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Feasibility and Acceptability of Group-Based Stigma Reduction Interventions for Adolescents Living with HIV and Their Caregivers: The Suubi4Stigma Randomized Clinical Trial (2020–2022)

Proscovia Nabunya[1], **Herbert Migadde**[2], **Flavia Namuwonge**[1], **James Mugisha**[3], **Winnie Kirabo**[2], **Vicent Ssentumbwe**[1], **Najjuuko Claire**[4], **Atwebembere Raymond**[1], **Ozge Sensoy Bahar**[1], **Abel Mwebembezi**[5], **Mary M. McKay**[6], **Fred M. Ssewamala**[1]

[1]International Center for Child Health and Development (ICHAD), Brown School Washington University in St. Louis, One Brookings Drive, Box 1196, St. Louis, MO 63130, USA

[2]International Center for Child Health and Development (ICHAD) Field Office, Masaka, Uganda

[3]College of Health Sciences, Makerere University, Kampala, Uganda

[4]Division of Computational & Data Sciences, McKelvey School of Engineering, Washington University in St. Louis, St. Louis, USA

[5]Reach the Youth, Kampala, Uganda

[6]Office of the Vice Provost, Washington University in St. Louis, St. Louis, USA

Abstract

This study examined the feasibility and acceptability of two group-based interventions: group-cognitive behavioral therapy (G-CBT) and a family-strengthening intervention delivered via multiple family group (MFG-FS), to address HIV stigma among adolescents living with HIV (ALHIV) and their caregivers. A total of 147 adolescent -caregiver dyads from 9 health clinics situated within 7 political districts in Uganda were screened for eligibility. Of these, 89 dyads met the inclusion criteria and provided consent to participate in the study. Participants were randomized, at the clinic level, to one of three study conditions: Usual care, G-CBT or MFG-FS. The interventions were delivered over a 3-month period. While both adolescents and their caregivers attended the MFG-FS sessions, G-CBT sessions were only attended by adolescents. Data were collected at baseline, 3 and 6-months post intervention initiation. The retention rate was 94% over the study period. Across groups, intervention session attendance ranged between 85 and 92%, for all sessions. Fidelity of the intervention was between 85 and 100%, and both children and caregivers rated highly their satisfaction with the intervention sessions. ALHIV in Uganda, and most of sub–Saharan Africa, are still underrepresented in stigma reduction interventions. The

✉Proscovia Nabunya, nabunyap@wustl.edu.

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Full study protocol https://pilotfeasibilitystudies.biomedcentral.com/articles/10.1186/s40814-022-01055-7

Suubi4Stigma study was feasible and acceptable to adolescents and their caregivers –supporting testing the efficacy of the interventions in a larger trial.

Keywords

HIV stigma; Multiple family group; Cognitive behavioral therapy; Family strengthening; Adolescents; Uganda

Introduction

HIV stigma is a major barrier to all aspects of the HIV care continuum [1]. It has been associated with decreased HIV testing and prevention efforts (including condom use and pre-exposure prophylaxis (PrEP) uptake), linkage to and retention in care, and medication adherence among those living with HIV [2–5]. HIV stigma is characterized by public blame and moral condemnation of contracting the infection [3]. It is associated with morbidity, mortality, and health disparities among people living with HIV [6, 7]. Among adolescents living with HIV (ALHIV), stigma has been associated with poor mental health functioning, shame, disclosure-related anxiety, low social support, social isolation and non-adherence to antiretroviral therapy (ART) [8–10]. With an estimated 1.7 million children < 15 years growing up with such a highly stigmatized infection [11], efforts to address stigma and improve HIV treatment outcomes are highly critical especially, if we are to achieve the 10-10-10 targets for removing societal enablers of HIV stigma and discrimination by 2025. Specifically, less than 10% of countries have punitive legal and policy environments that deny or limit access to services, less than 10% of people living with HIV and key populations experience stigma and discrimination, and less than 10% of women, girls, people living with HIV, and key populations experience gender inequality and violence [12].

Similarly, while caregivers may not be HIV positive, they also experience stigma and discrimination by virtue of their association with a family member living with HIV [13–15]. Caregivers are often held accountable for not preventing the perceived “immoral behaviors” of the HIV-infected family member, leading to feelings of failure, anger, guilt, and shame [16, 17]. Indeed, studies have documented the negative impact of HIV stigma on caregiver mental health [18, 19]. Taken together, stigma negatively affects not only the individuals living with HIV, but also caregiving roles, quality of care, and overall family functioning [20].

Growing literature demonstrates efforts in developing and implementing HIV stigma reduction interventions in different settings, and promising results have been documented [21–23]. However, few studies have been conducted in Sub-Saharan Africa (SSA), and ALHIV are still underrepresented [22]. A systematic review of health-related needs reported by ALHIV receiving ART in SSA identified stigma reduction as their primary health-related need [24]. In Uganda, a SSA country with over 80,000 children < 15 years living with HIV [25], stigma reduction interventions are very limited [26, 27]. As such there is need for data-driven research to address stigma among ALHIV, especially, as they transition into young adulthood.

The Suubi4Stigma study tested the feasibility and acceptability of two theoretically guided, evidence-based interventions: a group-based cognitive behavioral therapy (G-CBT) and a family strengthening intervention delivered via multiple family group (MFG-FS) to address HIV stigma among ALHIV (10–14 years) and their caregivers in Uganda [28], Cognitive behavioral therapy (CBT) – whether individual or group based, has effectively treated various disorders among adults and children [29], through the core components of psychoeducation, cognitive restructuring, and skill-building to increase adaptive coping mechanisms [30]. Indeed, CBT has been associated with reducing depression, improving medication adherence and viral suppression among individuals with comorbid HIV and depression [31]. Similarly, family strengthening interventions delivered via multiple family group encourage shared experiences, foster social support, enable social networking, and are an integral component to families experiencing difficulties [32]. By bringing multiple families together, MFG-FS are associated with unique benefits beyond usual group work, such as enabling participants to feel comfortable sharing with and supporting one another, helping to foster peer support, decreasing social isolation, facilitating optimism and morale, and enhancing interpersonal and coping skills [33].

Theoretical Framework

The study was guided by the HIV Stigma Framework which suggests that HIV stigma impacts people living with HIV via distinct HIV stigma mechanisms of anticipated, enacted and internalized stigma [34]. *Anticipated stigma* involves the expectation that an individual will experience stigma and discrimination from others. *Enacted stigma* involves the actual occurrence or experience of stigma, discrimination, or prejudice from others. *Internalized stigma* –the primary focus of this study, involves endorsing negative feelings and beliefs associated with HIV and applying them to the self [35] – which adversely affect individual mental health [36], and outcomes on the HIV care continuum [37, 38]. Both G-CBT and MFG-FS interventions target specific HIV stigma mechanisms. Specifically, G-CBT targets ALHIV's internalized stigma via three core components of psychoeducation, cognitive restricting, and skills building to improve coping capability and promote helpful behavioral responses [31, 39]. On the other hand, MFG-FS targets family level stigma (including stigma experienced by caregivers), by providing a safe setting for families to foster communication, facilitate optimism by normalizing shared experiences with other families, and enhance interpersonal and coping skills [33].

Methods

Participants and Recruitment

The Suubi4Stigma study was a two-year pilot cluster randomized clinical trial (2020–2022). Between November 2020 and May 2021, we recruited 89 ALHIV and their caregivers (dyads) to participate in the study. Adolescents were recruited if they met the following inclusion criteria: (1) living with HIV and aware of their status; (2) between 10 and 14 years; (3) enrolled in ART at one of the 9 study clinics; and (4) living within a family, including extended family units. Adults aged 18 + who identified as the primary caregiver of the recruited adolescent were recruited.

Participants were identified and recruited from 9 HIV health clinics located within four political districts of Masaka, Kyotera, Kalungu, and Lwengo – a region with one of the highest HIV prevalence in Uganda (11.7%) compared to the national average of 5.4% [25]. Health clinics were comparable in terms of the number of adolescents served, facility level and having adolescent clinic days. At HIV clinics, patients are seen at least annually, and each patient prescribed ART must have prescriptions filled at least monthly at each clinic. A clinic staff created a list of all eligible families from medical records, noting their eligibility to participate. Study recruitment flyers were also distributed to potential participants. During clinic appointment days, the clinic staff presented the project idea to adult caregivers of eligible children. If caregivers were interested, verbal consent to be contacted by research staff who was on site during the adolescent clinic days was requested. After speaking with the research staff one-on-one about the study, interested caregivers were taken through informed consent after which they provided written consent for themselves and for their child to participate. Adolescents were asked to provide written assent separately to avoid coercion. Both adolescents and caregivers completed assessments conducted at baseline, 3 and 6-months follow-up [28]. All participants received monetary compensation for completing the assessments, and each time they attended the intervention sessions to cover their time and transport refund.

Randomization

The study utilized a three-arm cluster randomized design. Stratified random sampling was used to divide the clinics into two strata, based on the clinic level of care services provided and number of ALHIV served at the clinic. Next, participants (adolescents and caregivers) were randomly assigned (at the clinic level) to one of three study conditions, with three clinics per condition: (1) Usual care (n = 29 dyads); (2) G-CBT (n = 26 dyads), or (3) MFG-FS (n = 34 dyads). Participants in each clinic received the same intervention corresponding to the group to which the clinic was assigned to minimize contamination. The randomization was done using STATA software and was conducted by an independent research associate based at Washington University in St. Louis.

Intervention Description

Usual Care Condition.—Participants in both usual care and treatment conditions received the usual clinic-based medical and treatment support, including diseases management provided to all HIV patients in Uganda. We supplemented usual care with literature for young people focused on living positively with HIV in Uganda [40].

G-CBT Intervention Condition.—In addition to usual care, adolescents randomized to this condition received 10 sessions of G-CBT for HIV-associated stigma (Table 1). Within G-CBT for stigma, we utilized core components of CBT, such as psychoeducation, cognitive restructuring and skill-building to increase adaptive coping mechanisms [41] to: (1) explore HIV's role and impact of stigma in adolescents' lives; (2) identify and address the negative beliefs associated with HIV stigma, loss of self-esteem, and self-blame through the use of cognitive restructuring; and (3) address negative feelings through skills-building around stress management and emotion-focused coping strategies to address negative feelings. The number of adolescents in each group ranged between 8 and 9 based on the number of

adolescents recruited at the clinic. Caregivers did not participate in these sessions. Sessions were delivered every two weeks by trained para-counsellors, with each session lasting approximately 1 h.

MFG-FS Intervention Condition.—Similarly, participants randomized to this condition received usual care services and 10 sessions of MFG, also known as "Amaka Amasanyufu" in the local language (Table 2). MFG integrates components of existing evidence-based practices that successfully improve parental management, promote family processes, and family strengthening [32, 42]. The number of families (adolescents and caregivers) per group ranged between 5 and 10. The grouping size was intended to promote communication and support within and among families. Sessions focused on the core components of MFG, also known as the 4Rs and 2 Ss (rules, responsibility, relationships, respectful communication, stress, and social support) [43]. Sessions were delivered every two weeks at health clinics. Each session lasted approximately 1 h.

Intervention Adaptation and Facilitator Training

Both G-CBT and MFG-FS interventions are curriculum based. The adaptation process was conducted by the International Center for Child Health and Development (ICHAD) Masaka field team, implementation partners, Makerere University research partners, together with the US research team based at Washington University in St. Louis. Specifically, the team engaged stakeholders, including implementing partners (Reach the Youth-Uganda), parent peers and community healthcare workers (CHWs) already trained in the delivery on MFG-FS sessions, mental health experts and para-counselors from health clinics in the study region.

Adaptation of the MFG-FS Manual

We utilized existing MFG-FS intervention content already adapted in the study region. Specifically, the manual was adapted to address child behavioral health among school going children, and to improve mental health functioning among adolescent girls [43]. Findings from these studies have demonstrated efficacy of the intervention [44–46]. The MFG-FS curriculum was designed to provide opportunities during each session to directly apply content to the realities of family life, emergent cultural and values perspectives, as well as age-appropriate messages. Each session include group activities, role plays, sharing experiences and family take home activities [43]. We also adapted and infused content from a cartoon intervention manual to promote adherence and reduce stigma among ALHIV [47]. This content was specifically adapted for sessions 2 and 3 to focus on HIV stigma and treatment adherence. Sessions were also reduced from 16 to 10 sessions in consultation with the original creator of the MFG manual. Parent peers and CHWs reviewed the two new sessions and provided feedback.

Once the facilitators' manual was finalized, the team created the family handbook for participants. The new content was translated into Luganda the local language in the study region. Three parent peers and three CHWs ($n = 6$) were invited for a refresher training and to receive training on the new MFG content. However, due to travel restrictions related to COVID-19, two parent peers and two CHWs ($n = 4$) facilitated the sessions in the three

clinics randomized to the MFG-FS condition. Facilitator monthly check-ins were conducted by the in-country team.

Adaptation of the G-CBT Manual

We reviewed literature on CBT and adapted content from existing CBT manuals for children and adolescents, supplemented with content, activities and examples from the Uganda context [48–50]. Content from these existing manuals was tailored to focus on depression associated with living with HIV and stigma. We tailored the content to match children's ability to comprehend and implement the therapeutic techniques, including age-appropriate activities, child friendly materials, simplified language and visuals, less complex behavioral techniques, and more support, structure and feedback (Figs. 1 and 2). Each session had seven components, including, purpose of the session and agenda, recap of previous session, review of personal projects, main discussion for the day, take home message, personal project, and session wrap-up. One of the unique components included in each session was the quick mood scale to enable adolescents' ability to monitor their mood each day along with a number of pleasant activities they do on a daily basis [50].

Next, we engaged mental health experts from five health centers and hospitals in the study region. They reviewed the adapted content and provided guidance on content adaptation of the materials to address HIV stigma, developmental and cognitive adaptation of the content for children between 10 and 14 years, and cultural adaptation of the content to local context. The experts were sent a copy of the draft manual for their review a head of time. During in-person meeting, mental health experts were introduced to the study and the core components of G-CBT for stigma. They discussed content for each of the ten sessions as a group, provided feedback and made recommendations that were adapted by the research team.

Similar to the MFG-FS manual, we created both the facilitators' guide and the adolescents' handbook. The team translated both documents into the Luganda local language. We invited seven trained para-counselors from three health clinics, with experience in mental health support and experience working with ALHIV in the study region. In Uganda, para-counselors are trained to assist with the psychological needs of individuals. They acquire basic general counseling and can offer basic help as they organize for referrals [51]. Para-counselors reviewed the G-CBT manual and provided feedback. They all received training conducted by the in-country principal investigator. We selected six para-counselors to facilitate the sessions (two facilitators per clinic). Monthly check-ins were conducted by the in-country team.

Measures and Analysis Procedures

Feasibility.—Feasibility was assessed using participant recruitment rates, i.e., number of screenings conducted, proportion eligible and agreed to enroll in the study. Prior to intervention delivery (at proposal stage), we established a criterion of 70% or higher attendance as "good" attendance, based on the research team's experience recruiting and implementing clinical trials among similar populations in the study region [47, 52]. Thus, enrollment of 70% or higher was considered feasible. We also collected data on the number

of caregivers and adolescents that attended each intervention session; and we monitored completion of assessments at 3 and 6-months follow-up.

Acceptability.—Acceptability was assessed using the Client Satisfaction Questionnaire (CSQ-8) [53]. The 8-item scale measures client satisfaction with services. Adolescents and caregivers from both study conditions completed the questionnaire following the completion of intervention sessions. Sample questions include: *"How satisfied were you with the program?", "How helpful was the program in addressing HIV-associated stigma?"* and *"How likely are you to recommend this program to other families with adolescents living with HIV?* Summary scores were created (theoretical range = 8–32) with higher scores indicating greater satisfaction with the interventions.

Implementation Fidelity.—A fidelity assessment checklist was used to monitor fidelity for both interventions to assess the relationship between planned and actual implementation, integrity of implementation, and how sessions were altered to maximize effectiveness and acceptability. Each intervention session was delivered by two co-facilitators to allow for detailed process notes on the implementation process.

For MFG-FS sessions, a 9-item checklist was used to determine the completion rate of each session and comprised three sections: the beginning, middle, and end of each session. Items also inquired into availability of session logistics, such as the presence of both facilitators and availability of materials required for the session. Sample fidelity items include: "*Facilitators led family social, reviewed roadwork, explained purpose of activities to group members, explained the road work assignment."* Each item was scored as follows: 0 = *"Not at all met"*, 1 = *Partially met"* and 2 = *"Completely met."* Scores were added to generate a total score, and then linearized into a continuous scale ranging from 0 to 100, with higher scores indicating better intervention delivery/ delivered as planned. The fidelity assessment checklist was filled out by adolescents, caregivers and two research assistants who were observing session delivery. Adolescents and caregivers evaluated each of the 10 sessions they attended, and 7 research assistants evaluated sessions 1, 4, 8 and 9.

For G-CBT, facilitators completed self-evaluation after each session, that covered three areas: (1) Content covered i.e., the degree to which they felt the material was covered (0= "Not at all", 10= *"Fully covered");* (2) Satisfaction with Teaching (i.e., the degree to which they felt satisfied with the way the material was taught (0= *"Not at all satisfied*", 10= *"Extremely satisfied*"), and (3) participant participation (i.e. on average the degree to which group participants seemed to participate, understand and complete the activities (0= *"Very poor/ no one understood, or no one was able to complete exercise",* 10= *"Everyone seemed to understand key points and complete the activities"*). All facilitators evaluated sessions 1–6. Similar to MFG-FS sessions, scores from each item in the checklist were added to generate a total score, and then linearized into a continuous scale ranging from 0 to 100, with higher scores indicating better intervention delivery/ delivered as planned.

Results

Feasibility

Participant Recruitment—The study was planned to recruit 90 adolescent-caregiver dyads. A total of 147 dyads turned up at the 9 health clinics for screening. Of these, 89 dyads (N = 178) met the inclusion criteria (detailed earlier), completed the informed consent process and were enrolled into the study (Fig. 3). A total of 58 dyads did not meet the inclusion criteria for study participation. Of these, 36 adolescents had not been disclosed to i.e., unaware of their HIV status, others were either below or above the age cut off for the study, while others turned up without a guardian present. All 89 dyads completed baseline assessments. Out of these, 86 dyads (97%) completed 3-months follow-up and 84 dyads (94%) completed 6-months follow-up assessments. Reasons for missing assessments included, caregiver passed away, child passed away, child ran away from home, or child moved/relocated out of the study region and were unreachable.

Participant Characteristics—Sample characteristics are presented in Table 3, the majority of adolescents were female (63%), the average age was 12 years, and over one third (37%) had lost either a biological mother or father (single orphan). Participants lived in households with about 6 people (children and adults). Similarly, majority of caregivers were female (77%), the average age was 47 years, and almost half of caregivers (49.4%) identified as the biological parent of the child.

Intervention Attendance—Across all clinics, the rate of attendance for G-CBT sessions was between 85 and 92%, and between 91 and 94% for MFG-FS (Table 4). One participant did not attend any of the G-CBT sessions because they ran away from home after completing baseline assessments. One participant in the MFG-FS condition passed away. For other participants, the primary reason for missing sessions was related to COVID-19 lockdown and associated lack of transportation that made it hard for them to move from their villages to go to the session venues.

Fidelity of Intervention Delivery

We summarized the scores for each item in the fidelity assessment tool to determine the extent to which the facilitators delivered the interventions. Figures 4 and 5 presents the plotted graph that illustrates the percentage fidelity trends for MFG-FS and G-CBT sessions, over time. For MFG-FS sessions (Fig. 4), coverage of the intervention content was high (above 70% threshold), ranging between 97.5% and 100%, as rated by adolescents, caregivers, and research assistants. Similarly, coverage of the G-CBT content was high, ranging between 84% and 100%, as rated by para-counselors (Fig. 5).

Acceptability

Results from the Client Satisfaction Questionnaire are presented in Table 5. Both children and caregivers completed the assessments following the completion of intervention sessions. The average score for G-CBT sessions was 29.26 (range = 22–32), and 30.13 (range = 17–32) for MFG-FS session (theoretical range = 8–32), indicating that both adolescents and their caregivers rated highly their satisfaction from the intervention sessions.

Discussion

The Suubi4Stigma study tested the feasibility and acceptability of two theoretically guided, evidence-based, group-based interventions to address HIV stigma among ALHIV and their families in Uganda. Few studies, especially in SSA have documented evidence of psychosocial interventions targeting ALHIV and their families [54, 55]. A multi-level randomized clinical trial targeting stigma among ALHIV, caregivers and school educators is underway, but preliminary data is not yet available [27]. As such, this study is one of the first pilot cluster randomized clinical trials targeting stigma among ALHIV and their caregivers.

The intervention was highly feasible and acceptable, based on excellent recruitment rates, fidelity of the intervention implementation, session attendance across health clinics, and participants' satisfaction of the intervention. Specifically, we planned to recruit 90 adolescent-caregiver dyads, and we were able to recruit 89 dyads who met the inclusion criteria. Although the study was implemented during the COVID-19 lockdown, session attendance for both interventions was between 85 and 94% (above the 70% threshold set *priori*), the retention rate was 94% at study completion. We anticipated attrition rate of ~ 10% over the study period. The high retention rates may be attributed to the study taking place in a highly stable region, facilitating the ability to track and retain the sample. In addition, the frequent contact with participants during the intervention period enabled the research team to continually engage all participants and minimize loss to follow-up. Taken together, the feasibility and acceptability findings indicate that group-based interventions addressing HIV stigma can be implemented even within low resource settings, such as those of the study region.

While caregivers did not attend G-CBT sessions, they rated highly their satisfaction with the intervention sessions. It could be that adolescents participating in G-CBT sessions shared what they learned with their caregivers, including skills gained and coping strategies. Alternatively, it could be related to the positive changes that caregivers observed in their children as a result of the intervention [56]. Similar family-based interventions targeting children have also documented positive impact on the caregivers, not directly targeted by the intervention [57, 58]. Taken together, this finding aligns with the family systems theory guiding group-based interventions, emphasizing the family unit as a social system in which members interact to influence each other's behaviors [59].

Finally, almost 40% of adolescents who turned up for screening were ineligible for study participation, primarily due to non-disclosure. It should be noted that these adolescents were all receiving ART at their respective health clinics, but did not know their HIV status. In other words, they were not told the truth about why they were taking medicine every day. Instead they were usually told that the daily medicine is for other illnesses, say ulcers or other persistent conditions [60]. This finding aligns with systematic reviews that have documented low levels of status disclosure among ALHIV in SSA [61, 62]. While the benefits of status disclosure to children including treatment adherence have been documented [63], caregivers choose to not disclosure for fear of stigma [10], child being too young, fear of causing anxiety to the child, and lack of skill to disclose, among other factors [61, 64–66]. Yet, when people living with HIV (including children), are informed of their

HIV status, they can take steps to leverage social support, protect their health and reduce the risk of infecting others [67, 68]. Status non-disclosure has important implications for HIV health-related outcomes within this young but growing population of ALHIV As such, there's need to develop strategies to support caregivers together with health care providers to facilitate disclosure to children, in a way that does not undermine their health and mental health functioning, and to ultimately maximize the benefits associated with status disclosure.

Limitations

We acknowledge the following limitations. The study was implemented during the COVID-19 lockdown. The associated restrictions affected participants' session attendance and may have affected the impact of the intervention on adolescents and caregiver outcomes. We report findings from a small pilot study with a short intervention period. We were unable to make comparisons in fidelity outcomes, as different measures were used across intervention conditions to assess fidelity. Finally, while community stakeholders were originally engaged in the adaptation process of the MFG-FS intervention manual, adolescents and caregivers were not engaged in the adaptation of the G-CBT intervention. Future research should consider incorporating adolescent and caregiver voices within the adaptation process.

Strengths of the Study

Even with the above limitations, the strengths of the study lie in the cluster randomized design, testing two interventions that are evidence based and theory informed, use of community stakeholders in the recruitment of study participants, cultural adaptation of the intervention content for developmental relevancy and cultural appropriateness, and in the delivery of the interventions. Specifically, we trained parent peers and CHWs already familiar with the intervention content to deliver the MFG-FS intervention. In addition, we trained para-counselors with experience working with ALHIV and their families, and aware of adolescent needs, to deliver G-CBT sessions. Moreover, other studies that utilized parent peers and CHWs to deliver the sessions documented that no differences were observed in child outcomes between the two groups [46]. Taken together, training and supervision of community members allows for eventual scalability and reproducibility in low resource settings with few trained healthcare professionals.

Conclusion

ALHIV are underrepresented in HIV stigma reduction interventions. Yet, effective interventions are highly needed to support this young but growing population to support their transition into young adulthood. We found the Suubi4Stigma interventions to be feasible and acceptable to adolescents their caregivers. These findings support testing the efficacy of the interventions in a larger trial.

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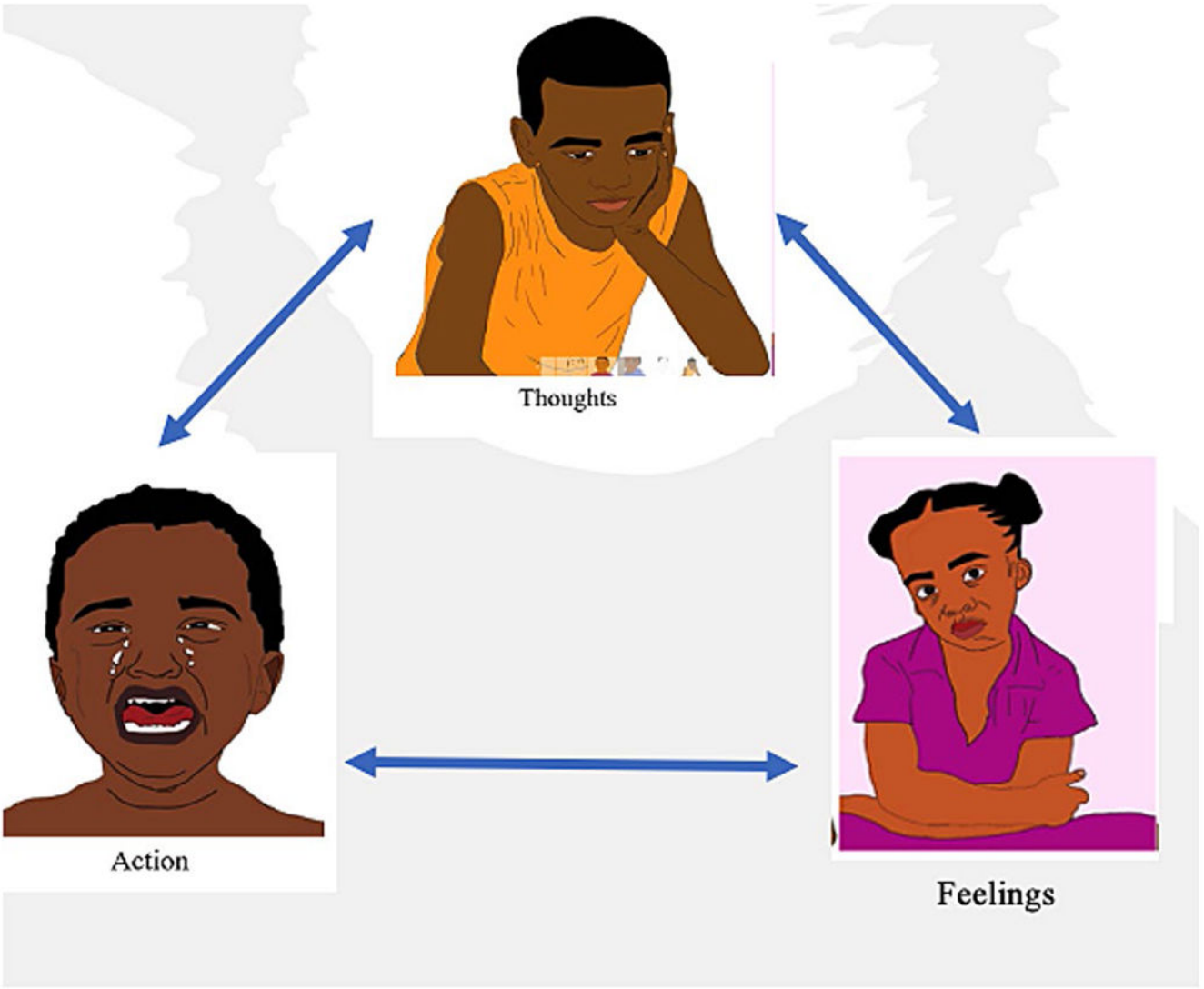

Fig. 1.
Illustration of the relationship between thoughts, feelings and actions

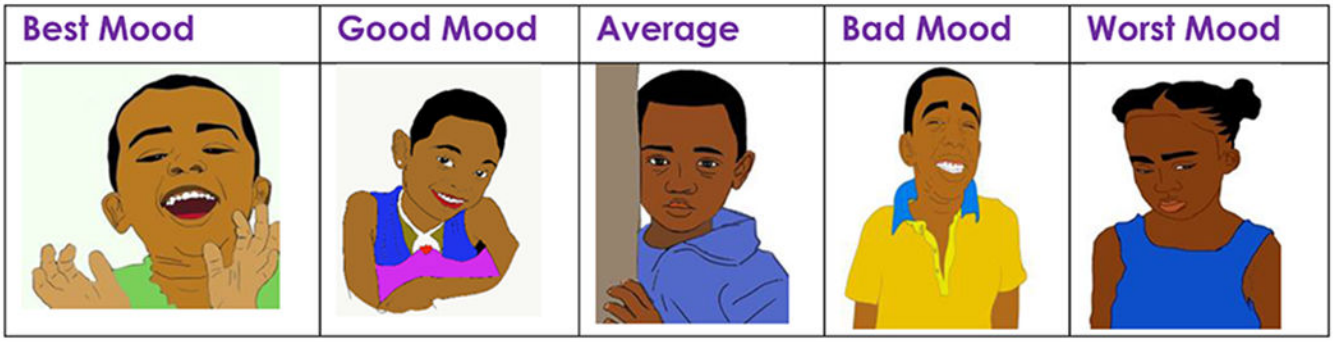

Fig. 2.
Illustration of different moods

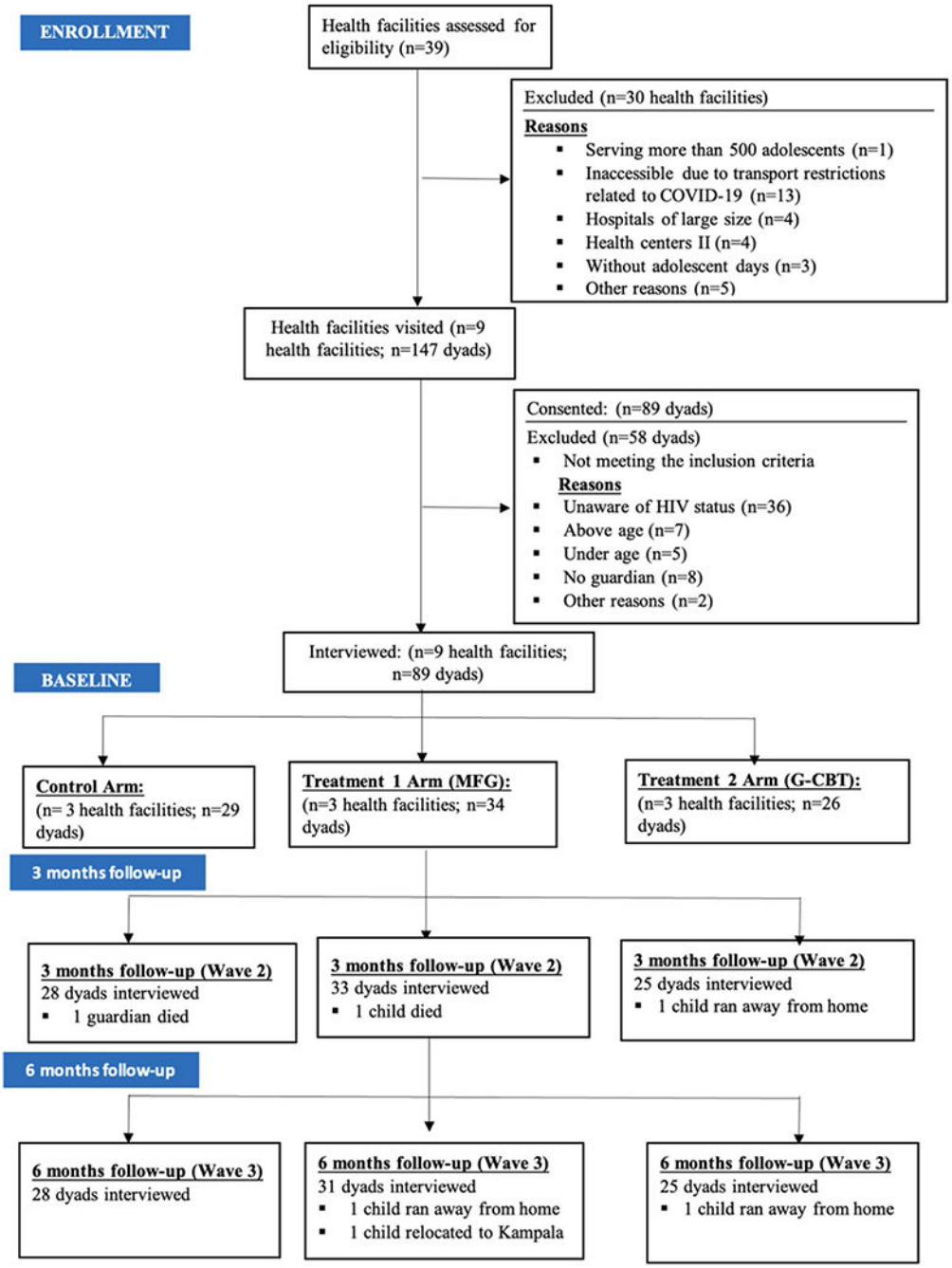

Fig. 3.
Consort flow diagram

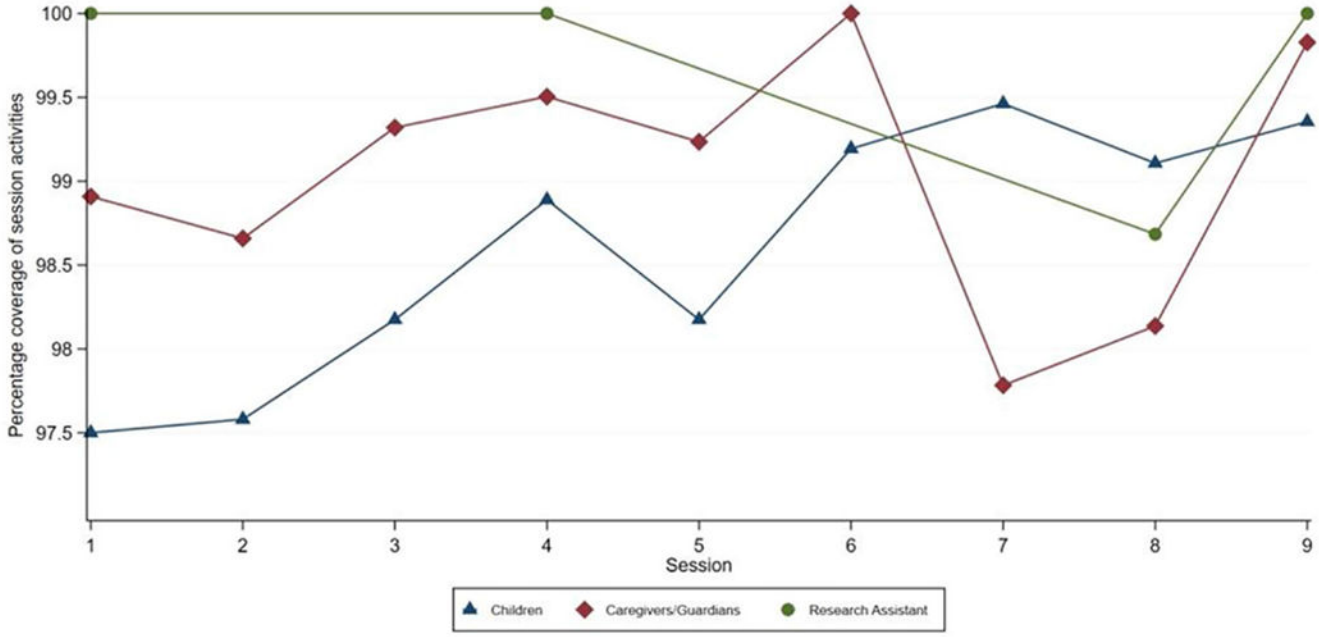

Fig. 4.
Percentage coverage of MFG-FS sessions

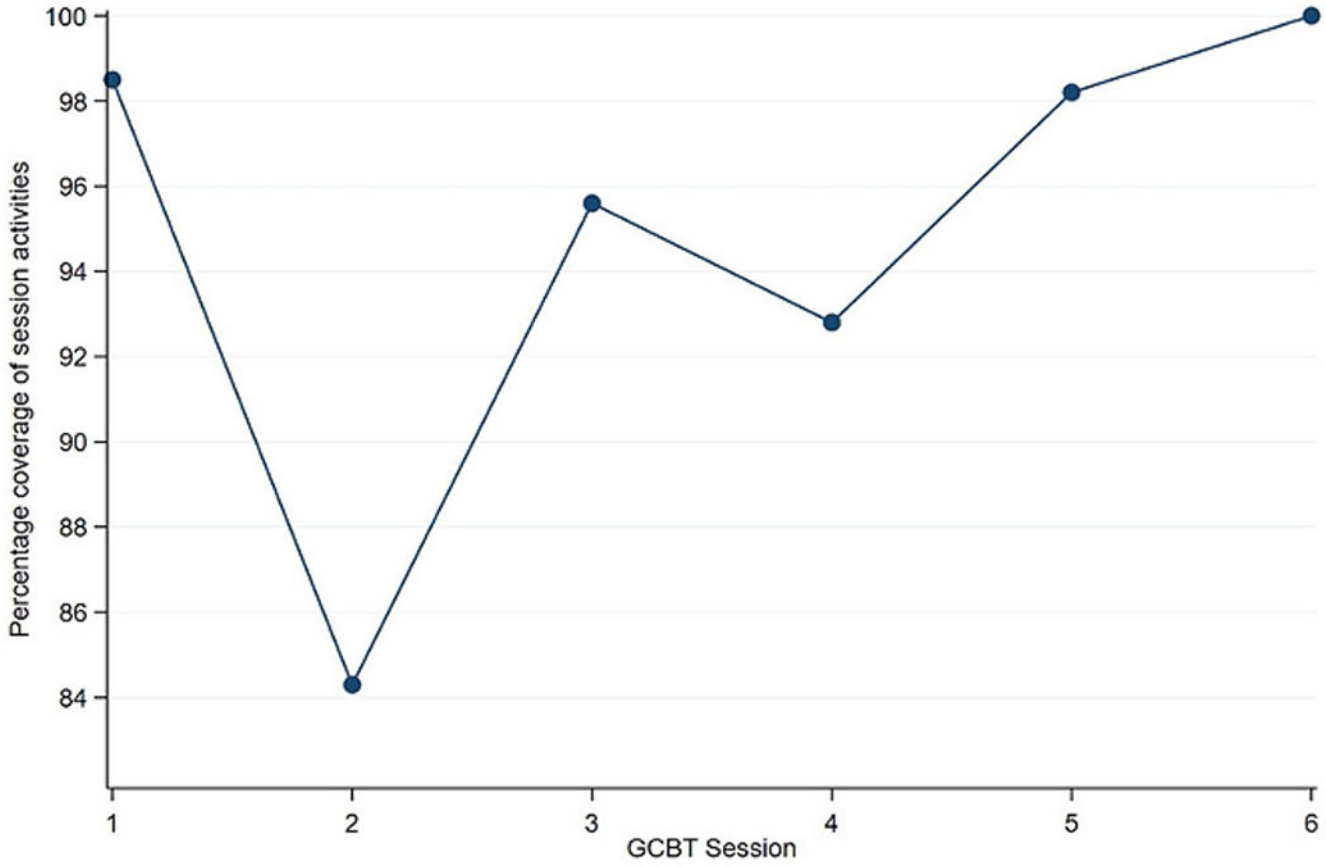

Fig. 5.
Percentage coverage of G-CBT sessions

Table 1

Suubi4Stigma G-CBT Intervention Sessions

Session 1	Introduction to Suubi4Stigma G-CBT Program
Session 2	HIV/AIDS-associated stigma and depression
Session 3	Relationship between thoughts and emotions
Session 4	Identifying thought patterns
Session 5	Challenging negative thoughts
Session 6	Identifying and increasing helpful thoughts
Session 7	Setting goals and shaping your reality
Session 8	Visualization and guided imagery techniques for mood management
Session 9	Change talk to improve mood and reduce depressive symptoms
Session 10	Group review and ending celebrations

Table 2

Suubi4Stigma MFG-FS Intervention Sessions

Session 1	Introduction to Amaka Amasanyufu
Session 2	HIV/AIDS Knowledge and Adherence to Medication
Session 3	Stigma, Discrimination and Associated Risks
Session 4	Building on Family Supports
Session 5	Rules for Home and Problem Solving for Broken Rules
Session 6	Respectful Communication
Session 7	Responsibility at Home
Session 8	Dealing with Stress at Home
Session 9	Family Relationships and Building Families Up
Session 10	Group Review and Ending Celebrations

Table 3

Baseline Sample Characteristics

Variables	Total sample *N* = 89 *n* (%)	Usual Care *n* = 29 *n* (%)	MFG-FS *n* = 34 *n* (%)	G-CBT *n* = 26 *n* (%)
Adolescents				
Gender				
Male	33 (37.08)	12 (41.38)	12 (35.29)	9 (34.62)
Female	56 (62.92)	17 (58.62)	22 (64.71)	17 (65.38)
Age in years (min/max: 10–14) (Mean, SD)	12.21 (1.41)	12.45 (1.35)	11.65 (1.52)	12.69 (1.09)
Orphanhood status				
Non-orphan	49 (55.06)	14 (48.28)	20 (58.82)	15 (57.69)
Single orphan	33 (37.08)	13 (44.83)	11 (32.35)	9 (34.62)
Double orphan	7 (7.87)	2 (6.90)	3 (8.82)	2 (7.69)
Household size (min/max: 2–14)	6.42 (2.66)	6.14 (2.60)	6.79 (3.00)	6.23 (2.25)
Caregivers				
Gender				
Male	20 (24.47)	7 (24.14)	5 (14.71)	8 (30.77)
Female	69 (77.53)	22 (75.86)	29 (85.29)	18 (69.23)
Age in years (min/max: 22–90) (Mean, SD)	47.35 (14.12)	48.69 (13.40)	46.65 (16.77)	46.77 (11.22)
Relationship to the Child				
Biological parent	44 (49.4)	17 (38.6)	15 (34.1)	12 (27.3)
Grand parent	28 (31.5)	9 (32.1)	11 (39.3)	8 (28.6)
Other relative (aunt, uncle, older sibling, etc.)	17 (19.1)	3 (17.6)	8 (47.1)	6 (35.3)

Table 4

Intervention Session Attendance per Clinic

	G-CBT Attendance *n* (%)				MFG-FS Attendance *n* (%)			
Sessions	**Clinic 1 (*n* = 08)**	**Clinic 2 (*n* = 09)**	**Clinic 3 (*n* = 09)**	**Total (*n* = 26)**	**Clinic 4 (*n* = 11)**	**Clinic 5 (*n* = 17)**	**Clinic 6 (*n* = 05)**	**Total (*n* = 33)**
Session 1	06(75)	08(89)	08(89)	22(85)	11(100)	16(94)	05(80)	31(94)
Session 2	06(75)	08(89)	08(89)	22(85)	11(100)	16(94)	05(80)	31(94)
Session 3	07(88)	08(89)	08(89)	23(88)	11(100)	16(94)	05(60)	31(94)
Session 4	07(88)	08(89)	08(89)	23(88)	11(100)	16(94)	04(60)	30(91)
Session 5	07(88)	08(89)	08(89)	23(88)	10(90)	16(94)	04(80)	30(91)
Session 6	07(88)	08(89)	08(89)	23(88)	11(100)	16(94)	05(80)	30(91)
Session 7	06(75)	07(78)	09(100)	22(85)	11(100)	16(94)	05(80)	31(94)
Session 8	06(75)	07(78)	09(100)	22(85)	11(100)	16(94)	05(80)	31(94)
Session 9	07(88)	08(89)	09(100)	24(92)	11(100)	16(94)	05(80)	31(94)
Session 10	07(88)	08(89)	09(100)	24(92)	11(100)	16(94)	05(80)	31(94)

Table 5

Intervention Satisfaction

	G-CBT Sessions (Mean, SD)			MFG-FS Sessions (Mean, SD)		
	Adolescents (*n* = 25)	**Caregivers (*n* = 25)**	**Total (*n* = 50)**	**Adolescents (*n* = 33)**	**Caregivers (*n* = 31)**	**Total (*n* = 64)**
Client Satisfaction	29.56(3.00)	28.96(2.92)	29.26(2.95)	30.00(3.89)	30.26(2.07)	30.13(3.12)
Score range	22–32	23–32	22–32	17–32	24–32	17–32