Perceived barriers and opportunities for implementing integrated psychological intervention for depression in adolescents living with HIV in Tanzania

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Abstract

Background

Adolescents living with Human Immunodeficiency Virus (HIV) have an increased risk of depression that may affect their adherence to antiretroviral therapy (ART) and, therefore, their treatment outcomes. Integrating mental health care in HIV care and treatment settings may help to improve access to comprehensive care. However, this remains challenging in Tanzania and other countries with similar contexts. We, therefore, explored challenges to accessing mental health care and opportunities for implementing an integrated, evidence-based psychological intervention to manage adolescent depression in HIV care and treatment centers (HIV-CTC) in Dar es Salaam, Tanzania.

Methods

This cross-sectional study utilizing a qualitative design through a phenomenological approach was conducted among adolescents living with HIV, health care providers (HCP), and caregivers. Forty-five in-depth interviews were conducted in three HIV-CTCs in Kinondoni Dar es salaam. Audio records were transcribed verbatim and analyzed with NVIVO computer software-aided data analysis.

Results

We found a low level of mental health awareness to be a cross-cutting challenge among caregivers, adolescents, and HCPs, limiting access to mental healthcare and the quality of care received. Psychological health caregiving was challenged by mental disorders stigma, poor communication between adolescents and HCPs, limited knowledge and skills to manage depression among HCPs, and limited information on treatment coverage for mental disorders. Nevertheless, health system opportunities for integration were apparent. In each HIV-CTC, there were available counseling rooms, nurse counselors delivering HIV and adherence counseling, and well-organized youth clubs indicating a potential for utilizing the existing structures. In addition, positive attitudes about psychological interventions in all groups of participants provide further opportunities to provide mental health care.

Conclusion

Despite several modifiable barriers to accessing mental health care for adolescents living with HIV, there were evident opportunities for implementing an integrated, evidence-based psychological intervention to address depression in adolescents living with HIV in Kinondoni Dar es Salaam Tanzania.

Introduction
People living with HIV (PLHIV) have continued to suffer from psychological, social, and cultural consequences, making them vulnerable to mental health (MH) problems and especially depression (1, 2). With the addition of other developmental challenges, adolescents living with HIV (ALWHIV) have a higher burden of depression (3, 4) compared to other age groups. Depression significantly impacts their adherence to antiretroviral therapy (ART) and, therefore, better health outcomes (5–8). Addressing the burden of depression can improve ART adherence (44). Attaining such a mental health goal within HIV care and treatment requires integrating mental health services into the care and treatment of adolescents living with HIV(1, 9–12).

The Tanzania mental health Policy calls for integrating mental health care in all primary health care facilities (13). However, translation into practice has been affected by a limited human resources capacity and mental health experts to deliver or supervise MH interventions for ALHIV within the HIV-CTC (13, 14). As a result, help-seeking and utilization of care for mental health problems like depression for adolescents remain less likely even when mental health services are available and required to narrow the MH treatment gap, especially in low-middle-income countries (15, 16). Poor mental health knowledge, stigma, lack of awareness of own mental health problem, poor engagement of adolescents in intervention development, and acceptability of the service provided offer an explanation for poor help-seeking and utilization among this vulnerable group (17–19).

It is suggested that adolescents’ attitudes toward seeking help for mental health problems, what is expected of the adolescents by significant others in their life, and the ability to overcome barriers seemingly impact help for psychological health difficulties (e.g., stigma) predicts whether or not adolescents will seek and utilize available mental health care (17). This makes it necessary for health care systems and interventions for mental health to fully engage adolescents and incorporate their views about barriers to help-seeking and service utilization in their planning and development (20). In addition, involving adolescents, their caregivers, and health care providers in intervention development and integration processes should consider users perceived barriers and include strategies to modify them within the structure and content of interventions to be integrated (20–22). However, there is a lack of evidence on availability, the extent of intervention, and the level of adolescent engagement in developing interventions in Tanzania.

In addressing the overarching evidence gaps and exploring the potential for policy and implementation recommendations, evidence on perceived barriers and challenges in the current integration of psychological health care is essential (23). Therefore, we explored challenges to accessing mental health care and opportunities for integrating brief psychological interventions for managing adolescent depression among adolescents, caregivers, and health care providers in Kinondoni Dar es salaam Tanzania.

**Methods**

**Study design**
This study employed a cross-sectional design using a qualitative approach to explore the barriers to accessing mental health care and opportunities for integrating evidence-based psychological interventions for depression in adolescents living with HIV in Kinondoni district Dar es Salaam. A qualitative approach was preferred to understand the subjective experiences of adolescents and their caregivers when accessing psychological health care, and the challenges healthcare providers face in providing such care. This approach is also suitable for capturing opinions on opportunities to implement a culturally appropriate intervention to address depression in adolescents living with HIV in Dar es Salaam. It was considered critical to understand the rich perspectives of key users and providers of adolescent HIV care and treatment services to inform the future development and implementation of a brief psychological intervention to address depression in adolescents living with HIV in this resource-sparse setting.

**Study setting:** This study was carried out in HIV Care and Treatment Centers (CTCs) of the Kinondoni Municipality in Dar es Salaam, Tanzania. Kinondoni Municipality is the most popular of the five districts of the Dar es Salaam region and presents a multicultural set of people. The municipality is also home to 7 active centers for adolescent HIV care and treatment service delivery. The data were collected in three of the seven centers: Magomeni, Tandale, and Mwenge. All three sites were purposively selected because they likely have the most experienced care providers in adolescent care (24).

**Study participants and recruitment**

Forty-five (45) participants were recruited for this study, including 15 adolescents, 15 parents/caregivers, and 15 health care providers. We recruited participants from all three study sites using a purposeful sampling technique. Health care providers included clinicians and nurse counselors delivering HIV care and treatment to adolescents. The recruitment of clinicians also considered those with knowledge and experience about the dynamics of mental health problems in adolescents living with HIV, the health system, and mental health services in general. Adolescents aged 11 to 24 years were purposefully recruited from their respective clinics based on the factor that they are aware of their HIV status. Parents/guardians of adolescents living with HIV were selected from the registry book of the respective center. Parents were invited to the clinic for an interview through a phone call. The study obtained ethical approval, institutional permission, and informed consent/acet from participants before the conduct of interviews. The recruitment was based on the saturation principle; when no new information was obtained from participants and redundancy was achieved (25)(26).

**Data collection process**

We developed semi-structured interview guides for clinicians, caregivers, and adolescents. The guides were initially developed in English and later translated into Kiswahili to conduct the in-depth interviews. The guides were developed based on a literature review (20, 27–33) and the researcher's experience on the subject. The guides were composed of open-ended questions and probes on barriers to accessing mental health care and collected opinions on opportunities for integrating evidence-based psychological interventions for depression in adolescents living with HIV.
For adolescents and their caregivers, we explored their experience and knowledge of depression, perception of the effect of the disease on their lives, Presenting problems, and access to care. We also explored their experience of modern and traditional methods of help, Their understanding of the ideal treatment, and their opinion about the development and implementation of psychological intervention.

For health care providers, we explored their knowledge and experience working with adolescents with depression and their caregivers, including management and referral pathways, knowledge and experience of using evidence-based psychological intervention for adolescent depression, challenges they face in helping adolescents with depressive symptoms, and opportunities for developing and implementing an evidence-based psychological intervention for adolescent depression. We also explored their views on what helps provide therapy for this group and which techniques they have been using that they found useful. The first author and three trained research assistants (RAs) with a degree in social work conducted the interviews. The RAs were selected based on their mental health awareness and experience with qualitative data collection. In addition, RA received training on the study objectives, research ethics, data collection guides, and the research process.

In-depth Interviews

Interviews were conducted between May and June 2021. We conducted 15 in-depth interviews with each group (adolescents, HCPs, and caregivers). All the interviews with adolescents and caregivers were conducted within respective CTCs in a private and quiet room chosen by the health care provider. Health care providers were interviewed in their offices at each clinic. In addition, the lead researcher held some interviews and meetings with health care providers to clarify some information via phone call /ZOOM meetings due to the COVID−19 situation in the country at the time of data collection. All interviews were conducted in the Kiswahili language because it is the native language and can be spoken comfortably by researchers and the participants. We obtained written informed consent from all study participants after explaining the purpose of the study and that the session would be audio-recorded. All interviews were audio-recorded and lasted between 30 and 45 minutes. For each interview, brief field notes supplemented the audio-recorded information. Interviews were conducted until saturation occurred for each group of participants (adolescents, caregivers, and healthcare providers) when no new information was obtained from participants and redundancy was achieved.

Data analysis

Audio-recorded interviews were first transcribed verbatim. Thematic analysis (34) was conducted to identify key themes regarding perceived barriers to accessing mental health services and opportunities for integrating psychological health interventions for depression. Since all coders were fluent in Kiswahili, the analysis was done in Kiswahili to maintain the originality of the participants’ information. Before the coding process, TN, AM, and DM read and re-read the full transcripts and field notes to become familiar with the data and the context. The first author developed a codebook based on the research objective and the conceptual understanding of the mental health services among adolescents living with HIV that was used to guide the initial coding process. The codebook was imported into NVivo.
qualitative data analysis computer software to help organize and manage data. To avoid discrepancy, at first, similar transcripts were coded by two researchers separately. Then, they were compared for agreement on the final codes and coding. The process of analysis was iterative among the research team. First, the generated codes were grouped into the respective pre-determined codes through comparisons. Then, the frequency of appearance of the related codes generated a sub-theme, and finally, themes were developed following a contextualization and conceptualization process. The new emergent themes were adapted through discussion and agreement with the entire analysis team. Other researchers (SK and DLM) independently reviewed codes and themes to improve the quality of the emerging themes in terms of their validity. The codes and quotes were translated into English and used to illustrate as quotations from the participants’ narratives.

Results

Demographic characteristics: Forty-five participants (15 adolescents, 15 health care providers, and 15 parents/caregivers) participated in this study. Of the 15 health care providers, 8 were clinicians, and 7 were nurse counselors. Eight (8) adolescents were female, seven (7) were male, and the mean age was 15.2 years. Most of the caregivers (nine of fifteen) had a primary level of education. Detailed social-demographic characteristics of participants are summarized in Table 1.

Barriers to mental health care services and help-seeking

The study identified four broad interrelated themes as barriers to accessing mental health services and one general theme indicating opportunities for integrating a psychological intervention to address depression for adolescents living with HIV Within HIC-CTC. They include inadequate mental health knowledge, mental disorders stigma, communication, limited knowledge to provide care, skills to manage depression, and opportunities to integrate psychological interventions for depression. Table 2 summarizes these findings.

Inadequate mental health knowledge

Limited mental health literacy: The inability to recognize symptoms of mental illness was mentioned as a critical barrier to seeking help from health services, particularly for caregivers who reported not understanding the changes in their children that might have been due to a mental health problem, not physical or behavioral problems. The challenge was partly due to somatic and behavioral presentation of depression in adolescents, as reported by this caregiver who works as a primary school teacher.

“The problem was that she was sleeping the whole day, crying and complaining about headache and chest pain. Her father said it was laziness because even her walking changed; she walked slower than usual. They could not figure out her problem at the clinic until doctors visited our school for mental health education on world mental health day. I finally realized it was depression.” (Caregiver, secondary education)
Knowledge of available mental health services: Adolescents and their caregivers had limited understanding of the availability of mental health services in general. They thought tertiary mental health facilities were what they referred to as “for crazy people.” The role of HIV HCP in providing primary mental healthcare was not known. Even though available, most adolescents and their caregivers were unaware of the mental health unit within the primary health care hospital where the CTC is located. They, however, were aware of HIV counseling services that are provided at the HIV care and treatment center, including medication adherence and sex education, as this parent/caregiver reported

“There is no mental health unit here; I hear there is a hospital for crazy people (MIREMBE) in Dodoma but not in Dar es Salaam; there is no treatment for stress and depression...or maybe I do not know if they are treatable, that is, there is no help perhaps until one is crazy. Here, they provide counseling on living with HIV, self-acceptance, and medication usage” (Caregiver, primary education).

Negative mental health attitude: A negative attitude towards mental health was also considered a barrier to help-seeking. Participants believed mental health professionals are for severe incurable problems and that seeing a mental health professional makes a problem like depression more significant. It was also reported that symptoms of mental illness are associated with witchcraft in many cases. This health care provider has worked within HIV-CTC for nine years and describes his experience here.

“Many people believe a person with a mental problem has been bewitched, so it is even not easy to say if that is depression because once you see persistence negative thoughts and behaviors you cannot explain plus the fact that our expertise to diagnose it is low, we end up losing them to witchdoctors.”

Mental disorders stigma: Stigma and help-seeking: Participants emphasize stigma towards mental disorders as a barrier to accessing mental health care. Adolescents commented explicitly on how mental illness is viewed negatively, and asking for help means you will be considered crazy. If you get referred for specialized mental health care, your case is extreme, and doctors for “crazy people will serve you.”. Owing to the stigma toward mental illness within the community, adolescents and their caregivers reported fear of what they referred to as double stigma. Seeking mental health care was thought to add another level of stigma (going Crazy) to the already existing HIV stigma. Adolescents and caregivers were reluctant to accept referrals because they believed it “is only crazy people that go there,” as described by this 18-year-old adolescent.

“I was afraid of everything and sometimes ran away because I wanted to be alone. My aunt suggested I see a doctor for crazy people. I thought, dah! So, I am already a crazy person. On the one hand, they say I have AIDS; on the other, they say I am a crazy person... I did not go. You know it is only crazy people who go there, which means I will be one of them”.

Stigma and referral: Providers reported high stigma toward mentally unwell adolescents living with HIV. This fear of double stigma was perceived to interfere with referrals to mental health care. A negative attitude about mental health was also observed in some providers, especially in how they address
people with mental illness as the way this provider referred to it as ‘running mad,” as this provider with 6-
year-experience clinics narrates.

“That is why we find others are lost to follow up...there is one we followed up on, and we realized she
already was completely crazy.”

**Provider-adolescent Communication**

*Inadequate understanding or response to mental health needs:* Poor communication between
adolescents and HCP was a pivotal barrier to establishing an effective helping relationship. Challenges
in communication arose from the providers’ perceived busyness and inability to have time to listen to the
concerns and needs of adolescents. Adolescents perceived healthcare providers as too busy with
routine checkups and failed to listen to individual needs beyond managing HIV. They reported that
healthcare providers did not adequately recognize or respond to their needs. As narrated by this
adolescent, they lack flexibility during service provision and cannot support individual problems.

“When you go there[clinic], doctors are busy. Even if you describe your problems, it is not easy for them
to understand. It becomes difficult to ask for help. When you report a problem, they usually do not
understand because everyone is busy with her/his issue. You think of this, they think of that. An
adolescent loses the confidence to go and ask for help”. (Adolescent, 17-year-old).

*Need for establishing a working relationship:* Adolescents consistently perceive some providers
as harsh and not easy to engage with. They reported that if healthcare providers empathetically address
the presented problems or show that they understand and are available to talk, adolescents will be more
likely to seek mental health care.

“Harsh! they are so harsh; I mean, doctors should not be harsh; they should be polite, that is, if someone
shares her problem, they should understand and resolve the matter, that will make it easy to ask for help.
But one will be afraid if they are too harsh. They do not understand the psychological burden you have.
They think medication is the most important thing. You do not explain other issues because you think of
this, and they think of that”. (Adolescent, 15-year-old).

*Inadequate knowledge and skills to manage depression.*

*Lack of trained personnel:* Health care providers reported that they do not know what or how to talk to an
adolescent with depressive symptoms. They consistently said they lack mental health training and are
unaware of what needs to be done. Some thought the mental health needs of the adolescents were less
critical when compared to checking for viral load and CD4 count. They also thought addressing
depression symptoms was not as crucial as taking ART medication.

“It is a problem we do not know because none is trained. You fail to speak to adolescents; you only tell
them to try not to overthink and to use medication (ART) properly. You let them know that having HIV is
not a death sentence, then you go on with more important things like checking CD4, viral load, and filling their prescription”. (Clinician, 5-year experience).

Knowledge of evidence-based interventions: None of the health care providers knew of any evidence-based psychological intervention to address depression. The lack of trained personnel and a transparent referral system was a significant challenge for healthcare providers in all centers. Providers reported having no formal training in identifying and managing depression, limiting their ability to help adolescents with HIV even when they want to.

“We do not deal with depression. The biggest challenge is that most of us do not have sufficient expertise to diagnose these problems or treat depression in these adolescents. We do not know what type of treatments they should be given. Our clinic does not have an expert to ensure they get treatment. There is no one.” (Nurse counselor, 11-year-experience).

Referral system and pathway to care: Health care providers felt they did not know where or when to refer an adolescent “with depression.” Even though there might have been a psychiatric nurse or a clinical officer with training in psychiatry within the hospital where the clinic is located, providers did not know that suicide attempts warranted referral to mental health care. Some believed to have not seen an adolescent with severe enough presentation to warrant referral but at the same time reported a case that ended with completed suicide. To these providers, only psychosis would be a reason for referral to specialized mental health care, as narrated by this provider.

“In the future, if we get a serious case requiring a psychiatrist, it will be challenging. Because me, I do not know where to refer to such a case. Even though we have not yet seen a depression case that required referral, we should know the modalities of handling them. Perhaps we diagnose them late. For example, it was too late for that adolescent when we realized it was probably mental health. After successfully committing suicide, his uncle reported that the boy heard his parents' voices telling him to kill himself! We lost him”. (Clinician, 5-year-experience).

Lack of tools and guidelines: Training manuals, screening tools, or guidelines for depression interventions were reported to be absent by all health care providers.

“Yes, we were not trained about mental health, but there are not even guidelines or a simple form that an adolescent can fill that we can at least learn to use by ourselves. We have manuals for TB, for example. Why not for depression while they [government] know how serious this problem is”. (Clinician, 8-year-experience).

Opportunities for implementing integrated psychological intervention for depression

Feasibility of a psychological intervention: Participants reported that HIV care and treatment centers have supportive structures and systems to support the integration of psychological interventions within HIV CTC. Youth clubs were reported as one of the possible venues to extend mental health education. Participants from all sites reported having well-structured counseling rooms and at least two nurse
counselors placed to provide psychosocial care; hence, they believe it is feasible to integrate psychological interventions.

“The environment here is conducive to accommodating provision of the service. The clubs are perfect areas to provide this education. We also have counseling rooms available and in use with two of us (nurse counselors), who are the right people to deliver the intervention for depression because that is what they do. ... I mean psychosocial care”. (Nurse counselor, 3-year-experience).

To HCP, the intervention was thought to be helpful to adolescents and providers who have been feeling helpless and burned out because of the inability to help adolescents with mental health problems. In addition, they think having the skills to address depression in adolescents will improve their confidence to effectively listen to issues presented to them by the adolescents, something that they currently avoid doing because of the guilt of not being able to help.

“There is nothing bad like seeing an adolescent you are attending getting a problem that he expects you to help but cannot. It is boring, and the work can become tough and painful. Truly, as providers in the CTC unit, we must get informed on how to attend to adolescents with mental health issues. The knowledge will make us feel confident to listen to adolescents’ challenges, for you sometimes stop him from explaining a problem to you as you feel that it will just trouble you from not knowing what to do. Then, you blame yourself when he leaves, feeling pain and regretting”. (Nurse Counsellor, 14-year-experience).

**Positive attitudes about psychological intervention:** Nurse counselors thought the intervention would be well suited to their scope of work and an added benefit. They perceived a psychological intervention as giving them something to simplify their job; they, however, emphasized the importance of intensive training to ensure they acquire the skills needed to deliver the intervention. In addition, they insisted on a simplified manual that was clear and useful. This nurse counselor narrated an example comparing a “car” to a treatment manual that can be left on the clinic shelf if the providers are not trained sufficiently.

*The truth is that it will give us skills to improve what we have been doing. It will not be something new from what we have been doing, but rather enhancing our knowledge and skills to make us do it better. I mean, instead of doing a trial-and-error game counseling, that is, according to what we see is correct, we confidently do what is supposed to be done. This means intensive training will be required. For example, I walk to Kariakoo every day, and you give me a car to simplify my journey. If you teach me how to drive, I will use it, and it will be beneficial; but if you give it to me without teaching me how to drive or if you have taught me but have not understood, I will park it outside there and continue my journey on foot. Those long, complex manuals will be left on the shelf, and we will continue to do business as usual. (Nurse Counsellor, 7- years of experience).*

**The need for a psychological intervention:** Caregivers thought the availability of a psychological intervention to address depression would be an excellent opportunity for the adolescents and caregivers.
This parent explains how the availability of an evidence-based intervention within HIV CTC will save them from looking for help in different areas unsuccessful.

“The treatment will take away a great burden from us. We will truly appreciate getting that service because we are suffering, not knowing what else we can do. I have exhausted all options. I started taking her to traditional healers, pastors, and local counselors on the street, but nothing seemed to help. She will be okay for one day and returns to her world the next day. If there is a possibility of getting the service here, it will be helpful”. (Caregiver, primary education).

Consistently, adolescents thought the intervention would be helpful. Most of them felt that the services would benefit them and their friends whom they see struggling with depressive symptoms. In addition, they thought Youth clubs would be an excellent venue for awareness.

“Yes, services should be available because many of us need them... I am a little better now but will go if the service is available. We should be informed when they start. I know many adolescents will also go for the service. We should be announced because we are many, and we will crowd there because I feel everyone somehow has this problem. I will recommend the service”. (Adolescent, 19-year-old)

**Discussion**

The results of this study point to several challenges to accessing mental health care ranging from inadequate mental health knowledge, mental health stigma, communication, and providers’ limited knowledge and skills to manage depression. It also indicates opportunities for implementing integrated, evidence-based psychological interventions to manage depression in adolescents living with HIV in Dar es Salaam, Tanzania.

*Mental health problems Knowledge and attitudes:* Adolescents and caregivers could not recognize symptoms of depression. Limited awareness of own mental health problems was due to somatic or behavioral presentation of depression and poor mental health knowledge. This finding is similar to findings of other studies indicating that poor mental health knowledge and lack of awareness of own mental health problem limit care-seeking (18,35,36). Adolescents need to be empowered to take care of their health, including mental health and overall well-being. Improved mental health knowledge improves symptoms and helps adolescents and their caregivers recognize signs of mental health problems like depression, which may encourage health-seeking behavior at an earlier stage.

*Mental health Stigma:* This study found that HIV-related stigma relates to the stigma associated with mental health, limited care-seeking, and interfered with referral to specialized care. Similar to studies conducted elsewhere, the findings of this study indicated that HIV-related stigma is often intertwined with other sources of stigma, including those associated with mental health (37). These findings favor integrated mental health intervention within the HIV care and treatment centers that will address gaps in mental health service access and treatment arising from this stigma (38). The service delivery structure should prioritize mental health care as part and parcel of HIV care and treatment and should be given
equal attention to other services offered at CTC. Mental health programs in media, such as those run by the Mental Health Association of Tanzania (MEHATA), may significantly reduce stigma and raise mental health awareness among the general population. In addition, creative content on mental health may be added to the already available adolescent Health clubs running monthly within the HIV care and treatment centers. The content may include recognizing symptoms and raising awareness of the locally available services and the various pathways to accessing care.

**Communication:** Communication was one of the challenges that made many adolescent participants feel that they were not getting adequate support for their mental health. They felt that providers were busy or not interested in listening to concerns that were not HIV care. This barrier in communication appeared to be consistent with findings from another study conducted in HIV care and treatment centers in Tanzania (39), indicating that poor provider communication was associated with non-adherence to care. This finding is documented in literature from well-resourced countries, meaning that inadequate communication limits mental health care seeking and adherence (39)(35).

**Limited knowledge and skills:** In this study, healthcare providers’ capacity to address depression in adolescents living with HIV was compounded by a lack of knowledge and skills in depression assessment and management. This finding relates to a study conducted in Rural Tanzania assessing primary health care providers’ knowledge and confidence to manage depression in adolescents that found providers lack basic mental health knowledge to assess, diagnose and treat depression (40). None of the health care providers had ever heard of psychotherapy and were not aware of any evidence-based intervention for depression. This lack of awareness may cause gaps in training/curriculum for the crucial primary health care workforce (clinical officers, assistant medical officers, and nurses). There is an urgent need to develop an intervention package to ensure providers are trained in identifying and managing common mental disorders like Depression in HIV care and treatment facilities. Implementing integrated mental health interventions in HIV-CTC is essential but unlikely to be sustained unless they are headed by developing culturally appropriate interventions and involve training, supervision, and continuous support for HCP (28,41). Healthcare providers at CTC and primary care facilities where the CTCs are located may need formal training to further their understanding of the assessment, diagnosis, and treatment of common mental health problems.

The lack of awareness among HCP of the available mental health facilities, their services, and how to effectively help adolescents access them was another barrier. The lack of knowledge about the mental health system and how and where to refer adolescents with mental health problems to health care providers in this study were striking. Adequate knowledge and understanding of mental disorders and available services, when and where to refer can facilitate early recognition, appropriate help-seeking from the adolescent, and adherence to recommended treatment.

**Implementation opportunities:** Adolescents had low confidence in accessing mental health care in places other than HIV care and treatment centers. Still, they had high self-confidence in talking to health care providers within HIV CTC about mental health issues. In addition, adolescents indicated an
increased ability to overcome perceived barriers, especially stigma, if communication between them and their providers is improved. The presence of existing Counselling services and nurse counselors indicates a possible opportunity for integrating a brief psychological intervention within the current counseling services. Since these nurse counselors are not appropriately skilled to deliver and supervise evidence-based psychological interventions, the development and piloting of culturally acceptable and feasible interventions delivered by CTC nurses are required. Innovative use of available nurse counselors in a task-shifting approach (where people with no mental health knowledge are trained to provide mental health interventions will be necessary (42). There is growing evidence in LMIC for the acceptability, feasibility, and effectiveness of culturally appropriate psychological interventions delivered by well-trained and supervised non-mental health specialists (43–47). In a randomized controlled trial of HIV-positive individuals with co-morbid depression in South Africa, HIV counselors (with minimal training and supervision) delivered a brief psychological intervention with no previous mental health knowledge. Post-intervention, those who received counseling intervention delivered by lay HIV counselors showed a significant improvement in depression, indicating that trained lay HIV counselors can successfully provide the intervention to address depression (48). Therefore, task shifting may be utilized in Tanzania to provide practical, culturally appropriate, and feasible psychosocial interventions for adolescents living with HIV.

Counselors’ willingness to address depression within the scope of their work within HIV care and the availability of treatment facilities offer another opportunity for integration. All sites included in this study had a separate adolescent HIV clinic for those 11 to 24 years. Services can be strengthened to include screening and managing adolescent depression and possibly other common mental health conditions in activities such as health education, counseling sessions, and peer-led youth clubs. Integration of a brief psychological intervention has the potential to improve both physical and mental health outcomes of adolescents living with HIV (49,50). Evidence-based psychological interventions are not known by health care providers in CTC but would be acceptable treatment to HCP, Adolescents, and caregivers if culturally appropriate and can utilize available resources.

Strengths and limitations

Depressed Adolescents living with HIV are likely to have poorer health outcomes and find it more difficult to access mental health care than the majority population. This qualitative study provides comprehensive information about perceived barriers to accessing mental health and opportunities for implementing evidence-based psychological intervention for this vulnerable group. We took a complete account of participants’ experiences by collecting data from three groups of participants and three HIV care and treatment centers. We also used participants’ quotes in the result to support the researchers’ interpretations. These measures ensured the credibility of this study. Caregivers in this study had a low level of education, and the majority lived within the geographical location of CTC clinics. Even though this might be the situation for most HIV caregivers of ALWHIV in Tanzania, there is a need to develop strategies for engaging caregivers with a high level of education and living at a greater distance from the CTC as this may indicate a different set of barriers that need to be considered during implementation.
Conclusion
Perspectives of adolescents living with HIV, caregivers, and health care providers on barriers to accessing mental health services for adolescents living with HIV can inform improvements, development, and integration of mental health services within HIV care and treatment centers in Dar es Salaam. We found that the inability to recognize symptoms of depression, stigma, poor communication skills, and inadequately trained personnel was perceived as a barrier to help-seeking and access to care. There was strong support for integrating psychological intervention within HIV care and treatment Centers by adolescents, caregivers, and health care providers. This study favors mental health service planning, development, and implementation of an integrated intervention to address depression for adolescents living with HIV in Dar es salaam Tanzania and possibly similar settings in sub–Saharan Africa.

Recommendations
There is a need to address barriers faced by adolescents, caregivers, and those in the interface between adolescents and healthcare providers. These include improving awareness of mental health and reducing stigma, raising awareness of services and access pathways, and expanding and enhancing the role of HIV care and treatment providers in addressing mental health problems. Future research needs to develop and implement evidence-based interventions that are culturally appropriate, brief, practical, and customized for this care setting. These interventions should consider essential barriers identified in this study to ensure they are locally feasible, acceptable, and likely to be efficacious in reducing depressive symptoms in this population.

Declarations

Ethics approval and consent to participate: The study was conducted following relevant guidelines and regulations. Ethical clearance to conduct this study was obtained from the Addis Ababa University Institutional Review Board (IRB), Ethiopia (Ref. No. 051/20/CDT), and the Muhimbili University of Health and Allied Sciences IRB in Dar-es-Salaam Tanzania (Ref. No.DA.282/298/01.C/053). Permission to conduct the study was obtained from the Kinondoni Regional Medical officer. Written informed consent for participation, a record of the interview, and findings used for publication were sought from all study participants aged 18 and above. Written parental or guardian permissions were obtained for adolescents under 18 years, and those adolescents gave assent.

Consent for publication: Not applicable

Availability of data and materials: All data generated or analyzed during this study are included within the article.

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Authors’ contributions: TN, BS, SK, And AF contributed to the study’s design. TN, AM, and DM analyzed the data with support from SK and AF. TN drafted and revised the manuscript with supervision from AF, SK, AND BS. All authors reviewed the draft of the paper. All authors approved the final manuscript.

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References


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Tables

Table 1: Distribution of social demographic characteristics of the study participants recruited from HIV services for adolescents in Dar es Salaam, Tanzania
<table>
<thead>
<tr>
<th>Participants</th>
<th>Adolescents N=15</th>
<th>Care givers N=15</th>
<th>Clinicians N=8</th>
<th>Nurse counselors N=7</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age range years</td>
<td>12-19</td>
<td>27-61</td>
<td>25-53</td>
<td>27-64</td>
</tr>
<tr>
<td>Mean age years</td>
<td>15.2</td>
<td>45.6</td>
<td>33</td>
<td>47.8</td>
</tr>
<tr>
<td><strong>Sex</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>7</td>
<td>3</td>
<td>3</td>
<td>0</td>
</tr>
<tr>
<td>Female</td>
<td>8</td>
<td>12</td>
<td>5</td>
<td>7</td>
</tr>
<tr>
<td><strong>Education</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>None.</td>
<td>-</td>
<td>1</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Primary level</td>
<td>8</td>
<td>9</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Secondary level</td>
<td>7</td>
<td>5</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>Tertiary level</td>
<td>0</td>
<td>0</td>
<td>8</td>
<td>5</td>
</tr>
</tbody>
</table>

Table 2: detailed summary of the result indicating Perceived barriers to accessing mental health services and opportunities for integrating psychological intervention
<table>
<thead>
<tr>
<th>Selected Codes</th>
<th>Subthemes</th>
<th>Themes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Somatic presentation hinders the identification of depression</td>
<td>Limited awareness of own mental health problems</td>
<td>Mental health Knowledge and attitude</td>
</tr>
<tr>
<td>Caregivers unable to recognize depressive symptoms</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Not sure the symptoms related to a mental disorder</td>
<td></td>
<td></td>
</tr>
<tr>
<td>thought the problem would disappear by itself</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Not know where to seek help.</td>
<td>Inadequate knowledge of available mental health services.</td>
<td></td>
</tr>
<tr>
<td>Not knowing if they could ask for help in a hospital.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Not aware of mental health facilities in Dar es salaam.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Unsuccessful searching for a psychologist.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>I was ashamed of telling my problems to anyone.</td>
<td>Negative attitude.</td>
<td></td>
</tr>
<tr>
<td>MH professionals are for severe incurable mental health problems.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Seeing mental health professionals makes the problem bigger.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Beliefs symptoms are associated with witchcraft.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Beliefs depression is not treatable.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fear of double stigma [mental disorder and HIV].</td>
<td>Stigma and help-seeking</td>
<td>Mental disorders Stigma</td>
</tr>
<tr>
<td>It is shameful to ask for mental health help.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>I was afraid HCP would think I was crazy.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fear of being like other people with a mental illness</td>
<td></td>
<td></td>
</tr>
<tr>
<td>It is shameful to ask for mental health help</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mental health (MH) difficulties indicate weakness</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Do not accept referrals because of the stigma</td>
<td>Stigma and referral</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Understanding or response to mental health needs</td>
<td>Communication</td>
</tr>
<tr>
<td>---------------------------</td>
<td>-----------------------------------------------</td>
<td>---------------</td>
</tr>
<tr>
<td>Health care providers too busy to talk (with clients)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Provider too busy to fully listen and understand</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Adolescents do not say their problems directly</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Provider does not adequately recognize or respond to their needs</td>
<td></td>
<td></td>
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<tr>
<td>Having different treatment priorities</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Providers too harsh</td>
<td>Challenges in establishing a working relationship</td>
<td></td>
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<tr>
<td>Providers not empathetic</td>
<td></td>
<td></td>
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<tr>
<td>Providers not</td>
<td></td>
<td></td>
</tr>
<tr>
<td>I do not know how to help.</td>
<td>Lack of trained personnel</td>
<td>Inadequate knowledge and skills to manage depression</td>
</tr>
<tr>
<td>Addressing depression is not considered important.</td>
<td></td>
<td></td>
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<tr>
<td>Lack of on job training</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Not sure how depression is treated</td>
<td></td>
<td></td>
</tr>
<tr>
<td>No formal mental health training</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Not clear when to refer</td>
<td>Referral system and pathway to care.</td>
<td></td>
</tr>
<tr>
<td>Not sure where to refer</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Only psychosis gets a referral</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Not aware of referral pathways</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Not seen a case worth referral</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Unsuccessful suicide is only treated physically</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Suicidal ideation/plan not considered for MH evaluation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Never heard of any psychological therapy.</td>
<td>Knowledge of evidence-based treatment</td>
<td></td>
</tr>
<tr>
<td>Not aware of evidence-based interventions</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lack of guidelines /tools/manual on assessment and management</td>
<td>Lack of tools and guidelines</td>
<td></td>
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<tr>
<td>---</td>
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<td></td>
</tr>
<tr>
<td>Counseling rooms are available</td>
<td>Feasibility of the psychological intervention</td>
<td>Implementation opportunities</td>
</tr>
<tr>
<td>Nurse counselors available</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Youth clubs can be used for mental health difficulties awareness</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Intervention skills will make counselors' jobs easy</td>
<td>A positive attitude</td>
<td></td>
</tr>
<tr>
<td>The intervention will give them the skills they need.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>It is a perfect fit for what counselors do</td>
<td></td>
<td></td>
</tr>
<tr>
<td>It will reduce time spent with one client</td>
<td></td>
<td></td>
</tr>
<tr>
<td>It will give counselors confidence to listen and help</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Will be a savior to adolescents.</td>
<td>Need for the intervention</td>
<td></td>
</tr>
<tr>
<td>The availability of psychological intervention will be an excellent opportunity for adolescents.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>The psychological intervention will give a relief to the caregiver</td>
<td></td>
<td></td>
</tr>
<tr>
<td>The intervention will be helpful for their friends too</td>
<td></td>
<td></td>
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</tbody>
</table>