primary ART centres in Sub-Saharan Africa. To this end, we reviewed the theoretical, empirical, and conceptual literature, consistent with the integrative review framework. An integrative review is a rigorous research method designed to identify and synthesise literature on a specific topic to provide and advance knowledge. It differs from meta-analysis and systematic reviews because it offers room to synthesise knowledge produced by multiple methodologies and sampling strategies.[31] The review process involved five key steps, including (1) identification of the research question; (2) comprehensive search for the relevant literature; (3) categorisation of the studies; (4) critical analysis and evaluation of the studies; and (5) interpretation and discussion of the results.

In consonance with the six essential components of the framework, we started by establishing the guiding question on the impact of bypassing ART centres on adherence to ART therapy and support. We considered several intricate factors that impact the decision to bypass ART centres. In the second step, we conducted an extensive search for relevant literature in PubMed, Google Scholar, and Scopus. The key search phrases included antiretroviral therapy, bypassing antiretroviral therapy, bypassing primary health facilities in Sub-Saharan Africa, HIV and tuberculosis care, factors influencing bypassing of ART centres, and its effects on adherence to HIV treatment. In addition, we conducted a thorough search on the websites of the World Health Organisation (WHO), the United States Agency for International Development (USAID), and the Joint United Nations Programme on HIV/AIDS (UNAIDS), as well as important policy documents, specifically focusing on health services related to ART in developing economies. We deliberately included certain articles because their contents were relevant to the subject. The third step involved a review of every item to identify components related to primary healthcare, HIV treatment, and ART. We also created and used a data extraction template to retrieve pertinent information such as author names, titles, publication year, country of focus, abstract, major findings on ART healthcare, and conclusions. In the fourth phase, we analysed and arranged these details according to established themes, including evidence of bypassing primary healthcare facilities, factors that account for the phenomenon, and the implications of bypassing ART sites on adherence to treatment. In the final step, we discussed the results by weaving together the empirical findings and theoretical literature. This approach allowed for the identification of knowledge gaps on the phenomenon of bypassing primary ART centres in Sub-Saharan Africa and the setting of priorities for future research.

Theoretical concept of access to health services: geographic accessibility, affordability, availability, and acceptability of healthcare services.

The implementation of ART in diverse settings is underpinned by a framework of access to health services. The World Health Organization views access to health services as the continuing and organised supply of care that is geographically, financially, culturally, and functionally appropriate and adequate in content and in amount to satisfy the essential health needs of the users and provided by methods acceptable to them.[32] This view is corroborated by scholars[33–35] who appear to concur that access to health services is a multidimensional concept that must be disaggregated into operational dimensions and assigned specific indicators to ease understanding. This study draws on Penchansky and Thomas[33] operational dimensions of access to health services as the underpinning framework for discussing the findings of the study. These include geographic accessibility, affordability, availability, and acceptability of healthcare services.

Given the typical challenge of limited resources for health in low and midle income countries (LMICs), an analysis of the geographic dimension of access to health services is essential when the objective is to identify the factors that influence clients to bypass the ART facility nearest to their residence. Geographic access is the relationship between the location of healthcare facilities and the location of those who need it, taking into account users' transportation resources and travel time, distance, and cost.[33–38] It involves the relationship between the location of healthcare facilities and the location of users and their transportation opportunities. In the provision of ART care, for example, the question will be: Are the ART centres located and configured in ways that reflect the variations in need for these services among PLHIV? This is particularly important in the analysis of the accessibility of ART in LMICs, considering that health facilities are thinly distributed in these settings and rural residents are often compelled to cover long distances to access them. The opposite is true in urban areas where health infrastructure is densely spread and distance to health facilities is not a barrier to access to care.[34,39,40] Thus, in settings where ART centres are sparsely distributed, transport poverty is significant, and the population is largely poor, long distances would often result in delays in seeking care, missed appointments, and not receiving the needed care.[41–43]

The availability of services is another important dimension in analysing access to health services in LMICs. In the context of access to ART services, availability would mean having the right type of health care

available to PLHIV. This would include hours of operation and waiting times that meet the demands of different categories of PLHIV and having the appropriate type of service providers and materials.[33,34] A critical availability issue highlighted in the literature is the ability and willingness of service providers to serve the population in accordance with the type and severity of their condition (McIntyre et al., 2009). Aside from these, the relationship between the type, range, quantity, and quality of health care services provided at a facility and the nature and extent of the health needs of the individuals being served is equally important in determining service availability. For example, are ART centres appropriately located to assure clients of privacy? Do ART centres provide specialised or integrated services such as treatment for HIV and tuberculosis? Another major issue in the availability discourse is the skewed distribution of health personnel in favour of urban areas; a study by Dussault and Franceschini[44] found that irrespective of income status, all countries studied reported a higher proportion of health personnel working in urban and well-endowed areas. The literature on the availability of health services in Ghana focuses almost exclusively on the shortage and uneven distribution of health facility personnel between and within regions.[37,45–47]

Affordability remains an important dimension of access to health care, especially for the poor. It refers to the relationship between healthcare service prices and users' ability to pay relative to their income and the demands of their household budgets.[33–36] Besides the direct costs of treatment and paying for drugs, there are also indirect costs that deter the poor from seeking treatment when they need it.[33–36] Beyond the direct costs of treatment and paying for drugs, there are also indirect costs that deter the poor from seeking treatment when they need it.[38,39,48–51] These indirect costs include the costs of time for patients and household members accompanying them, transportation costs, and expenses on food and lodging.[33,39,50,52] Although ART services are free of charge in public facilities, client ability to afford the cost of travelling to higher-tiered ART centres might influence their decision to bypass their primary ART centre.

Acceptable health service provision remains a major challenge in low-income countries, even though the Declaration of Alma-Ata[32] proposed that primary health care be provided in line with prevailing cultural norms.[34,53] Acceptability of health services relates to the fit between provider attitudes and patient expectations of each other[33–35,54] or the social and cultural distance between health care systems and their users.[55] Acceptability barriers come in different forms depending on the setting. In European settings, Tamsma et al.[56] identify these barriers as the foundation for the systematic differences in healthcare utilisation patterns between socioeconomic groups and other population groups. Poor provider-patient relationships are the focal point in low- and middle-income countries, often highlighting social and cultural distance as a significant access barrier.[57] Gilson and others observed that the cultural competence of health systems is the most important element of acceptability. They argue that cultural incompetence frequently manifests iyself as dissonance between patient health beliefs and dominant medical knowledge, discrimination against patients, communication barriers between patients and providers, and mistrust of health providers.[54]

3. Results

3.1. Main reasons for bypassing ART facilities

Bypassing in health care refers to the phenomenon in which healthcare seekers deliberately avoid using the nearest health facility and travel to a more distant one for a service that is equally available at the nearest facility.[58,59] The practice of avoiding primary healthcare facilities takes several forms. The commonest of all is to skip primary healthcare facilities to receive care at a higher level. In some instances, patients may choose to avoid rural health facilities in favour of receiving care in cities or purposefully avoid all facilities in their community, district, or region to seek health care elsewhere. Other examples include bypassing a facility to receive the same level of care from another facility.[60,61] Bypassing of health facilities could also take the form of patients expressing a preference for private facilities and bypassing public facilities that are nearby when seeking medical attention. Although the desire to receive better care is frequently emphasised as the cause of the various types of bypassing, Gauthier and Wane[62] argue that there is another type of bypassing in which clients avoid healthcare facilities that offer superior medical services at a lower level in favour of clinics that provide lower-quality care and are located further away from their residence, mainly due to their inability to pay for higher costs in the nearest facilities.[62] In sub-Saharan Africa, a variety of studies have cited the quality of care and stigma as the main reasons clients bypassed their primary healthcare facilities to access healthcare services in other facilities.

i. Preference for higher-tier facilities.

In terms of client preference for quality care, a population-based survey of the determinants of bypassing primary ART centres by PLHIV in rural Mozambique found service quality and HIV-positive status to be the main reasons women would bypass the nearest ART centres and travel longer distances to access prenatal care.[63] In the study, 81 % of all respondents who sought prenatal care selected a clinic offering better services than their closest clinic. A cross-sectional study that compared bypassing of primary health facilities among PLHIV and HIV-negative individuals on an island in Uganda observed that PLHIV tended to access care at a higher-tiered facility that provided specialised ART, even when this facility was not the closest one; 30 % of PLHIV travelled further than the closest ART facility compared with 16 % of HIV-negative individuals and travelled an additional 2.2 km to access that facility, relative to HIV-negative individuals.[64] The study concluded that the phenomenon is driven by both the limited availability of specialised HIV services in nearby health facilities and the preference for higher-tiered. Furthermore, a quantitative study of the determinants of health care seeking and bypassing primary ART sites in Kenya found that clients suffering from chronic illnesses like HIV, TB, and diabetes bypassed their primary health facilities and sought specialised health care from facilities that were not near their homes.[65]

ii. Stigma.

Bypassing of ART centres in the sub-region is also profoundly associated with high levels of stigma. Previous studies in Tanzania[66] and South Africa[67,68] also found that clients were willing to travel longer distances to avoid being recognised when seeking testing or treatment for HIV/AIDS. The objective was to maintain anonymity and limit exposure to stigma from fellow community members. Furthermore, a quantitative analysis of the geospatial distribution and bypassing of health facilities among National Health Insurance Scheme enrollees in Nigeria revealed that stigma towards HIV-positive persons resulted in a preference for facilities further away from home rather than those closer.[69] Adjetey et al.[70] observed in their exploration of the preferred model of accessing ART services in a tertiary health facility in Ghana that there was a strong preference for facility-based individualised differentiated services compared to community-based services because of the stigmatisation and discrimination associated with the latter. An exploratory case study in northeastern Ghana observed that the fear of being identified as PLHIV by known community members was the reason clients bypassed their primary ART centre and travelled several kilometres to another to refill. The study further observed the prevalence of ART client privacy and confidentiality violations; the fear that healthcare providers who reside in the same community would breach confidentiality about their client's health status resulted in some ART users in the region of Ghana bypassing their primary ART centres.[26] This finding is corroborated by the conclusion of a Stigma Index Study (SIS)

in Ghana, which described health facilities as locations where stigma, discrimination, and privacy violations against PLHIV are common, and these have often caused PLHIV to avoid ART services.[71]

4. Recommendations to reduce the bypassing of primary ART centres

The results offer a reasonable understanding of the underlying drivers of health facility choice and bypassing among ART clients in resource-poor Sub-Saharan Africa settings. The evidence for bypassing primary ART sites revolves around the umbrella concepts of PLHIV preference for quality health care and fear of stigma. The ensuing discussion draws on the access to health services framework to illustrate the specific nature of the phenomenon and the measures needed to reduce it.

Contrary to the view expressed in the theoretical review that geographic distance to health facilities and the costs associated with accessing care determine users' willingness and ability to use health services in resource-poor settings,[41–43] this study found that bypassing primary ART centres by clients and travelling longer distances to access health care was because of limited availability of specialised HIV services at lower-tiered facilities located near ART clients.[64,65,72] More specifically, ART clients who needed treatment for HIV and tuberculosis but whose primary ART centres did not provide these integrated services had to travel longer distances to access care.[65] While the distance to health facilities and the income status of users remain key determinants of access to health care, particularly in resource-poor settings,[33,34,37,38] the findings of this study suggest that in the specific context of HIV care continuum, particularly ART uptake and retention, the availability of specialised care for clients or integrated treatment for HIV and tuberculosis (TB) are important considerations. The current evidence suggests that specialised services and integrated care, often from higher-tiered facilities staffed with higher-cadre health professionals, well-equipped laboratories for testing, and antiretroviral drugs (ARVs) for treating HIV, might not be available in adequate quantity and quality at the clients' ART facilities, creating the need to bypass and access the needed services at distant ART centres. This is consistent with the availability dimension of the theoretical concept of access to health care, where personnel, equipment, and essential materials must be available in the right quantity and quality to provide care that meets the needs and demands of different categories of ART clients.[33,34] An important availability criterion is the question of whether ART centres are providing specialised or integrated services such as treatment for HIV and tuberculosis. This is important because HIV and tuberculosis potentiate one another to accelerate the deterioration of immunological functions.[73,74] To mitigate bypassing of primary ART centres arising from the lack of quality care, measures are needed to equip lower-tiered ART centres that only provide limited services to allow access to HIV care, including treatment for tuberculosis.[75] To treat HIV-associated TB effectively, Bruchfeld et al.[73] recommend that ART care providers combine effective TB treatment with ART, prevent HIV-related comorbidities, deal with drug toxicity, and prevent or treat immune reconstitution inflammatory syndrome (IRIS).

Stigma, arising from fear of limited client privacy and confidentiality violations at ART care centres, accounts for clients bypassing their primary ART centres to seek care far away from their residence. Stigma is an attribute that is deeply discrediting and can deprive a person of their human dignity. People living with HIV are often labelled as deviants and can be singled out for unjust treatment.[76] This lack of an accepting attitude toward PLHIV creates fear among clients that by accessing ART in the communities, their HIV-positive status would become public knowledge and that they would encounter stigma from community members.[26,66–69,77] Ayiigah et al.[26] observed in their study of stigma against PLHIV in northeastern Ghana that ART clients encountered stigma from co-tenants and family members through sanctions that included pointing fingers, insults, mockery, and avoidance. This resulted in PLHIV missing ART clinic appointments or terminating ART treatment for long periods of time, while some would bypass their primary ART facility. To address HIV-related stigma and discrimination at the community level, Adjetey and others found in their study that ART clients preferred facility-based individualised differentiated services to community-based services. Furthermore, stakeholders in HIV care at the community level are encouraged to deploy culturally appropriate education to increase awareness of the effectiveness of ART and promote the adoption of accepting attitudes towards ART clients.[77] Therefore, when providing ART services, it is crucial to recognise the sociocultural characteristics of the population and implement measures that enhance care delivery for all groups while offering facility-based individualised integrated services to clients.

Regarding health facility-related stigma, our results reveal that PLHIVs are afraid that healthcare providers with whom they reside in the same community would breach confidentiality about their HIV-positive health status to members of the wider community. For this reason, they would travel to ART centres outside their immediate localities for care.[26,71] This finding significantly creates issues about the acceptability of the overall approach to caring for and supporting ART clients in developing countries. Unlike the availability of care, where providers' competencies are measured based on technical know-how, the acceptability of care in developing settings focuses more on the social and cultural competence of carers.[54,55] Thus, in these settings, ART carers are expected to exhibit trust and offer adequate empathy and support to clients, instead of labelling them as deviants and exposing them to public stigma. ART clients who are unable to accept or tolerate the criticisms of care providers at the primary ART centres would bypass such facilities and seek care at other facilities where the provision of care is considered to be acceptable. To provide culturally and socially sensitive ART care, care providers' training must be refocused on developing their competencies to deliver care that is reflective of the cultural and social sensibilities of the population they serve. In addition to training, it is imperative to establish legal punishments and penalties for privacy and confidentiality abuses by health facility personnel. In this context, we call for the strict application of existing anti-HIV stigma measures, such as the Ghana AIDS Commission Act 938,[78] which forbids or criminalises discriminatory treatment of PLHIV. The study advocates the empowerment of PLHIV through adult education. Empowerment is the process of enhancing feelings of self-efficacy in people through the identification and removal of conditions that reinforce powerlessness.[79] PLHIV should be empowered by educating them about the legislative instruments that protect them and what steps to take when confidentiality and discriminatory issues arise. Two models of community adult education can be employed to educate PLHIV and community members to reduce stigma if not eliminate it. The liberal community adult education targets all community members and stakeholders in the education of the legal system as it relates to HIV.[80,81] Liberating community adult education will target PLHIV themselves[80,82] to raise awareness of their rights relating to confidentiality and discrimination and channels of redress.

5. Conclusion

There is strong evidence for the prevalence of ART clients bypassing their primary ART centres in search of specialised care in higher-tiered health facilities. For others, bypassing is intended to conceal their HIV-positive status and prevent stigmatisation within the community. The recommendations for addressing the triggers of the phenomenon include improved quality of ART care at the primary level in line with the global standards for providing specialised and individualised ART care. While we expect this measure to satisfy clients' preference for specialised care, there is also the need to increase the population's knowledge and awareness of the efficacy of ART to eliminate stigma towards ART clients in the community. Perhaps a more radically deterring approach would involve a strict implementation of the anti-HIV stigma legislation, which

forbids and criminalises stigmatising attributes directed at PLHIV. The effectiveness of this effort will hinge strongly on the awareness and willingness of PLHIV to report any experiences of stigma from community members and healthcare providers. This will require that they are empowered through education on the legislative instruments that protect them and the steps to take when confidentiality violations and discrimination are encountered. Given the importance of ART uptake in achieving the global HIV treatment target of 95-95-95 by 2025, we recommend further research in Sub-Saharan African countries to uncover the relationship between bypassing primary ART sites and clients' adherence to ART regimens. The findings will guide the development of strategic measures aimed at enhancing the uptake of ART at primary ART centres.

CRediT authorship contribution statement

Maximillian Kolbe Domapielle: Writing – review & editing, Writing – original draft, Methodology, Investigation, Formal analysis, Conceptualization. **Sadat Zakari Abugbila:** Writing – review & editing, Writing – original draft, Validation. **Marshall Kala:** Writing – review & editing, Writing – original draft, Validation.

Declaration of competing interest

The authors declare no conflict of interest.

Data availability

Data will be made available on request.

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