

Friendship Bench Intervention to Address Depression and Improve HIV Care Engagement Among Adolescents Living with HIV in Malawi: Study Protocol for a Pilot Randomized Controlled Trial

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ABSTRACT

Background

Adolescents in Sub-Saharan Africa are disproportionately affected by the HIV epidemic. Comorbid depression is prevalent among adolescents living with HIV (ALWH) and poses numerous challenges to HIV care engagement and retainment. We present a pilot trial designed to investigate feasibility, fidelity, and acceptability of an adapted and an enhanced Friendship Bench intervention (henceforth: AFB and EFB) in reducing depression and improving engagement in HIV care among ALWH in Malawi.

Methods

Design: Participants will be randomized to one of three conditions: the Friendship Bench intervention adapted for ALWH (AFB, n=35), the Friendship Bench intervention enhanced with peer support (EFB, n=35), or standard of care (SOC, n=35). Recruitment is planned for early 2024 in four clinics in Malawi.

Participants: Eligibility criteria (1) aged 13-19; (2) diagnosed with HIV (vertically or horizontally); (3) scored ≥ 13 on the self-reported Beck's Depression Inventory (BDI-II); (4) living in the clinic's catchment area with intention to remain for at least 1 year; and (5) willing to provide informed consent.

Interventions: AFB includes 6 counseling sessions facilitated by young, trained non-professional counselors. EFB consists of AFB plus integration of peer support group sessions to facilitate engagement in HIV care. SOC for mental health in public facilities in Malawi includes options for basic supportive counseling, medication, referral to mental health clinics or psychiatric units at tertiary care hospitals for more severe cases.

Outcomes: The primary outcomes are feasibility, acceptability, and fidelity of the AFB and EFB assessed at 6 months and 12 months and compared across 3 arms. The secondary outcome is to assess preliminary effectiveness of the interventions in reducing depressive symptoms and improving HIV viral suppression at 6 months and 12 months.

Discussion

This pilot study will provide insights into youth-friendly adaptations of the Friendship Bench model for ALWH in Malawi and the value of adding group peer support for HIV care engagement. The information gathered in this study will lead to a R01 application to test our adapted intervention in a large-scale cluster randomized controlled trial to improve depression and engagement in HIV care among ALWH.

Key words: Friendship Bench, Depression, Adolescent living with HIV

Trial registration: ClinicalTrials.gov Identifier NCT06173544

INTRODUCTION

Adolescents living in Sub-Saharan Africa (SSA) are disproportionately affected by the HIV epidemic. In 2022, SSA adolescents accounted for approximately 79% (1.3 million) of the estimated 1.65 million adolescents living with HIV (ALWH), aged 10-19, worldwide (UNICEF, 2023b). ALWH are vulnerable to mental health problems: ALWH are both living with a chronic disease and transitioning through a unique and formative period which includes intense physical, emotional and social changes (UNICEF, 2023a; WHO, 2021). Indeed, comorbid depression is prevalent and burdensome amongst ALWH in SSA and depression is a significant threat to engagement and retention in HIV care as well as worsening HIV-related outcomes among those receiving HIV treatment (Haas et al., 2023; Kemigisha et al., 2019; Nakimuli-Mpungu et al., 2012; Poku et al., 2023; Vreeman et al., 2017). Considering the dual burden of HIV and depression, developing timely, developmentally appropriate, and effective interventions for ALWH is critical (Ayano et al., 2021).

While pharmacological treatments are challenging due to cost, availability of designated professionals and mainly reserved for cases of clinically diagnosed, moderate to severe depression, psychological interventions (known as psychotherapy) are preferable and widely implemented for adolescents and young adults with or without HIV in low- and middle-income countries (Bhana et al., 2020, 2021; Sequeira et al., 2022). Psychotherapy for depression comprises of various evidence-based approaches such as cognitive behavioral therapy (CBT) (Bella-Awusah et al., 2016; Bhana et al., 2021), interpersonal therapy (IPT) (Bolton et al., 2007), motivational interviewing, family strengthening interventions (Betancourt et al., 2014), and problem-solving therapy (Bhana et al., 2021). While there is evidence that psychotherapy interventions are effective among adults living with HIV in SSA, few studies have reported on their overall effectiveness for ALWH or the effectiveness of specific intervention components (Mthiyane et al., 2023; Udedi et al., 2018).

In Malawi, Teen Clubs are the predominant method of providing support for adherence to antiretroviral therapy (ART) and psychosocial support for ALWH. Teen Clubs are facilitated monthly by the Malawi Ministry of Health (MOH) clinician and trained lay workers in MOH clinic space to exclusively provide support for ALWH aged 10-19 years (size of a teen club ranges from 15-200 ALWH) (MacKenzie et al., 2017). During Teen Clubs, ALWH can pick up medication, interact with each other, receive sexual and reproductive health education, and obtain support for status disclosure and positive living (MacKenzie et al., 2017). At some clinics, psychosocial counselors are also occasionally available to provide mental health counseling for ALWH (Management Sciences for Health, 2018). Other programs in the country have utilized community engagement and mental health literacy approaches to improve psychosocial support for adolescents and young adults but these programs were not HIV specific (Jumbe et al., 2022; Kabiru et al., 2023; Kachingwe et al., 2021; Kutcher et al., 2017; Laurenzi et al., 2022). Take together, there is a clear need for interventions which combine psychotherapy for addressing depressive symptoms and peer support for HIV care engagement for ALWH.

Task-sharing psychological interventions between specialist and non-specialist health providers has been indicated as a promising approach to address this treatment gap (Jacobs et al., 2021; Petersen et al., 2014). Specifically, counseling interventions delivered by non-specialists like lay health workers in resource-limited settings can alleviate depressive symptoms (Abas et al., 2018) and peer support can improve engagement in HIV care (Chinoda et al., 2020). For adolescents, few data demonstrate the feasibility, acceptability, and effectiveness of such mental health interventions in combination with peer support to

improve ALWH engagement in HIV care (Ridgeway et al., 2018). One promising intervention is the Friendship Bench (FB), which is an evidence-based psychological intervention through problem-solving therapy delivered by lay health workers that decreases depression among adults (Chibanda et al., 2015, 2016). It is currently being adapted for adolescents but has not been specifically for ALWH in Botswana (Brooks et al., 2019). Although the FB intervention has been delivered to ALWH in Zimbabwe, only qualitative results have been published so far and these do not specifically include peer support for HIV care engagement (Broström et al., 2021; Ouansafi et al., 2021; Wogrin et al., 2021). Accordingly, we are proposing to adapt FB for ALWH in Malawi and pilot a clinical trial to test whether we can effectively deliver FB. If successful, we will test the effectiveness in a fully powered trial.

This paper aims to present the protocol of a randomized clinical pilot trial designed to investigate feasibility, fidelity, acceptability of the adapted and enhanced Friendship Bench in reducing depression and improving engagement in HIV care among ALWH in Malawi. The secondary outcome of the pilot trial is to assess the preliminary effectiveness of the adapted and enhanced Friendship Bench in comparison with standard of care.

METHODS

Overview of study design

We will conduct a three-arm individual-level clinical pilot trial across four clinics in Malawi. Participants will be individually randomized to the Friendship Bench intervention adapted for adolescents living with HIV called the Adapted Friendship Bench (AFB) arm (n=35), the Friendship Bench intervention enhanced with peer support called the Enhanced Friendship Bench (EFB) arm (n=35), or standard of care (SOC) arm (n=35). A random sequence will be generated using computer-based software by the study team. Allocation concealment will be ensured, the randomization code will not be released until the participants have been enrolled in the trial. Blinding might not be possible to achieve due to the nature of intervention. Recruitment and follow-up are planned from the 1st of June 2024 to the 31st of May 2025. Participants will be followed up to 12 months after their participation.

Study settings

This pilot trial will be implemented in four health centers which are located in urban Lilongwe, Malawi with ART integrated in the clinics including Area 18, Area 25, Kawale, and Lighthouse. These centers were selected based on their homogeneity regarding staffing levels, service offered, NGO/ancillary program involvement (e.g., all four centers receive training and supervision support from Lighthouse Trust NGO in Lilongwe), patient volume and patient population.

Participants and sample size

Adolescents will be recruited in this study if they meet the eligible criteria as follows: (1) aged 13-19; (2) diagnosed with HIV (vertically or horizontally); (3) scored ≥ 13 on the self-reported and previously used BDI-II (Kim et al., 2014); (4) living in the clinic's catchment area with intention to remain for at least 1 year; and (5) willing to provide written informed consent (adolescents ≥ 18 or 16-17 years old and those married will provide their own consent form; for those from 13-17 years old, consent form will be made with their legal representatives).

We expect to enroll 105 participants for this pilot study (n=35 AWLH for each arm) across the four health centers. This number will be sufficient to estimate quantitative measures of feasibility and acceptability with reasonable precision.

Intervention description

The original protocol of the Friendship Bench consists of six individual counseling sessions plus optional group peer support (Chibanda et al., 2016). In the prior phase of the study, we adapted the original Friendship Bench intervention protocol for AWLH to meet their developmental and contextual needs and further enhanced the intervention with peer support to facilitate engagement in HIV care (Bhushan & et al, 2023; Griffin Sansbury & et al, 2023).

The AFB will include 6 counseling sessions facilitated by counselors attached to one of the study HIV clinics. The first session will include three components called Opening the Mind, Uplifting, and Strengthening, and the subsequent sessions will be built on the first. Throughout the first session, participants are encouraged to open their minds to identify their problems, choose one to work on, identify a feasible solution, and agree on an action plan through an iterative process guided by the counselor. To be youth-friendly adapted and address the unique needs of ALWH, young counselors (aged 18-21 years old) who are motivated in working with adolescents will be selected and trained on relevant topics such as depression, adolescent development, youth-friendly counseling skills, problem-solving therapy, HIV care and self-care. Counseling will be available outside of school time and on weekends to ensure accessibility. Each session will last 30 to 45 minutes and be conducted in a private clinic room in the participant's local language (Chichewa). Any participant that indicates any degree of suicidal ideation will be referred for further in-person assessment of their suicide risk using the Suicide Risk Assessment Protocol (Landrum et al., 2023). Referral for additional care (e.g., case management by a supervisor trained in mental health) will be provided for those who do not improve after 4 sessions of individual therapy or having suicidal ideation.

The EFB will include all elements of the AFB but will additionally integrate peer support to facilitate engagement in care for ALWH with depression. Peer support will include six in-person monthly group sessions with the following topics: (1) mental health and HIV, (2) HIV status communication and disclosure, (3) ART adherence and viral load testing, (4) sex/relationships and secondary prevention, (5) stigma, and (6) planning for the future. Along with trained counselors as described in the AFB, the EFB will also involve trained, youth-friendly peer supporters living with HIV who are aged 18-21 years old and motivated to work with ALWH.

SOC for mental health in public facilities in Malawi includes options for basic supportive counseling, medication, referral to the mental health clinic, or referral to the psychiatric units at tertiary care hospitals for more severe cases. In this study, SOC will be enhanced by a trained study nurse who will provide mental health evaluation; brief supportive counseling; information, education, and support on depression; and facilitation of referral to the appropriate clinics/hospitals if indicated.

Table 1. Key Features of Intervention Arms

Elements	Delivered by	Standard of care	Adapted FB	Enhanced FB

Basic mental health care and referral for additional care (if indicated, for severe cases)	Staff in public facilities in the study clinics	✓	✓	✓
	Trained study nurses	✓	✓	✓
Six counseling sessions (every 7-10 days)	Trained counselors		✓	✓
Six peer support sessions (monthly)	Peer supporters			✓

Primary and secondary outcomes

The primary outcomes of this pilot study are feasibility, acceptability, and fidelity of the adapted and enhance Friendship Bench interventions in reducing depressive symptoms and improving engagement in HIV care among ALWH. These outcomes will be assessed at 6 months and 12 months and compared across 3 arms.

Feasibility will be defined as the ability to successfully enroll and retain depressed ALWH in the study. Feasibility will be assessed as the number of ALWH enrolled, a comparison of planned to actual enrollment and reasons for non-enrollment, and the proportion of ALWH retained in each arm by the end of the study period. We will also assess the number of sessions that participants attend out of the total number of sessions offered.

Fidelity will be defined as adherence to the intervention protocol. Fidelity to content for sessions will be reviewed using audio recording for the sessions by a member of the research team using a checklist. The checklist consists of 10 items corresponding to 10 core session components rating from “1 – Component not done” to “4 – Component exceeds expectations” for each component. Covering at least 80% of checklist items will be considered fidelity to the intervention protocol (Bengtson et al., 2023).

Acceptability will be defined as the ability to deliver a culturally and resource-appropriate intervention. Acceptability will be assessed through brief exit interviews with a sample of ALWH, HIV providers treating patients in the FB protocol, professional counselors, peer supporters, and supervising Master Trainers. For ALWH, exit interviews will occur after the final FB session (approximately 6 weeks after beginning intervention), while exit interviews with other groups occur after the end of FB activities at each site. Exit interviews included both closed and open-ended questions exploring participants’ satisfaction level, how easy the intervention was to participate in or deliver, the perceived usefulness of the intervention, suggestions for improvement, and will explore contextual factors that impeded or facilitated implementation.

Effectiveness will be considered as a secondary outcome and will be assessed through changes in the three following indicators: 1) depressive symptoms ($\geq 50\%$ change in BDI-II scores from enrollment to the 6 months and 12 months), 2) retention in care (whether an ALWH attended at least one appointment per quarter), 3) and viral suppression at 6 months and 12 months (HIV RNA < 1000 copies/mL).

Table 2. Descriptions of outcomes and indicators in the study

Outcome	Indicator	Source	Time point
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Feasibility	- # ALWH enrolled compared to the expected number - Reason for non-enrollment - % ALWH retained in each arm	Study visit attendance form, counseling session attendance form, peer support engagement logs	Throughout study period
Fidelity	- $\geq 80\%$ content in checklist covered	Counseling session checklist	Throughout study period
Acceptability	- Experiences of participants and study staff about the interventions - Experiences of participants with counseling sessions, peer support engagement	In-depth interview (Brief exit interviews), Survey structured questionnaire	At 6 months and 12 months
Preliminary effectiveness	- Changes in BDI-II score - % ALWH attended at least one appointment per quarter - % ALWH with HIV RNA<1000 copies/mL	Survey structured questionnaire	At baseline, 6 months, and 12 months

Data collection

In terms of the quantitative data for primary outcomes, study staff will collect programmatic data related to enrollment, retention, counseling session attendance, adherence to intervention protocols during study visits, counseling sessions, peer support session attendance, and participant tracing. In the qualitative component to assess acceptability, a random sample of participants from each study arm (n = 10 per arm), all study staff, and supervisors, will be asked to participate in exit in-depth interviews to explore perceptions of intervention delivery and contextual factors that impeded and facilitated implementation. Exit interviews will be digitally recorded, transcribed in Chichewa, and then translated into English by study staff according to a transcription protocol. All transcripts will then be reviewed by the interviewer for transcription and translation accuracy.

Study staff will also administer a survey to participants at enrollment, 6- and 12-month study visits. The survey questionnaire will include information related to socio-demographic characteristics, social support, mental health, HIV care and stigma, sexual partnership, physical and sexual violence, substance use, and delivery of the Friendship Bench intervention (i.e., experiences with counseling sessions, peer support engagement). Viral load data will also be collected at enrollment, 6- and 12-month study visits.

Data analysis

We will compare characteristics of participants at enrollment to assess balance across 3 study arms with t-tests for continuous variables and chi-square tests for categorical variables. Quantitative measures of feasibility, fidelity, acceptability, and preliminary effectiveness will be summarized using means and standard deviations or proportions and be compared across 3 study arms as appropriate. Changes in depressive symptoms and engagement in HIV care will be assessed at the 6-month and the 12-month study visits in comparison with the enrollment visit. Intent-to-treat (ITT) and per-protocol analyses will be considered to compare across 3 study arms if appropriate. Missing data will be reported using count and multiple imputation will be performed if needed. Analysis of qualitative exit in-depth interview data

to assess acceptability compartment will involve four steps: 1) reading for content; 2) deductive and inductive coding; 3) data display to identify emerging themes; and 4) interpretation. Codes will be refined during the analysis process and memos will be written for each identified theme.

Ethics and Confidentiality

The Institutional Review Boards of the University of North Carolina at Chapel Hill approved this study (UNCPM 22319, date of approval 2/16/2024). All eligible and interested participants aged 18 and above, or legally emancipated 16–17-year-old minors who were married, will be asked for written informed consent. All eligible and interested participants aged 13-17 will be asked to provide written assent with written parental consent. Before study enrollment, research staff will engage participants in a consent comprehension activity where they will ask participants a series of questions to ensure understanding of the study. All participants (and guardian if present) will receive travel reimbursement for attending study visits, counseling sessions, and peer support groups.

Figure 1. Study schedule of enrolment, interventions, and assessments

	STUDY PERIOD					
	Enrolment	Allocation	Post-allocation			Close-out
TIMEPOINT	$-t_1$	0	t_1 Baseline	t_2 6 months	t_3 12 months	t_4
ENROLMENT:						
Eligibility screen	X					
Informed consent	X					
Randomization		X				
Allocation		X				
INTERVENTIONS:						
<i>AFB</i>			————			
<i>EFB</i>			—————			
<i>SOC</i>			—————			
ASSESSMENTS:						
<i>Socio- Demographic</i>			X			
<i>Primary Outcome: Feasibility</i>			—————			
<i>Primary Outcome: Acceptability</i>				X	X	

Primary Outcome: Fidelity						
Secondary Outcome: Effectiveness			X	X	X	

AFB: Adapted Friendship Bench, EFB: Enhanced Friendship Bench, SOC: Standard of Care

DISCUSSION

ALWH face a number of unique challenges during the transition to adulthood including inconsistent social support, safe sex negotiation, status disclosure to their social ties, HIV stigma, and barriers in accessing health services (WHO, 2021) – all of which may increase the risk of depression, low HIV care engagement and poor HIV treatment outcomes. While ALWH in SSA are considerably affected by the dual burden of HIV and mental health conditions, there are limited interventions primarily addressing depression and HIV care engagement for this population. Indeed, providing accessible, confidential, and developmentally appropriate care or a safe space where adolescents can share sensitive concerns without judgement is critically crucial. The Friendship Bench intervention has demonstrated effectiveness in improving depression in adults (Chibanda et al., 2015), and is being adapted for ALWH in Zimbabwe but have yet to incorporate peer support to enhance HIV care engagement. In the prior phase of the current pilot, we conducted formative work to adapt the Friendship Bench model to be youth friendly for ALWH in Malawi and enhance it with group peer support for HIV care engagement. Preliminary results from our formative work suggest it is critical to integrate counseling and peer support to address both depression and HIV care engagement for ALWH in Malawi (Griffin Sansbury & et al, 2023). We found that experienced respectful young counselors, time flexibility and confidentiality in location and counselor are crucial for a youth-friendly adapted model (Bhushan, 2023). Likewise, confidentiality and trust appear to be key for peer support component. Peers with HIV and lived experience, peer support with group setting are more preferred (Bhushan, 2023).

The current pilot randomized controlled trial will allow for evaluating whether the adapted and enhanced FB models are appropriate and effective for ALWH in Malawi. First, we conducted formative work to adapt and enhance existing FB protocols to align with the specific needs and characteristics of ALWH in Malawi. This clinical trial is to pilot the adapted FB we developed and integrated peer support to enhance HIV care engagement for this population. Second, this pilot will contribute to the body of evidence for the potential feasibility, fidelity, acceptability, and preliminary effectiveness of the AFB and EFB and will inform the potential of scale up of these interventions for ALWH in Malawi. To our knowledge, there are few similar published assessments beyond Youth FB for ALWH in Zimbabwe around 2018-2020 (Broström et al., 2021; Wallén et al., 2021). Third, this pilot will provide insight into the resources needs and the uptake of new-established FB models that can lay the groundwork for a longer-term plan to assess effectiveness in a stronger-powered RCT, but also could help modify the FB models to better align with real world situations.

The study may be subject to several potential limitations. First, as the adapted and enhanced FB models are novel in Malawi, this pilot may face challenges in controlling the consistency of the intervention delivery over three arms and four study clinics. By thoroughly training lay workers and peer supporters to conduct the interventions and by building systematic reporting/managing systems, we expect the intervention consistency will be met. Second, the feasibility outcome of the interventions (i.e., retention in AFB and EFB) may be overestimated due to the influence of other co-occurring activities that require participants to come to clinics. Well-documenting co-occurring activities will help inform proper analysis

strategies to reduce this bias (e.g., stratification). Third, participants in the same clinics may be assigned in different intervention arms as a result of individually randomized, there is a potential risk of contamination across intervention arms. Efforts will be made to prevent contamination and interaction amongst participants in different arms attending the same clinic.

CONCLUSION

Resource-appropriate interventions to address depression and HIV care engagement among ALWH in Malawi are urgently needed. This pilot clinical trial will provide insights into youth-friendly Friendship Bench models for ALWH in Malawi and the value of adding group peer support for HIV care engagement. The information gathered in this study will lead to a R01 application to test our adapted intervention in a large-scale cluster randomized controlled trial to improve depression and engagement in HIV care among ALWH.

REFERENCES

- Abas, M., Nyamayaro, P., Bere, T., Saruchera, E., Mothobi, N., Simms, V., Mangezi, W., Macpherson, K., Croome, N., Magidson, J., Makadzange, A., Safren, S., Chibanda, D., & O’Cleirigh, C. (2018). Feasibility and Acceptability of a Task-Shifted Intervention to Enhance Adherence to HIV Medication and Improve Depression in People Living with HIV in Zimbabwe, a Low Income Country in Sub-Saharan Africa. *AIDS and Behavior*, 22(1), 86–101. <https://doi.org/10.1007/s10461-016-1659-4>
- Ayano, G., Demelash, S., Abraha, M., & Tsegay, L. (2021). The prevalence of depression among adolescent with HIV/AIDS: A systematic review and meta-analysis. *AIDS Research and Therapy*, 18, 23. <https://doi.org/10.1186/s12981-021-00351-1>
- Bella-Awusah, T., Ani, C., Ajuwon, A., & Omigbodun, O. (2016). Effectiveness of brief school-based, group cognitive behavioural therapy for depressed adolescents in south west Nigeria. *Child and Adolescent Mental Health*, 21(1), 44–50. <https://doi.org/10.1111/camh.12104>
- Bengtson, A. M., Filipowicz, T. R., Mphonda, S., Udedi, M., Kulisewa, K., Meltzer-Brody, S., Gaynes, B. N., Go, V. F., Chibanda, D., Verhey, R., Hosseinipour, M. C., & Pence, B. W. (2023). An Intervention to Improve Mental Health and HIV Care Engagement Among Perinatal Women in Malawi: A Pilot Randomized Controlled Trial. *AIDS and Behavior*, 27(11), 3559–3570. <https://doi.org/10.1007/s10461-023-04070-8>

Betancourt, T. S., Ng, L. C., Kirk, C. M., Munyanah, M., Mushashi, C., Ingabire, C., Teta, S., Beardslee, W. R., Brennan, R. T., Zahn, I., Stulac, S., Cyamatare, F. R., & Sezibera, V. (2014). Family-based prevention of mental health problems in children affected by HIV and AIDS: An open trial. *AIDS (London, England)*, 28(0 3), S359–S368. <https://doi.org/10.1097/QAD.0000000000000336>

Bhana, A., Abas, M. A., Kelly, J., van Pinxteren, M., Mudekunye, L. A., & Pantelic, M. (2020). Mental health interventions for adolescents living with HIV or affected by HIV in low- and middle-income countries: Systematic review. *BJPsych Open*, 6(5), e104. <https://doi.org/10.1192/bjo.2020.67>

Bhana, A., Kreniske, P., Pather, A., Abas, M. A., & Mellins, C. A. (2021). Interventions to address the mental health of adolescents and young adults living with or affected by HIV: State of the evidence. *Journal of the International AIDS Society*, 24(Suppl 2), e25713. <https://doi.org/10.1002/jia2.25713>

Bhushan, N. (2023, February). *Adapting the Friendship Bench Intervention for Adolescents Living with HIV in Malawi*. JHU CFAR AYA International Meeting.

Bhushan, N., & et al. (2023, November). *Depression Counseling and Peer Support for HIV Care Engagement Preferences Amongst Adolescents Living with HIV and Experiencing Depression in Malawi* [Paper Panel]. Global Mental Health Conference, DC, USA.

Bolton, P., Bass, J., Betancourt, T., Speelman, L., Onyango, G., Clougherty, K. F., Neugebauer, R., Murray, L., & Verdelli, H. (2007). Interventions for Depression Symptoms Among Adolescent Survivors of War and Displacement in Northern UgandaA Randomized Controlled Trial. *JAMA*, 298(5), 519–527. <https://doi.org/10.1001/jama.298.5.519>

Brooks, M., Schwennesen, H., Phetogo, B., Phoi, O., Tshume, O., Matshaba, M., & Lowenthal, E. (2019). P11 Adapting a lay counselor mental health intervention for adolescents in botswana. *BMJ Paediatrics Open*, 3(Suppl 1). <https://doi.org/10.1136/bmjpo-2019-RCPCH-SAHM.19>

Broström, S., Johansson, B. A., Verhey, R., & Landgren, K. (2021). “Seeing a Brighter Future”—Experiences of Adolescents with Common Mental Disorders Receiving the Problem-Solving

Therapy “Youth Friendship Bench” in Zimbabwe. *Issues in Mental Health Nursing*, 42(11), 1019–1029. <https://doi.org/10.1080/01612840.2021.1924323>

Chibanda, D., Bowers, T., Verhey, R., Rusakaniko, S., Abas, M., Weiss, H. A., & Araya, R. (2015). The Friendship Bench programme: A cluster randomised controlled trial of a brief psychological intervention for common mental disorders delivered by lay health workers in Zimbabwe. *International Journal of Mental Health Systems*, 9, 21. <https://doi.org/10.1186/s13033-015-0013-y>

Chibanda, D., Weiss, H. A., Verhey, R., Simms, V., Munjoma, R., Rusakaniko, S., Chingono, A., Munetsi, E., Bere, T., Manda, E., Abas, M., & Araya, R. (2016). Effect of a Primary Care-Based Psychological Intervention on Symptoms of Common Mental Disorders in Zimbabwe: A Randomized Clinical Trial. *JAMA*, 316(24), 2618–2626. <https://doi.org/10.1001/jama.2016.19102>

Chinoda, S., Mutsinze, A., Simms, V., Beji-Chauke, R., Verhey, R., Robinson, J., Barker, T., Mugurungi, O., Apollo, T., Munetsi, E., Sithole, D., Weiss, H. A., Chibanda, D., & Willis, N. (2020). Effectiveness of a peer-led adolescent mental health intervention on HIV virological suppression and mental health in Zimbabwe: Protocol of a cluster-randomised trial. *Global Mental Health*, 7, e23. <https://doi.org/10.1017/gmh.2020.14>

Griffin Sansbury, & et al. (2023, June). *The Bidirectional Relationship between Depression and HIV Care Engagement for Adolescents Living with HIV in Malawi: A Patient Perspective* [Poster]. Adherence 2023, Puerto Rico.

Haas, A. D., Lienhard, R., Didden, C., Cornell, M., Folb, N., Boshomane, T. M. G., Salazar-Vizcaya, L., Ruffieux, Y., Nyakato, P., Wettstein, A. E., Tlali, M., Davies, M.-A., von Groote, P., Wainberg, M., Egger, M., Maartens, G., & Joska, J. A. (2023). Mental Health, ART Adherence, and Viral Suppression Among Adolescents and Adults Living with HIV in South Africa: A Cohort Study. *AIDS and Behavior*, 27(6), 1849–1861. <https://doi.org/10.1007/s10461-022-03916-x>

Jacobs, Y., Myers, B., van der Westhuizen, C., Brooke-Sumner, C., & Sorsdahl, K. (2021). Task Sharing or Task Dumping: Counsellors Experiences of Delivering a Psychosocial Intervention for Mental

Health Problems in South Africa. *Community Mental Health Journal*, 57(6), 1082–1093.
<https://doi.org/10.1007/s10597-020-00734-0>

Jumbe, S., Nyali, J., Simbeye, M., Zakeyu, N., Motsheba, G., & Pulapa, S. R. (2022). ‘We do not talk about it’: Engaging youth in Malawi to inform adaptation of a mental health literacy intervention. *PLoS ONE*, 17(3), e0265530. <https://doi.org/10.1371/journal.pone.0265530>

Kabiru, C. W., Munthali, A., Sawadogo, N., Ajayi, A. I., Asego, C., Ilboudo, P. G., Khisa, A. M., Kimemia, G., Maina, B., Mangwana, J., Mbuthia, M., Ouedraogo, R., Thakwalakwa, C., Wanambwa, D., Tapsoba, A., & Alfonso, W. O. T. (2023). Effectiveness of conditional cash transfers, subsidized child care and life skills training on adolescent mothers’ schooling, sexual and reproductive health, and mental health outcomes in Burkina Faso and Malawi: The PROMOTE Project pilot randomized controlled trial protocol. *Reproductive Health*, 20, 166. <https://doi.org/10.1186/s12978-023-01706-9>

Kachingwe, M., Chikowe, I., van der Haar, L., & Dzabala, N. (2021). Assessing the Impact of an Intervention Project by the Young women’s Christian Association of Malawi on Psychosocial Well-Being of Adolescent Mothers and Their Children in Malawi. *Frontiers in Public Health*, 9, 585517. <https://doi.org/10.3389/fpubh.2021.585517>

Kemigisha, E., Zanoni, B., Bruce, K., Menjivar, R., Kadengye, D., Atwine, D., & Rukundo, G. Z. (2019). Prevalence of depressive symptoms and associated factors among adolescents living with HIV/AIDS in South Western Uganda. *AIDS Care*, 31(10), 1297–1303. <https://doi.org/10.1080/09540121.2019.1566511>

Kim, M. H., Mazenga, A. C., Devandra, A., Ahmed, S., Kazembe, P. N., Yu, X., Nguyen, C., & Sharp, C. (2014). Prevalence of depression and validation of the Beck Depression Inventory-II and the Children’s Depression Inventory-Short amongst HIV-positive adolescents in Malawi. *Journal of the International AIDS Society*, 17(1), 18965. <https://doi.org/10.7448/IAS.17.1.18965>

- 1 Kutcher, S., Udedi, M., Gilberds, H., Brown, A., Chapota, R., & Perkins, K. (2017). Clinic outcomes of
2 the Pathway to Care Model: A cross-sectional survey of adolescent depression in Malawi. *Malawi*
3 *Medical Journal*, 29(2), 97–102.
- 4 Landrum, K. R., Akiba, C. F., Pence, B. W., Akello, H., Chikalimba, H., Dussault, J. M., Hosseinipour,
5 M. C., Kanzoole, K., Kulisewa, K., Malava, J. K., Udedi, M., Zimba, C. C., & Gaynes, B. N.
6 (2023). Assessing suicidality during the SARS-CoV-2 pandemic: Lessons learned from
7 adaptation and implementation of a telephone-based suicide risk assessment and response
8 protocol in Malawi. *PLOS ONE*, 18(3), e0281711. <https://doi.org/10.1371/journal.pone.0281711>
- 9 Laurenzi, C., Ronan, A., Phillips, L., Nalugo, S., Mupakile, E., Operario, D., & Toska, E. (2022).
10 Enhancing a peer supporter intervention for young mothers living with HIV in Malawi, Tanzania,
11 Uganda, and Zambia: Adaptation and co-development of a psychosocial component. *Global*
12 *Public Health*, 1–15. <https://doi.org/10.1080/17441692.2022.2081711>
- 13 MacKenzie, R. K., van Lettow, M., Gondwe, C., Nyirongo, J., Singano, V., Banda, V., Thaulo, E.,
14 Beyene, T., Agarwal, M., McKenney, A., Hrapcak, S., Garone, D., Sodhi, S. K., & Chan, A. K.
15 (2017). Greater retention in care among adolescents on antiretroviral treatment accessing “Teen
16 Club” an adolescent-centred differentiated care model compared with standard of care: A nested
17 case–control study at a tertiary referral hospital in Malawi. *Journal of the International AIDS*
18 *Society*, 20(3), e25028. <https://doi.org/10.1002/jia2.25028>
- 19 Management Sciences for Health. (2018). *Malawi district health system strengthening and quality*
20 *improvement for service delivery: TEEN CLUBS HELP RETAIN ADOLESCENTS IN HIV CARE*
21 *AND TREATMENT* [Technical Brief].
- 22 Mthiyane, N., Rapulana, A. M., Harling, G., Copas, A., & Shahmanesh, M. (2023). Effect of multi-level
23 interventions on mental health outcomes among adolescents in sub-Saharan Africa: A systematic
24 review. *BMJ Open*, 13(10), e066586. <https://doi.org/10.1136/bmjopen-2022-066586>
- 25 Nakimuli-Mpungu, E., Bass, J. K., Alexandre, P., Mills, E. J., Musisi, S., Ram, M., Katabira, E., &
26 Nachege, J. B. (2012). Depression, alcohol use and adherence to antiretroviral therapy in sub-

Saharan Africa: A systematic review. *AIDS and Behavior*, 16(8), 2101–2118.
<https://doi.org/10.1007/s10461-011-0087-8>

Ouansafi, I., Chibanda, D., Munetsi, E., & Simms, V. (2021). Impact of Friendship Bench problem-solving therapy on adherence to ART in young people living with HIV in Zimbabwe: A qualitative study. *PloS One*, 16(4), e0250074. <https://doi.org/10.1371/journal.pone.0250074>

Petersen, I., Hanass Hancock, J., Bhana, A., & Govender, K. (2014). A group-based counselling intervention for depression comorbid with HIV/AIDS using a task shifting approach in South Africa: A randomized controlled pilot study. *Journal of Affective Disorders*, 158, 78–84.
<https://doi.org/10.1016/j.jad.2014.02.013>

Poku, O. B., West, N. S., Eschliman, E. L., Dangerfield, D. T., Bass, J., Kennedy, C. E., & Murray, S. M. (2023). Mental Health Problems Across the HIV Care Continuum for Adolescents Living with HIV in Sub-Saharan Africa: A Scoping Review. *AIDS and Behavior*, 27(8), 2548–2565.
<https://doi.org/10.1007/s10461-023-03981-w>

Ridgeway, K., Dulli, L. S., Murray, K. R., Silverstein, H., Dal Santo, L., Olsen, P., Darrow de Mora, D., & McCarraher, D. R. (2018). Interventions to improve antiretroviral therapy adherence among adolescents in low- and middle-income countries: A systematic review of the literature. *PloS One*, 13(1), e0189770. <https://doi.org/10.1371/journal.pone.0189770>

Sequeira, M., Singh, S., Fernandes, L., Gaikwad, L., Gupta, D., Chibanda, D., & Nadkarni, A. (2022). Adolescent Health Series: The status of adolescent mental health research, practice and policy in sub-Saharan Africa: A narrative review. *Tropical Medicine & International Health*, 27(9), 758–766. <https://doi.org/10.1111/tmi.13802>

Udedi, M., Stockton, M. A., Kulisewa, K., Hosseinipour, M. C., Gaynes, B. N., Mphonda, S. M., Mwagomba, B. M., Mazenga, A. C., & Pence, B. W. (2018). Integrating depression management into HIV primary care in central Malawi: The implementation of a pilot capacity building program. *BMC Health Services Research*, 18(1), 593. <https://doi.org/10.1186/s12913-018-3388-z>

- 1 UNICEF. (2023a). *HIV Statistics—Global and Regional Trends*. UNICEF DATA.
2 <https://data.unicef.org/topic/hiv/aids/global-regional-trends/>
- 3 UNICEF. (2023b). *Key HIV Epidemiology Indicators for Children and Adolescents Aged 0-19, 2000-*
4 *2022*.
- 5 Vreeman, R. C., McCoy, B. M., & Lee, S. (2017). Mental health challenges among adolescents living
6 with HIV. *Journal of the International AIDS Society*, 20(Suppl 3), 21497.
7 <https://doi.org/10.7448/IAS.20.4.21497>
- 8 Wallén, A., Eberhard, S., & Landgren, K. (2021). The Experiences of Counsellors Offering Problem-
9 Solving Therapy for Common Mental Health Issues at the Youth Friendship Bench in Zimbabwe.
10 *Issues in Mental Health Nursing*, 42(9), 808–817.
11 <https://doi.org/10.1080/01612840.2021.1879977>
- 12 WHO. (2021). *Mental health of adolescents*. [https://www.who.int/news-room/fact-](https://www.who.int/news-room/fact-sheets/detail/adolescent-mental-health)
13 [sheets/detail/adolescent-mental-health](https://www.who.int/news-room/fact-sheets/detail/adolescent-mental-health)
- 14 Wogrin, C., Willis, N., Mutsinze, A., Chinoda, S., Verhey, R., Chibanda, D., & Bernays, S. (2021). It
15 helps to talk: A guiding framework (TRUST) for peer support in delivering mental health care for
16 adolescents living with HIV. *PLoS ONE*, 16(3), e0248018.
17 <https://doi.org/10.1371/journal.pone.0248018>