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Approaches for improving linkage to HIV care among HIV self-testing individuals in sub-Saharan Africa

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INTRODUCTION

Sub-Saharan Africa (SSA) remains the region with the highest burden of HIV/AIDS globally, accounting for about two-thirds of people living with HIV/AIDS.[1] Despite significant progress in scaling up HIV testing and treatment services in the region, linkage to HIV care remains a significant challenge. According to the Joint United Nations Programme on HIV/AIDS (UNAIDS), in 2019, only 81% of people living with HIV in SSA knew their HIV status, and only 68% of those diagnosed were on antiretroviral therapy (ART).[2] Poor linkage to HIV care is a major barrier to achieving the UNAIDS 95-95-95 targets, which aim to diagnose 95% of people living with HIV, put 95% of those diagnosed on ART and achieve viral suppression in 95% of those on ART by 2030.[3]

In recent years, HIV self-testing (HIVST) has emerged as a promising strategy for expanding access to HIV testing services in SSA. HIVST involves individuals collecting their own specimens (oral fluid or blood) performing an HIV test in a private setting and at their own convenient time, and interpreting the results themselves.[4 5] HIVST is usually initiated by the client instead of a healthcare provider, thereby maintaining a patient's autonomy.[6] HIVST has several potential benefits, including increased uptake of HIV testing, increased testing frequency, decreased coercive testing by healthcare providers and decreased burden on the healthcare system.[6] HIVST removes the current barriers related to HIVST such as expense associated with travelling to a healthcare facility, long waiting times at the facilities and having to go to the healthcare facilities at specific times when they are operational.[7] HIVST devices are very accurate, with sensitivities of more than 90% and specificities above 95%. Reactive results must, however, be confirmed through additional testing by a trained provider. Those who test negative should be linked to prevention services such as voluntary medical male circumcision and HIV pre-exposure prophylaxis, where indicated.[8]

Studies conducted in SSA have revealed high interest in HIVST among different population groups such as the general population, couples, high-risk groups and healthcare providers.[8] Studies conducted in SSA have also revealed that uptake of HIVST is high. Of all the participants who took part in a study in Nairobi, Kenya, among men who have sex with men to determine the factors associated with HIVST, it was revealed that 55.9% of them had used HIVST.[9] A community-based prospective study conducted in Blantyre, Malawi, to determine the uptake, accuracy, safety and linkage into care revealed that 76.5% of the participants self-tested during a 12-month period.[10] A demonstration project to determine the feasibility of community-based HIVST in Johannesburg, South Africa, revealed that 68.7% of the participants selected unsupervised HIVST.[11] However, linkage to HIV care for those who test positive through HIVST remains a significant challenge.[8] A study conducted in Malawi revealed

SUMMARY BOX

⇒ Despite the potential benefits of HIV self-testing (HIVST), several challenges contribute to poor linkage to HIV care among HIVST individuals in sub-Saharan Africa.
⇒ The challenges to linkage to HIV care among HIVST individuals are complex and require a multifaceted approach that addresses both individual-level and systemic-level barriers to care.
⇒ Approaches for improving linkage to HIV care among HIVST individuals include counselling and support, innovative HIV care service delivery models, peer navigation, health information systems and community mobilisation and engagement.

that 56% of community-based self-testers who tested HIV positive were linked to HIV care.[10] In Kenya, 50% of partners of pregnant and postpartum women who tested HIV positive using HIVST were linked to a confirmatory HIV test.[12]

In this paper, we discuss potential approaches for improving linkage to HIV care among individuals who test HIV positive after HIVST in SSA. We explore the challenges to linkage to care among HIVST individuals and review the evidence on approaches for improving linkage to care, including counselling and support, innovative HIV care service delivery models, peer navigation, health information systems and community mobilisation and engagement. We highlight the potential of these approaches to improve linkage to HIV care and suggest areas for future research.

CHALLENGES TO LINKAGE TO HIV CARE AMONG HIVST INDIVIDUALS

Despite the potential benefits of HIVST, several challenges contribute to poor linkage to HIV care among HIVST individuals in SSA. These challenges are complex and can be classified into individual-level and systemic-level barriers.

Individual-level barriers

Fear of HIV stigma and discrimination

Fear of HIV stigma and discrimination is a significant barrier to linkage to HIV care among HIVST individuals in SSA.[13] HIV stigma is still pervasive in many SSA communities and can lead to social isolation, discrimination and even violence against people living with HIV.[14 15] Fear of HIV stigma and discrimination may prevent individuals from seeking HIV testing and linkage to care services, including those who have tested positive through HIVST, as they may fear being rejected by their partners, families and/or communities. Fear of stigma and discrimination may even make individuals who are diagnosed with HIV afraid of being seen at a healthcare facility. Studies have shown that HIVST can help increase HIV testing uptake and linkage to care among hard-to-reach populations, but fear of stigma and discrimination can limit its effectiveness.[8] Individuals who fear stigma may be less likely to seek HIV testing and care services or may delay seeking care until their health has already deteriorated.

Psychological and emotional barriers

Psychological and emotional barriers, including fear, denial and anxiety, can also contribute to poor linkage to care among HIVST individuals. Individuals may fear the consequences of an HIV-positive diagnosis, including stigma, discrimination and the potential loss of social support. Denial may also prevent individuals from accepting their HIV-diagnosis status, and anxiety may prevent individuals from seeking or continuing HIV care services. Overall, these psychological and emotional barriers may contribute to poor linkage to care among HIVST individuals in SSA.[16]

Systemic-level barriers

Limited healthcare infrastructure

Limited healthcare infrastructure is a major barrier to linkage to HIV care among HIVST individuals in SSA. Many healthcare facilities in SSA are under-resourced, with limited staffing, inadequate medical supplies and poor infrastructure.[17] This lack of infrastructure can lead to long waiting times, limited access to care and poor quality of care, deterring individuals from accessing HIV treatment which ultimately contributes to low initiation rates and/or frequent treatment interruptions. Inadequate healthcare infrastructure in SSA can result from a variety of factors, including insufficient funding, limited resources and weak health systems. These challenges are particularly acute in rural areas, where healthcare facilities are often under-resourced and understaffed. As a result, people living with HIV in rural areas may face significant barriers to accessing HIV care and treatment services.

Fragmented HIV care services

Fragmented HIV care services, including poor coordination of care between healthcare facilities, can also contribute to poor linkage to HIV care among HIVST individuals in SSA. HIV care services may be spread across multiple healthcare facilities, with limited communication and coordination between facilities. This fragmentation can lead to delays in accessing care, missed appointments and poor quality of care, all of which can contribute to poor linkage to care among HIVST individuals in SSA. Studies have shown that effective linkage to HIV care is crucial for improving HIV treatment outcomes, reducing HIV transmission and improving the overall health of people living with HIV.[18] Fragmented care services can prevent individuals from receiving timely and appropriate HIV care, leading to poorer health outcomes and increased risk of transmission.

Limited funding for HIV care services

Limited funding for HIV care services is a significant barrier to linkage to care among HIVST individuals in SSA. Many healthcare facilities in SSA rely on external funding to provide HIV care services, including support from non-governmental organisations or implementation partners, and funding can be inconsistent and limited. This limited funding can lead to a shortage of medical supplies, limited staffing and inadequate infrastructure, resulting in healthcare facilities struggling to support effective linkage to care and treatment. Additionally, limited funding can result in inadequate staffing, which can further exacerbate resource shortages and limit the capacity of healthcare facilities to provide high-quality care. Furthermore, inadequate infrastructure is another issue that can result from limited funding for HIV care services. For example, healthcare facilities may lack the necessary facilities and equipment to provide appropriate care, such as private spaces for counselling and testing or adequate storage for medications and supplies.

These infrastructure limitations can make it more difficult for healthcare providers to effectively deliver care and can deter HIVST individuals from seeking care in the first place.

Inadequate healthcare workforce

Inadequate healthcare workforce, including a shortage of healthcare providers and a lack of trained HIV care specialists, particularly in rural areas, may also contribute to poor linkage to care among HIVST individuals in SSA. Healthcare providers play a critical role in the HIV care continuum, from diagnosis to linkage to care, and ongoing management of HIV infection. Many healthcare facilities in SSA face a shortage of healthcare providers, particularly in rural areas . This shortage can lead to long waiting times, limited access to care and poor quality of care. Additionally, the limited number of healthcare providers may lead to a heavy workload, resulting in burnout and a decline in the quality of care provided.[19] HIV care specialists are essential in ensuring that patients receive appropriate and timely care, including ART, adherence counselling and ongoing monitoring of treatment outcomes.

APPROACHES FOR IMPROVING LINKAGE TO HIV CARE AMONG HIVST INDIVIDUALS

Counselling and support

Comprehensive counselling and support services are critical to improving linkage to HIV care among HIVST individuals.[20] Counselling should be provided before and after HIVST, with a focus on providing accurate information about HIV, the benefits of early diagnosis and treatment and strategies for coping with a positive HIV test result. Counselling services can be offered through different platforms, including face to face, telephone lines or online where individuals who want to self-test can be able to engage with healthcare providers before they perform the test. HIVST individuals should be encouraged to communicate with healthcare providers following their HIVST to discuss the results. Such toll-free telephone lines or online services should be operational 24 hours/day to ensure that HIVST individuals can reach counsellors at any time. Counselling services should be available in all local languages and should be offered by trained professionals.[21] Support services should include assistance with linkage to HIV care, including appointment scheduling, referrals to healthcare facilities and follow-up support. The provision of culturally appropriate counselling and support services, including peer support and counselling, may be particularly important in addressing some of the challenges to linkage to HIV care among HIVST individuals.

Innovative HIV care service delivery models

Innovative HIV care service delivery models, such as community-based ART distribution, have been shown to improve linkage to HIV care and retention in care among people living with HIV in SSA, as it addresses many barriers associated with a clinic setting.[22 23] These models involve the decentralisation of HIV care services from healthcare facilities to community-based settings, including community health centres, mobile clinics and community pharmacies. These models have several potential benefits, including increased access to HIV care services, reduced stigma associated with HIV and improved retention in care. Provision of HIV services via community-based settings reduces distance to healthcare facilities and transportation costs for the HIVST individuals. Home visits by healthcare providers as a follow-up strategy may also improve linkage to HIV care since HIVST individuals would be provided with adequate information about HIV and the benefits of early treatment and retention in care.[24] HIVST programmes can leverage these models to improve linkage to care by integrating HIVST with community-based HIV care services.

Peer navigation

Peer navigation has been shown to be an effective strategy for improving linkage to care and retention in care among people living with HIV in SSA.[25] Peer navigators may be individuals living with HIV, who have overcome their own barriers and become stable on HIV treatment, who provide support and assistance to other people living with HIV in navigating the healthcare system and accessing HIV care services. Peer navigators can provide support to HIVST individuals by providing information about HIV care services, accompanying them to healthcare appointments and providing emotional support, if needed. For peer navigators to be effective in assisting HIVST individuals, they should be known in the communities, and the communities should know their activities. Furthermore, they should always maintain confidentiality for them to be trusted by HIVST individuals who may need their services.[26]

Health information systems

Health information systems, including electronic medical records (EMRs) and mobile health (mHealth) applications, can improve linkage to care by facilitating communication between HIVST individuals and healthcare providers and improving the coordination of care. EMRs can be used to track HIVST results, monitor HIV care services and provide reminders for appointments and medication adherence. mHealth applications can provide information and support to HIVST individuals, including appointment reminders, medication reminders and educational materials. mHealth applications can be used by HIVST individuals to report their results to healthcare providers who will then link them to other HIV services such as laboratory testing and initiation on ART, if diagnosed with HIV.[27] To reduce difficulties related to instructions given in the applications, the instructions should be simplified, given in several local languages and there should also be multimedia supplements for the instructions.[28] This strategy can be more effective where the cellphone ownership in the communities is high,

and the applications used to record the HIVST results are easy to use. Such applications should always be secure so that any information recorded on them does not fall into the wrong hands. Power outages, illiteracy and suspicion of electronic records may, however, be hindrances to the uptake of this strategy. Other challenges that may be faced when trying to use health information systems widely in the region include poor internet connectivity and the population's limited skills.[29]

Community mobilisation and engagement

Community mobilisation and engagement can improve linkage to HIV care by raising awareness about HIV, reducing stigma associated with HIV and HIV testing and promoting access to HIV care services. Community mobilisation and engagement strategies can include community outreach activities, peer education, community-based HIV testing and community-led advocacy. Engaging community leaders, including religious leaders, traditional healers and community elders, can be particularly effective in promoting HIV testing and linkage to HIV care by dispelling myths and misconceptions about HIV, reducing stigma and promoting acceptance of HIV testing and treatment.[30] In addition, involving community leaders can help build trust between communities and healthcare providers and increase community ownership of HIV prevention and care programmes.

CONCLUSIONS

Improving linkage to HIV care among HIVST individuals is critical to achieving the UNAIDS 95-95-95 targets and reducing the burden of HIV in SSA. The challenges to linkage to HIV care among HIVST individuals are complex and require a multifaceted approach that addresses both individual-level and systemic-level barriers to care. Approaches for improving linkage to care among HIVST individuals include counselling and support, innovative HIV care service delivery models, peer navigation, health information systems and community mobilisation and engagement. Future research should focus on evaluating the effectiveness and cost-effectiveness of these approaches and identifying strategies for scaling up these interventions to improve HIV testing and linkage to care in SSA.

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