

Preliminary Effectiveness of Group Interpersonal Psychotherapy for Young Kenyan Mothers With HIV and Depression: A Pilot Trial

Obadia Yator, M.Sc., Grace John-Stewart, M.D., Ph.D., Lincoln Khasakhala, M.Sc., Ph.D., Manasi Kumar, Ph.D.

Objective: The authors adopted a task-sharing strategy in which lay health workers delivered group interpersonal psychotherapy (IPT-G) in primary care clinics in Nairobi, Kenya, to young mothers with HIV and depression. The study examined the acceptability, feasibility, and effectiveness of IPT-G in improving depression and antiretroviral therapy adherence.

Methods: Twenty-four mothers (ages 18–24 years and 6–12 weeks postpartum) participated. The women were randomly assigned to IPT-G or to a waitlist. Eight lay providers administered the IPT-G sessions across 8 weeks. The primary outcome was pre- to postintervention change in depression scores as measured on the Edinburgh Postnatal Depression Scale. The secondary outcome was antiretroviral therapy adherence. All waitlist participants subsequently received the intervention, and a secondary outcome, within-group analysis, was conducted and included those participants.

Results: Participants' median age was 23.0 years, 17 (71%) lived with a partner, and 19 (79%) had fewer than two children. The intervention group had a mean \pm SD depression score of 15.9 ± 4.3 at baseline and 6.8 ± 7.0 postintervention. For the waitlist control group, the mean score was 17.3 ± 5.9 at baseline and 13.2 ± 6.6 at the first follow-up. Waitlist participants had significantly greater mean depression scores than did intervention group participants at the first follow-up (after the intervention group's 8-week IPT-G) ($\beta = 6.42$, 95% confidence interval = 1.17 to 11.66, $p = 0.017$). No difference was observed between groups in antiretroviral therapy adherence.

Conclusions: This study provides preliminary evidence that IPT-G led by community health workers may have benefits for postpartum depression among young mothers with HIV.

Am J Psychother 2022; 75:89–96;
doi: 10.1176/appi.psychotherapy.20200050

Mental disorders affect the well-being and quality of life of persons with HIV and may also derail commitment to HIV care, including adherence to antiretroviral therapy (1). A previous study (2) identified depression as the strongest predictor of poor adherence to antiretroviral therapy. A recent study (3) in Kenya reported a depression prevalence of 13.8% among adults with HIV in rural Kilifi. Similarly, a study (4) sampling the general population of western Kenya reported 12.5% prevalence among young adult women.

A review (5) of psychological interventions to improve mental health among people with HIV found few interventions tailored to vulnerable populations residing in low-resource settings. For example, in Kenya, a study of young people with a mean age of 23 reported that 39.0% of women sampled had moderate depressive symptoms, and 5.1% had severe depressive symptoms (6). A similar recent study among adolescent girls and young women attending routine family planning services reported that 12% had moderate-to-severe depression (4). In Kenya, HIV prevalence among

women is 5.2% (7), and rates of depression are higher among women with HIV (8).

HIGHLIGHTS

- A task-sharing implementation strategy including the use of lay health providers (community health workers [CHWs]) was successful in delivering group interpersonal psychotherapy (IPT-G) to young mothers with HIV.
- With regular training and supervision, CHWs can deliver IPT-G, and because these workers live within the community, they may enhance the acceptability of the intervention and follow-up.
- Young mothers with HIV found IPT-G to be an acceptable mode of depression treatment.
- Trends observed from this pilot study will inform the design of a larger trial to extend IPT-G to other primary health care clinics in Kenya.

Interpersonal psychotherapy (IPT) was developed in the 1970s by Weissman and colleagues (9) as an evidence-informed manualized individual psychotherapy for clinical depression. Meta-analyses (10, 11) have shown that individual and group psychotherapy, when delivered appropriately, have the same effect across varied populations with depressive symptoms. IPT focuses on improving interpersonal relations or life events directly linked to the current depressive symptoms, because the two factors appear to be interrelated (12). In group interpersonal psychotherapy (IPT-G), group members complete an interpersonal inventory to target the interpersonal problems that need intervention (13). An intervention study that used IPT to treat symptoms of depression reported that all interpersonal and cognitive variables demonstrated significant improvement (14). In addition, a recent study among U.S. women with depression who experienced childhood sexual abuse showed that IPT reduces depressive symptoms and recurrence of symptoms, with notable improvement in interpersonal relationships, coping skills, and social support (15, 16).

Maternal depression in low- and middle-income countries (LMICs) has a significant public health impact on mothers, infants, and family well-being. Hanlon (17) found that 16% of prenatal women in LMICs experienced mental illness, and 20% experienced postpartum depression, with many countries having a 34% prevalence of postpartum depression. Postpartum depression is twice as common in LMICs as in high-income countries (18). Prevalence estimates suggest that one-in-five women in such countries experiences depression (19), and younger women are more likely to experience postpartum depression (20). The higher prevalence of postpartum depression among young women may be due to transitions in family roles, interpersonal relationships, and social support during the perinatal period (21), and unanticipated pregnancies commonly contribute to poor mental and general medical health among young women. Common social determinants of postpartum depression in LMICs are low socioeconomic status, poor social support, domestic conflict, and possible pressure to birth boys (22).

Lay workers have demonstrated the ability to deliver IPT within community settings (23). As a therapy, lay-administered IPT has been proven feasible in primary health care and community settings (24). IPT has been recommended as an evidence-based first-line psychological intervention for pregnant and breastfeeding mothers to protect the infant's cognitive and behavioral development against possible effects of psychotropic medications (25). A similar intervention, called the Collaborative HIV Prevention and Adolescent Mental Health Program+ (CHAMP+), has been tested in Thailand. This intervention was successfully delivered by lay health workers and demonstrated significant improvement in antiretroviral therapy adherence and potential for program expansion (26).

In Kenya, adolescent girls and young women with HIV participate in "preventing mother-to-child transmission"

(PMTCT) programs, which include HIV testing and counseling and services for family planning, male partner involvement, and child and maternal nutrition. Additionally, community health workers follow up to enhance HIV care through Operation Triple Zero, in which young peer mentors and community health workers (CHWs) are positioned as "champions" to ensure that no appointments or medications are missed and to monitor viral load (27). IPT-G consists of therapy sessions delivered in groups of six to 10 participants for 90 minutes, where peers learn from one another. Common life challenges are discussed, with possible practical solutions suggested by the members, and this approach has been promising in improving adherence to HIV care among young women (28). When young mothers with HIV are able to communicate freely and without stress or depression associated with interpersonal relationships, they augment their quality of life through enhanced wages or return to school, and such positive changes contribute to ongoing viral suppression, which is pertinent for their overall well-being (29). IPT-G aims to reduce psychosocial impairment, with expected improvement in virological suppression (30).

Task sharing improves the accessibility and effectiveness of mental health services in low-resource settings, where specialist health workers are few or unavailable (31, 32). Furthermore, IPT has successfully been delivered by non-specialists to women with HIV, depression, and/or post-traumatic disorder, with significant improvements seen in mental health, social functioning, and gender-based violence exposure, compared with outcomes in a waitlist control group (33). IPT-G is potentially cost-effective because, using the World Health Organization's (WHO's) program of eight weekly 90-minute sessions, six to 10 young women can be easily reached for timely clinical care (34). As a therapy, IPT-G emphasizes the interpersonal problems in one's life. The therapy works with groups of individuals with depression to enhance social support, decrease interpersonal distress, and facilitate emotional processing and interpersonal skills building. Given the paucity of trained mental health professionals in Kenya, IPT-G delivery by CHWs could greatly expand access to care for young mothers with postpartum depression.

We conducted a pilot randomized controlled trial to assess the preliminary efficacy, acceptability, and feasibility of IPT-G delivered by trained and supervised CHWs for young Kenyan mothers with HIV and depression. We hypothesized that participants receiving the IPT-G intervention would show improvements in depression and antiretroviral therapy adherence over time and that these gains would be maintained 16 weeks postintervention.

METHODS

Design and Setting

The aim of this pilot randomized trial was to ascertain the effectiveness of IPT-G delivered by CHWs. The primary

outcome was change in depressive symptoms after 8 weeks. We conducted the study between August 2018 and July 2019 at two sites (the Kangemi and Kariobangi health centers) located in urban primary health care facilities in two informal settlements.

Recruitment

Through convenience sampling, postpartum women ages 18–24 years who were 6–12 weeks postpartum, had HIV, and attended a PMTCT program were recruited and were assessed for depressive symptoms by using the Edinburgh Postnatal Depression Scale (EPDS). Possible scores on the EPDS range from 0 to 30, with higher scores indicating clinically significant depressive symptoms. Participants were included in the study if they scored ≥ 10 on the EPDS (35) and provided written informed consent. Those who met the required cutoff score for depression but declined participation were excluded from the study and assured that their choice would not affect their usual care at the PMTCT program. Item 10 on the EPDS was used to screen for suicidal thoughts or feelings toward self-injury and to refer those with severe depressive symptoms to a psychiatrist at Kenyatta National Hospital.

The nursing officer in charge at each respective health center recruited the CHWs to administer the IPT-G. Four CHWs from each facility were recruited through convenience sampling to deliver IPT-G. Selection criteria included ability to read and write and residence within the community at the study site.

Treatment Allocation

Twenty-five mothers enrolled, with one dropping out because of a change in residence before the IPT-G sessions began, leaving 24 participants. Twenty-four pieces of paper were allocated binary numbers, either 1 (for the intervention group) or 2 (for the waitlist control group). The participants were then asked to choose a folded piece of paper; those with the number 1 formed the intervention group ($N=12$), and the remainder formed the waitlist control group ($N=12$).

Waitlist Condition

Treatment as usual for the waitlist control group entailed routine services offered at the PMTCT clinics within the two health centers. The offerings included services for sexual and reproductive health, male partner involvement, child and maternal nutrition, and child immunization.

Training of CHWs in IPT-G and Maintenance of Fidelity

A 2-day training was organized for all CHWs. The lead researcher and the clinical supervisor (a master's student in clinical psychology) trained the participants in the requisite skills for delivery of IPT-G in accordance with the WHO's 2016 guidelines (36). The clinical supervisors who continuously supported the CHWs were accredited clinical

psychologists with significant experience in clinical assessment and psychotherapy. Both trainers received further guidance from two mentors (L.K., M.K.), who oversaw the study, and regularly consulted several International Society of Interpersonal Psychotherapy colleagues specializing in adolescent and perinatal IPT. Training sessions covered IPT tasks, steps, and techniques for the pregroup, initial, middle, termination, and follow-up phases. In addition, the CHWs simulated role-plays on various IPT-G skills. An IPT knowledge score of at least 70% (21 of 30 points) was required to pass competency requirements (36). To understand the competency of the CHWs in delivering IPT-G sessions, fidelity to the intervention was assessed by using the Interpersonal Therapy Rating Scale for initial, middle, and termination sessions of the intervention group and waitlist control groups.

The clinical supervisor conducted supportive group supervision before and after every session for all facilitators at a given study site and individually as needed. Group text messages were used to maintain constant contact with the CHWs. The study team used phone calls to communicate new updates and to conduct the participant follow-up. We held 18 supervisory sessions for each group. After the intervention, CHWs followed up with both groups for at least 24 weeks to help them practice the interpersonal skills acquired during the group sessions.

Intervention

The intervention was first tested with three young mothers at each study site. The IPT-G sessions were conducted in a spacious room within the Kangemi health center's maternity building and in a social hall at the Kariobangi health center.

The intervention group received weekly IPT-G sessions plus treatment as usual for 8 weeks, while the waitlist control group received only treatment as usual. After the first 8 weeks, the intervention was offered to the waitlist control group for 8 weeks and waitlist group followed up for another 8 weeks. Thus, the intervention group was monitored cumulatively for 16 weeks from the time IPT-G was completed. On termination of the IPT-G sessions, all participants continued with treatment as usual at the health center. Marital conflict was attended to by inviting the male partner to attend couples' sessions to learn problem-solving skills and were then referred to the PMTCT nurse for continual support. The CHWs maintained contact with postpartum adolescents who participated to help them practice the lessons learned from the IPT-G intervention. (A diagram of the flow of participants in the study is available in the online supplement to this article.)

Outcome Measures and Data Collection

Our aim was to evaluate the effectiveness of IPT-G for depression and its influence on adherence to antiretroviral therapy when delivered by nonspecialists to young mothers with HIV. Change in depressive symptoms was assessed by using the EPDS, with a score ≥ 10 signifying significant

depressive symptoms. The Center for Adherence Support Evaluation Adherence Index (37) was used to assess compliance to antiretroviral therapy medication, with a total score of >10 suggesting good adherence and ≤ 10 poor adherence. These assessments were conducted by the clinical supervisor and research assistant and were scheduled at baseline (T1) and weeks 8 (T2), 16 (T3), and 24 (T4) of the study.

Data Analysis

Independent samples *t* tests and chi-square analyses were used to test for group differences in demographic and clinical variables at T1. Between-group (intervention versus waitlist) differences were tested by using independent sample *t* tests at each time point. Effect sizes were reported as Cohen's *d* coefficients. Within-group differences were analyzed by using paired *t* tests separately for each group between T1 and T2, T2 and T3, and T1 and T3.

The effectiveness of IPT-G was assessed by using generalized estimating equations (GEE) to evaluate reduction in depression scores over time. Each GEE model included the examined time variable (baseline versus follow-up assessment) as a predictor and outcome (dependent-repeated measures) variable. Time \times group interactions were also included in the model. Because of the clustered nature of the data (respondents within a clinic), we computed variance estimators for all GEE analyses. An alpha level of 0.05 (two-tailed) was chosen for all statistical tests in this study.

The primary outcome was pre- to postintervention change in depression for the intervention group compared with the waitlist group. Sustainability of the benefits gained from IPT-G were assessed by analyzing change over time and trends at T1–T4. The Consolidated Standards of Reporting Trials (CONSORT) guidelines for randomized trials were followed, and the intention-to-treat analyses were conducted with STATA, version 13.

Ethical Approval

This pilot trial was reviewed and approved by the Kenyatta National Hospital–University of Nairobi Ethics and Research Committee (approval no. P97/02/2018). Other county and health services permits were sought thereafter. Details of the study were shared with each participant during recruitment. Written informed consent was obtained from participants as evidence of acceptance to participate and permission to publish and disseminate findings in relevant journals and forums.

RESULTS

Recruitment, Attrition, and Attendance

As indicated in the online supplement, 46 possible participants were assessed for depressive symptoms. Of these individuals, 32 were eligible (30% noneligible), 25 of whom consented and were randomly allocated to the intervention group ($N=13$) or waitlist ($N=12$). One participant was lost to

follow-up in the intervention group before the intervention began, and, ultimately, 24 participants provided data for the study, with 12 in each group. All 24 participants attended the initial and final sessions of the IPT-G, and 67% ($N=16$) attended all eight sessions. In the intervention group, seven women (58%) attended all eight sessions, compared with nine (75%) in the waitlist group.

Sociodemographic Characteristics

No significant sociodemographic differences were observed between the intervention and waitlist groups at T1, reflecting a balanced random assignment process. At T1, the women were a mean of 8.08 weeks postdelivery; median age was 23.0 years (interquartile range=3). Seventeen (71%) had a partner, and most (79%) had two or fewer children. Less than half of the participants were aware of their child's HIV status ($N=10$, 42%). About half the participants had an education level of secondary school or above ($N=13$, 54%), and most had no paid employment ($N=19$, 79%) and earned $<US\$100$ per month ($N=22$, 92%). Slightly less than half of the participants ($N=11$, 46%) had difficulty accepting their HIV diagnosis when diagnosed. Thirteen (54%) of the participants reported being physically abused by their male partners (Table 1).

Changes in Outcomes Within and Between Groups

At T1, there was no significant differences between the waitlist and intervention groups for any of the outcome measures. At postintervention (T2), the intervention group had significantly lower mean \pm SD depression scores compared with those of the waitlist group (6.8 ± 7.0 versus 13.2 ± 6.6 , respectively; $p=0.032$; $d=0.94$). No differences were observed between the two groups at T3 and T4. However, depression scores gradually decreased over time, with depression in the intervention group decreasing more than in the waitlist group. No statistically significant differences were observed in antiretroviral therapy adherence between the groups at different time points; however, clinical improvement was observed (Table 2).

Within-group analyses (paired *t* tests) between the different time points are presented in Table 3. From T1 to T2, a significant decrease in depression scores was seen in the intervention group (from 15.9 ± 4.3 to 6.8 ± 7.0 , $p<0.001$, $d=1.57$) and control waitlist group (from 17.3 ± 5.9 to 13.2 ± 6.6 , $p=0.025$, $d=0.65$) (see online supplement). From T2 to T3, no significant difference was observed in the intervention group, but there was a significant difference in the waitlist group (13.2 ± 6.6 to 7.1 ± 5.4 , $p=0.013$, $d=1.05$). From T1 to T3, there was a significant decrease in depression scores in the intervention (from 15.9 ± 4.3 to 5.0 ± 4.6 , $p<0.001$, $d=1.88$) and control groups (17.3 ± 5.9 to 7.1 ± 5.4 , $p<0.001$, $d=1.88$). No significant differences were observed in the within-group analyses for antiretroviral therapy adherence.

Effectiveness of the Intervention

Tables 3 and 4 present the GEE results on the impact of the intervention in reducing depression scores. Waitlist control

TABLE 1. Sociodemographic characteristics of mothers with HIV and depression in Kenya, by intervention group^a

Characteristic	Overall (N=24)		Intervention (N=12)		Waitlist (N=12)	
	N	%	N	%	N	%
Age (years)						
18–20	3	13	2	17	1	8
21–24	21	88	10	83	11	92
Marital status						
Without a partner	7	29	4	33	3	25
With a partner	17	71	8	67	9	75
Education						
Primary and below	11	46	4	33	7	58
Secondary and above	13	54	8	67	5	42
Occupation						
Employed	5	21	4	33	1	8
Unemployed	19	79	8	67	11	92
Income per month (US\$)						
0–100	22	92	11	92	11	92
101–200	2	8	1	8	1	8
Number of children						
1	11	46	5	42	6	50
2	8	33	5	42	3	25
3	3	13	1	8	2	17
4	2	8	1	8	1	8
Reaction to HIV status						
Accepted	13	54	9	75	4	33
Not accepted	11	46	3	25	8	67
HIV status of child						
Negative	10	42	5	42	5	42
Not sure	14	58	7	58	7	58
Intimate partner violence						
Yes	13	54	6	50	7	58
No	11	46	6	50	5	42

^a All p values were nonsignificant.

group participants had significantly greater mean depression scores than intervention group participants postintervention ($\beta=6.42$, 95% confidence interval [CI]=1.17 to 11.66, $p=0.017$). In terms of change over time (i.e., between T1 and T4, depression scores decreased significantly over time ($p<0.001$) (reduction by about 9.2 units), regardless of group, and there was a significant group \times time interaction ($p=0.041$) (Table 4).

We noticed a reduction in depressive symptoms after IPT-G administration, with a stronger effect size of 1.57 (95% CI=0.62 to 2.49) in the intervention group than in the waitlist group, with an effect size of 0.65 (95% CI=−0.18 to 1.47). Adherence to antiretroviral therapy improved slightly, although this trend was not statistically significant (Table 3).

Sustainability Over Time (Trends)

Depression scores in both the intervention and waitlist groups dropped consistently in response to IPT-G, and antiretroviral therapy adherence increased subsequently (Table 2). The intervention group had a significant drop in mean depression scores between T1 and T2 (from 15.9 ± 4.3 to 6.8 ± 7.0). On subsequent follow-up after another 8 weeks (T3), mean scores in the intervention group decreased

TABLE 2. Depression and antiretroviral therapy adherence, by intervention group^a

Intervention group							
	Waitlist		Intervention		Effect size (d)	t	df
Time	M	SD	M	SD			
Depression ^b							
T1	17.3	5.9	15.9	4.3	.27	−.63	22
T2	13.2	6.6	6.8	7.0	.94	−2.29	22
T3	7.1	5.4	5.0	4.6	.42	−1.01	22
T4	7.0	4.9	5.6	6.5	.24	−.55	20
Antiretroviral therapy adherence ^c							
T1	13.3	3.1	12.8	3.1	.16	−.34	21
T2	13.7	3.5	13.8	3.2	.03	.12	22
T3	13.9	1.7	14.6	2.6	.32	.74	22
T4	14.2	3.2	13.6	3.9	.17	−.36	20

^a T1, baseline; T2, week 8 follow-up; T3, week 16 follow-up; T4, week 24 follow-up. Depression, T2, $p=0.32$. All other p values were nonsignificant.

^b Depression was measured by using the Edinburgh Postnatal Depression Scale; possible scores range from 0 to 30, with higher scores indicating clinically significant depressive symptoms.

^c Antiretroviral therapy adherence was measured by using the Center for Adherence Support Evaluation Adherence Index, with a total score of >10 suggesting good adherence and ≤ 10 poor adherence.

further (to 5.0 ± 4.6) and then slightly increased (to 5.6 ± 6.5) at the 16-week follow-up at T4. The waitlist group had a significant drop in mean depression scores between T1 and T2 with treatment as usual (from 17.3 ± 5.9 to 13.2 ± 6.6). After the deferred IPT-G in the waitlist group, mean depression scores dropped even further (to a mean of 7.1 ± 5.4), with a slight decrease at the 16-week follow-up at T4 (7.0 ± 4.9).

Compared with other timepoints, the intervention group had significantly higher scores in mean antiretroviral therapy adherence at T1 (12.8 ± 3.1) and after the intervention (13.8 ± 3.2). After the 8-week follow-up, mean scores increased (to 14.6 ± 2.6) and then slightly decreased (to 13.6 ± 3.9) at the 16-week follow-up. The waitlist group had significantly higher scores in mean antiretroviral therapy adherence at T1 (13.3 ± 3.1) and after the intervention (13.7 ± 3.5). At the 8-week follow-up, scores increased (to 13.9 ± 1.7), with a slight increase (to 14.2 ± 3.2) at the 16-week follow-up (Table 2). No incident of suicidal attempt was reported during the study.

We found that the CHWs' skills improved as they conducted more sessions. The mean score for the fidelity rating (measured via the Interpersonal Therapy Rating Scale) used to assess CHW competency was 5.0 ± 1.1 ; this score increased to 5.1 ± 1.2 when IPT-G was offered to the waitlist control group.

DISCUSSION

IPT-G significantly reduced measures of depressive symptoms in both the intervention and waitlist group. For every unit drop in the scores of depressive symptoms in the waitlist group, the intervention group dropped by about six units. In a study from Kisumu, Kenya, Opiyo et al. (38) found that women with HIV reported a 60% (9-point) decrease in depressive

TABLE 3. Differences in depression and antiretroviral therapy adherence between time points, by intervention group^a

Group and time	Paired t test ^b	p	Effect size (d)
Depression			
Intervention			
T1–T2	4.44	.001	1.57
T2–T3	1.02	ns	.16
T1–T3	6.01	<.001	1.88
Waitlist			
T1–T2	2.59	.025	.65
T2–T3	2.95	.013	1.05
T1–T3	5.33	.001	1.88
Antiretroviral therapy adherence			
Intervention			
T1–T2	–1.20	ns	–.32
T2–T3	–.84	ns	.06
T1–T3	–2.12	ns	–.23
Waitlist			
T1–T2	–1.33	ns	–.12
T2–T3	–.22	ns	–.15
T1–T3	–.90	ns	–.29

^a ns, not significant. T1, baseline; T2, week 8 follow-up; T3, week 16 follow-up; T4; week 24 follow-up.

^b df=11.

symptoms after an IPT intervention, with significant improvements in social interaction and social functioning.

The effectiveness of IPT-G in reducing depressive symptoms has been acknowledged in similar studies conducted elsewhere (39, 40). It is worth acknowledging that improvement of depressive symptoms without treatment may occur. About a quarter of patients improve within 3 months and 50% after 1 year (41), although an estimated 30% do not respond to any form of treatment (42, 43).

Some decreases in depressive symptoms occurred among the waitlist group even before IPT-G was offered. These decreases may be attributed to routine health support services within the PMTCT clinic and possible positive influence from engaging in the pregroup phase or follow-up during the waitlist period. Previous meta-analyses and systematic reviews (44, 45) have found that IPT prevented severe depression among those with subthreshold depression and that maintenance IPT significantly reduced relapse of depressive symptoms, with moderate-to-large effects compared with control groups.

IPT-G has been adapted for adolescents (46) and for the general population of patients with depression (47). We

found that IPT-G decreased depressive symptoms among young postpartum mothers. Benefits of IPT-G in addressing depressive symptoms have been reported in other similar studies (48, 49).

Our findings indicated that IPT-G can be delivered effectively by trained lay health workers. Our work also supported previous studies that have found task sharing to be a good approach to overcoming a shortage of trained health care specialists, which can be a significant barrier to expanding mental health services in sub-Saharan Africa (SSA) (44, 45). After training, and with continuous supervision, the CHWs were able to offer the intervention successfully. We also observed statistically significant improvements in depressive symptoms with IPT-G. Both the intervention and waitlist groups had good adherence to antiretroviral therapy, which could be attributed to robust PMTCT services within the primary health care facilities across all counties in Kenya and to the recent improvements in HIV care in SSA (50, 51). We believe that, within the context of task sharing in primary health care to integrate mental health, CHWs could help disseminate mental health services to the larger underserved population within low-resource settings.

Our findings were consistent with those of a study in Goa, India (52), which showed that task sharing enables specialist health care workers to focus their expertise on individuals with more severe mental illness and psychosocial needs. CHWs are community leaders who, in our study, acted as a link between the health facility and the participants. It has been reported that CHWs can carry out psychoeducation, monitor drug adherence, provide early intervention for mild mental disorders, and identify and refer persons with severe mental illness for further management (53). Our weekly and continuous supportive supervision instilled confidence among the CHWs, and they were able to deliver the intervention according to the IPT-G protocol. Considering that most of the CHWs were nonspecialists, we appreciated being able to train them to deliver IPT-G, and their knowledge retention key toward achieving fidelity. A systematic review (31) has emphasized the training of nonspecialist health workers, supervision, and partnership with the local community as pillars for task shifting within low-resource settings. We found that because the CHWs lived within the community, they were able to build trust with the postpartum adolescent participants.

IPT-G has also been recommended for use in workplace settings (39). By using the services of CHWs in delivering IPT-G, we improved their knowledge of care for young mothers with depression. A previous step-wise community approach on capacity building in Kenya noted the numerous benefits of empowering CHWs to deliver IPT-G (54). That the CHWs were found to deliver IPT-G effectively underscores the need for fast-tracking such interventions that can help reduce the mental health treatment gap in LMICs such as Kenya. We recommend further research in a larger population across diverse health centers in Kenya to further test the effectiveness of CHW-delivered IPT-G on depressive

TABLE 4. Effect of the group interpersonal psychotherapy intervention on depression scores

Parameter	β	SE	95% CI	p
Waitlist group (reference: intervention)	6.42	2.68	1.17, 11.66	.017
Baseline (reference: postintervention)	9.17	1.98	5.29, 13.04	<.001
Group × time interaction	–5.08	2.49	–9.96, –.20	.041

symptoms and the sustainability of the task-shifting model for expanding mental health services for peripartum young mothers with HIV.

Our study involved a vulnerable population of young mothers and found promising results that could improve services for this group. It is important to appreciate that CHWs delivered the intervention after structured training and with continuous supervision. Supervision is critical in strengthening lay health workers' capacity to provide evidence-based interventions. The study was able to assess CHW competency and fidelity in delivering IPT-G. Nevertheless, potential limitations of the task-shifting approach included lack of structured remuneration for CHWs. Additionally, some mothers preferred practical solutions to their problems, such as financial support, and lack of space to conduct group sessions could be a challenge in primary care facilities. Designation of an area for mental health services and psychosocial support may be useful. Our trial was limited in that it was not adequately powered and sought to study only formative aspects of IPT-G implementation and intervention development for young mothers with HIV. We also acknowledge limitations related to possible misclassification bias and measurement errors during the process of IPT-G. The ratings of the CHWs may have been biased toward positive fidelity and adherence to the protocol, given that the trainers and CHWs had established rapport. Our findings were exploratory and mainly meant to evaluate how the intervention would perform if implemented in a routine clinical setting.

CONCLUSIONS

IPT-G participants had significantly lower mean depression scores than the waitlist control group postintervention. IPT-G delivered by CHWs decreased postpartum depressive symptoms among young mothers with HIV in the low-resource context of Kenya.

AUTHOR AND ARTICLE INFORMATION

Department of Psychiatry, School of Medicine, College of Health Sciences, University of Nairobi, Nairobi, Kenya (Yator, Khasakhala, Kumar); Departments of Global Health, Medicine, Epidemiology, and Pediatrics, University of Washington, Seattle (John-Stewart); Department of Psychology, University College London, London (Kumar).

Send correspondence to Mr. Yator (obadiayator@gmail.com).

The authors acknowledge the leaders at the Kangemi and Kariobangi sites and thank Ruth Nduati, chair of the University of Nairobi Advisory Group and technical advisor; advisory group members Alfred Osoti and Beatrice Amugune; Martha Kagoya, clinical supervisor; and Vincent Nyongesa, research assistant.

Dr. John-Stewart has received grant funding from the Thrasher Foundation and funding from the University of Washington, International Maternal Pediatric Adolescent AIDS Clinical Trials (IMPAACT), and UpToDate. The other authors report no financial relationships with commercial interests.

Received October 8, 2020; revisions received May 6, July 14, August 9, and September 6, 2021; accepted September 7, 2021; published online December 17, 2021.

REFERENCES

1. Uthman OA, Magidson JF, Safren SA, et al: Depression and adherence to antiretroviral therapy in low-, middle- and high-income countries: a systematic review and meta-analysis. *Curr HIV/AIDS Rep* 2014; 11:291–307
2. Gonzalez JS, Batchelder AW, Psaros C, et al: Depression and HIV/AIDS treatment nonadherence: a review and meta-analysis. *J Acquir Immune Defic Syndr* 2011; 58:181–187
3. Nyongesa MK, Mwangi P, Wanjala SW, et al: Prevalence and correlates of depressive symptoms among adults living with HIV in rural Kilifi, Kenya. *BMC Psychiatry* 2019; 19:333
4. Larsen A, Kinuthia J, Lagat H, et al: Depression and HIV risk behaviors among adolescent girls and young women seeking family planning services in Western Kenya. *Int J STD AIDS* 2020; 31: 652–664
5. Sikkema KJ, Dennis AC, Watt MH, et al: Improving mental health among people living with HIV: a review of intervention trials in low- and middle-income countries. *Glob Ment Heal* 2015 Jan;2:e19. doi: 10.1017/gmh.2015.17
6. Othieno CJ, Okoth RO, Peltzer K, et al: Depression among university students in Kenya: prevalence and sociodemographic correlates. *J Affect Disord* 2014; 165:120–125
7. Kenya HIV Estimates Report 2018. Nairobi, Kenya, National AIDS Control Council, 2018
8. Ng'ang'a PW, Mathai M, Obondo A, et al: Undetected psychiatric morbidity among HIV/AIDS patients attending Comprehensive Care Clinic (CCC) in Nairobi Kenya: towards an integrated mental health care. *Ann Gen Psychiatry* 2018; 17:11
9. Weissman MM, Klerman GL, Rounsaville BJ, et al: *Interpersonal Psychotherapy of Depression* New York, Basic Books, 1984
10. McRoberts C, Burlingame GM, Hoag MJ: Comparative efficacy of individual and group psychotherapy: a meta-analytic perspective. *Group Dyn* 1998; 2:101–117
11. Piper WE, Joyce AS: A consideration of factors influencing the utilization of time-limited, short-term group therapy. *Int J Group Psychother* 1996; 46:311–328
12. Brown GW, Harris TO, Peto J: Life events and psychiatric disorders. 2. Nature of causal link. *Psychol Med* 1973; 3:159–176
13. Barkham M, Hardy GE, Startup M: The IIP-32: a short version of the Inventory of Interpersonal Problems. *Br J Clin Psychol* 1996; 35: 21–35
14. Bernecker SL, Constantino MJ, Pazzaglia AM, et al: Patient interpersonal and cognitive changes and their relation to outcome in interpersonal psychotherapy for depression. *J Clin Psychol* 2014; 70: 518–527
15. Duberstein PR, Ward EA, Chaudron LH, et al: Effectiveness of interpersonal psychotherapy-trauma for depressed women with childhood abuse histories. *J Consult Clin Psychol* 2018; 86: 868–878
16. Sockol LE: A systematic review and meta-analysis of interpersonal psychotherapy for perinatal women. *J Affect Disord* 2018; 232: 316–328
17. Hanlon C: Maternal depression in low- and middle-income countries. *Int Health* 2013; 5:4–5
18. Gajaria A, Ravindran AV: Interventions for perinatal depression in low and middle-income countries: a systematic review. *Asian J Psychiatr* 2018; 37:112–120
19. Gelaye B, Rondon MB, Araya R, et al: Epidemiology of maternal depression, risk factors, and child outcomes in low-income and middle-income countries. *Lancet Psychiatry* 2016; 3:973–982
20. Ghaedrahmati M, Kazemi A, Kheirabadi G, et al: Postpartum depression risk factors: a narrative review. *J Educ Health Promot* 2017; 6:60
21. Martini J, Petzoldt J, Einsle F, et al: Risk factors and course patterns of anxiety and depressive disorders during pregnancy and after delivery: a prospective-longitudinal study. *J Affect Disord* 2015; 175: 385–395

22. Shidhaye P, Giri P: Maternal depression: a hidden burden in developing countries. *Ann Med Health Sci Res* 2014; 4:463–465
23. van Ginneken N, Tharyan P, Lewin S, et al: Non-specialist health worker interventions for the care of mental, neurological and substance-abuse disorders in low- and middle-income countries. *Cochrane Database Syst Rev* 2013; 19:CD009149
24. Markowitz JC, Weissman MM: Interpersonal psychotherapy: principles and applications. *World Psychiatry* 2004; 3:136–139
25. Kohrt BA, Mutamba BB, Luitel NP, et al: How competent are non-specialists trained to integrate mental health services in primary care? Global health perspectives from Uganda, Liberia, and Nepal. *Int Rev Psychiatry* 2018; 30:182–198
26. Nestadt DF, Saisaengjan C, McKay MM, et al: CHAMP+ Thailand: pilot randomized control trial of a family-based psychosocial intervention for perinatally HIV-infected early adolescents. *AIDS Patient Care STDS* 2019; 33:227–236
27. Kenya AIDS Response Progress Report. Nairobi, Kenya, National AIDS Control Council, 2018. https://nacc.or.ke/wp-content/uploads/2018/11/KARPR-Report_2018.pdf
28. MacCarthy S, Wagner Z, Mendoza-Graf A, et al: A randomized controlled trial study of the acceptability, feasibility, and preliminary impact of SITA (SMS as an incentive to adhere): a mobile technology-based intervention informed by behavioral economics to improve ART adherence among youth in Uganda. *BMC Infect Dis* 2020; 20:173
29. Bermudez LG, Ssewamala FM, Neilands TB, et al: Does economic strengthening improve viral suppression among adolescents living with HIV? Results from a cluster randomized trial in Uganda. *AIDS Behav* 2018; 22:3763–3772
30. Evans-Gilbert T, Kasimbie K, Reid G, et al: Psychosocial outcomes in a cohort of perinatally HIV-infected adolescents in Western Jamaica. *Paediatr Int Child Health* 2018; 38:175–180
31. Hoelt TJ, Fortney JC, Patel V, et al: Task-sharing approaches to improve mental health care in rural and other low-resource settings: a systematic review. *J Rural Health* 2018; 34:48–62
32. Theobald S, Brandes N, Gyapong M, et al: Implementation research: new imperatives and opportunities in global health. *Lancet* 2018; 392:2214–2228
33. Meffert SM, Neylan TC, McCulloch CE, et al: Interpersonal psychotherapy delivered by non-specialists for depression and post-traumatic stress disorder among Kenyan HIV-positive women affected by gender-based violence: randomized controlled trial. *Plos Med* 2021; 18:e1003468
34. Johnson JE, Stout RL, Miller TR, et al: Randomized cost-effectiveness trial of group interpersonal psychotherapy (IPT) for prisoners with major depression. *J Consult Clin Psychol* 2019; 87:392–406
35. Cox JL, Holden JM, Sagovsky R: Detection of postnatal depression. Development of the 10-item Edinburgh Postnatal Depression Scale. *Br J Psychiatry* 1987; 150:782–786
36. Group Interpersonal Therapy (IPT) for Depression. WHO-MSD-MER-16.4. Geneva, World Health Organization, 2016
37. Mannheimer SB, Mukherjee R, Hirschhorn LR, et al: The CASE adherence index: a novel method for measuring adherence to antiretroviral therapy. *AIDS Care* 2006; 18:853–861
38. Opiyo E, Onger L, Rota G, et al: Collaborative interpersonal psychotherapy for HIV-positive women in Kenya: a case study from the Mental Health, HIV and Domestic Violence (MIND) Study. *J Clin Psychol* 2016; 72:779–783
39. Schramm E, Mack S, Thiel N, et al: Interpersonal psychotherapy vs treatment as usual for major depression related to work stress: a pilot randomized controlled study. *Front Psychiatry* 2020; 11:193
40. Toth SL, Rogosch FA, Oshri A, et al: The efficacy of interpersonal psychotherapy for depression among economically disadvantaged mothers. *Dev Psychopathol* 2013; 25:1065–1078. doi: S0954579413000370
41. Whiteford HA, Harris MG, McKeon G, et al: Estimating remission from untreated major depression: a systematic review and meta-analysis. *Psychol Med* 2013; 43:1569–1585. doi: S0033291712001717
42. Rush AJ, Trivedi MH, Wisniewski SR, et al: Acute and longer-term outcomes in depressed outpatients requiring one or several treatment steps: a STAR*D report. *Am J Psychiatry* 2006; 163:1905–1917
43. Cuijpers P: The challenges of improving treatments for depression. *JAMA* 2018; 320:2529–2530
44. Padmanathan P, De Silva MJ: The acceptability and feasibility of task-sharing for mental healthcare in low and middle income countries: a systematic review. *Soc Sci Med* 2013; 97:82–86
45. Barnett ML, Gonzalez A, Miranda J, et al: Mobilizing community health workers to address mental health disparities for underserved populations: a systematic review. *Adm Policy Ment Heal* 2018; 45: 195–211. doi: 10.1007/s10488-017-0815-0
46. Mufson L, Gallagher T, Dorta KP, et al: A group adaptation of interpersonal psychotherapy for depressed adolescents. *Am J Psychother* 2004; 58:220–237
47. Levkovitz Y, Shahar G, Nativ G, et al: Group interpersonal psychotherapy for patients with major depression disorder—pilot study. *J Affect Disord* 2000; 60:191–195
48. Cuijpers P, Donker T, Weissman MM, et al: Interpersonal psychotherapy for mental health problems: a comprehensive meta-analysis. *Am J Psychiatry* 2016; 173:680–687
49. O'Hara MW, Stuart S, Gorman LL, et al: Efficacy of interpersonal psychotherapy for postpartum depression. *Arch Gen Psychiatry* 2000; 57:1039–1045
50. Omonaiye O, Nicholson P, Kusljic S, et al: A meta-analysis of effectiveness of interventions to improve adherence in pregnant women receiving antiretroviral therapy in sub-Saharan Africa. *Int J Infect Dis* 2018; 74:71–82
51. Pricilla RA, Brown M, Wexler C, et al: Progress toward eliminating mother to child transmission of HIV in Kenya: review of treatment guidelines uptake and pediatric transmission between 2013 and 2016—a follow up. *Matern Child Health J* 2018; 22:1685–1692
52. Patel V, Weiss HA, Chowdhary N, et al: Effectiveness of an intervention led by lay health counsellors for depressive and anxiety disorders in primary care in Goa, India (MANAS): a cluster randomised controlled trial. *Lancet* 2010; 376:2086–2095
53. Petersen I, Lund C, Stein DJ: Optimizing mental health services in low-income and middle-income countries. *Curr Opin Psychiatry* 2011; 24:318–323
54. Onu C, Onger L, Bukusi E, et al: Interpersonal psychotherapy for depression and posttraumatic stress disorder among HIV-positive women in Kisumu, Kenya: study protocol for a randomized controlled trial. *Trials* 2016; 17:64