

Community-based Delivery of Antiretroviral Treatment for Female Sex Workers in Tanzania: High levels of initiation, use, and adherence

Globally, female sex workers (FSWs) living with HIV have sub-optimal usage of antiretroviral treatment (ART) ranging from 38 to 52 percent.¹⁻³ Research in Tanzania has documented the challenges FSWs face in accessing HIV care and treatment services, including out-of-pocket costs associated with care, reaching distant clinics, lack of awareness and misperceptions of treatment, and dual stigma associated with sex work and HIV.⁴

To address these challenges, Project SOAR in collaboration with the National AIDS Control Program of the government of Tanzania, National Institute of Medical Research, and Jhpiego's Sauti Program, is conducting implementation science research to investigate the delivery of community-based ART services to FSWs in Tanzania. Studies from sub-Saharan Africa have shown improved HIV treatment outcomes, such as uptake of HIV services, retention in care, and increased dignity and quality of life, by using community-based delivery of HIV services.⁵⁻⁸ This brief summarizes the comparison of 6-month treatment-related outcomes in the intervention arm and the standard ART delivery arm.

METHODS

The overall study uses a quasi-experimental design. The intervention arm comprises four districts where Sauti operates in the Njombe region and the comparison arm comprises three districts where Sauti operates in the Mbeya region. The community-based ART service delivery model was built upon an existing community-based HIV testing and counseling (CBHTC)

KEY MESSAGES

- Community-based ART distribution can lead to higher ART initiation rates with continued ART use and better adherence after six months.
- Internalized HIV-related stigma was independently associated with lower likelihood of ART initiation.
- Community-based ART distribution can improve linkage and adherence to ART over standard facility-based ART programs for FSWs.

service called CBHTC Plus (CBHTC+). CBHTC+ also provides other services to key populations: sexually transmitted infection (STI) screening and periodic presumptive treatment, escorted referrals of HIV-positive clients to HIV treatment facilities, condom promotion and provision, family planning counselling and methods, referrals for cases of gender-based violence, TB screening, and alcohol and drug screening. Survey data are collected at baseline, 6 months, and 12 months. Measurements of viral load are conducted at 6 months and 12 months.

From July to September 2017, the research team recruited and enrolled 617 FSWs (309 in Njombe, 308 in Mbeya) into the study. Eligible FSWs were



HIV positive not currently on ART (or previously on ART but not for the last 3 months), aged 18 and older, having sold sex for money or goods at least once in the past 6 months, and planning to reside in their respective region for the next 12 months. The recruitment was mainly carried out through Sauti mobile and home-based testing events.

We collected data from the FSWs in both groups at baseline and re-interviewed the cohort after they had been enrolled for 6 months (intervention N=256; comparison N=253). The questionnaire elicited information on demographics, HIV-related risk behaviors, HIV testing history, health status, sexual abuse, self- and external stigma, and enrollment into ART (for those who knew their HIV status for at least a month prior to the survey). The follow-up surveys included the same behavioral questions with additional questions regarding ART uptake, adherence, and experience with HIV treatment services.

Community-based ART delivery model: How does it work?

FSWs in the intervention arm (Njombe districts) were screened to ensure they were in a clinically stable condition to receive community ART (excluding World Health Organization Clinical Stages 3 and 4), and one-month supply of antiretroviral (ARV) drugs. At the first refill, each FSW would then receive two months' supply of drugs. Subsequently, from the second refill on, FSWs would receive three months' supply of ARVs. FSWs would arrange with the mobile team to pick up ART refills at either CBHTC+ mobile tent or have the refills delivered to their home or to another convenient place. FSWs in the comparison arm (Mbeya Region) were referred to government-designated ART facilities for standard ART services per national guidelines and returned to their ART facility periodically for refills.

WHO ARE THE STUDY PARTICIPANTS AT BASELINE?



617 FSWs (309 Njombe, 308 Mbeya)



Median age: 29 (Njombe), **32** (Mbeya) ($p \leq 0.001$)



Half have never married, one-third were divorced, widowed, or separated



83% have at least **1 living child**



Traveled out of the region to sell sex in past 6 months: **36%** (Njombe), **10%** (Mbeya) ($p \leq 0.001$)



Time since HIV diagnosis ($p \leq 0.001$):
Newly diagnosed at enrollment:
18% (Njombe), **45%** (Mbeya)
Diagnosed within 1 month+:
82% (Njombe), **55%** (Mbeya)

WHAT WAS THE LOSS TO FOLLOW-UP AT 6 MONTHS?

The loss to follow-up rate (LTFU) from baseline to 6-month follow-up was similar in both groups—17 percent in Njombe (intervention) and 18 percent in Mbeya (comparison).

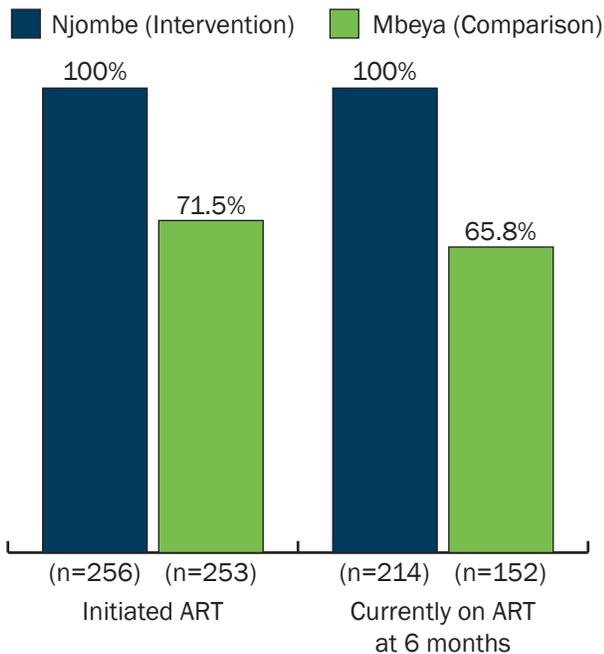
There were no significant profile differences between the FSWs who were LTFU and those who remained at six months in Njombe (intervention arm). However, in Mbeya (comparison arm), those who were LTFU were slightly younger and less likely to have travelled outside of the region for sex work in the past six months.

RESULTS

FSWs in Njombe were more likely to initiate and be on ART after six months than FSWs in Mbeya.

All (100 percent) FSWs in Njombe (community-based intervention arm) initiated ART within six months compared to only 71.5 percent in Mbeya (comparison arm; $p=0.04$). There was also a statistically significant difference between the two groups with regard to currently taking ART at the 6-month visit (100 percent versus 66 percent; $p=0.002$; Figure 1). The results of the multivariate regression model showed that receiving community-based ART was significantly associated with ART initiation.

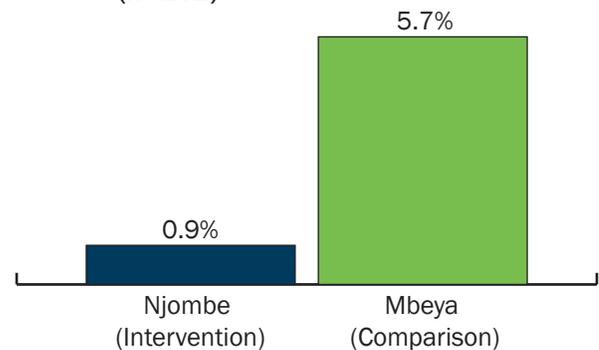
Figure 1 ART initiation and current ART usage at 6 months after enrollment among FSWs in Njombe and Mbeya



Adherence was better among FSWs in Njombe compared to Mbeya.

Participants were asked how often they stopped taking ARVs for more than 30 days continuously. A smaller proportion in Njombe (intervention arm) indicated doing so compared to FSWs in Mbeya (comparison arm; $p<0.01$; Figure 2).

Figure 2 ARV discontinuation for 30 continuous days in Njombe (n=214) and Mbeya (n=152)^a



^aAmong those who reported being currently on ART at the 6-month study visit.

FSWs reporting high levels of internalized stigma were less likely to initiate ART.

We assessed internalized HIV-related stigma using a validated 6-item scale with items such as “I sometimes feel worthless because I am HIV positive” and “I am ashamed of myself that I am HIV positive”.⁹ Those in the comparison arm had higher levels of internalized stigma compared to those in the intervention arm at six months. Moreover, in the adjusted regression analysis, higher internalized stigma was significantly associated with not initiating ART. In other words, those who felt more shame and negative feelings with regard to their HIV diagnosis were significantly less likely to initiate ART.

CONCLUSIONS

This is the first study to report on treatment outcomes among FSWs in Tanzania participating in a community-based, ART distribution model. Findings from this study demonstrate that ART provision through community-based distribution mechanisms can lead to higher ART initiation, continuation, and adherence rates after six months, compared to standard facility-based ART provision.

The higher levels of ART initiation and current ART usage in the intervention arm are likely due to:

1. The innovative CBHTC+ service model: This model by design was actively involved in the recruitment, testing/retesting (if necessary), enrollment, and ART initiation of the cohort participants by peer educators who are familiar with the women.
2. Clients in the intervention arm receiving immediate adherence counseling and a one-month ARV supply: In contrast, clients in the comparison arm received passive referral to treatment at government-designated ART centers, although they were offered to be escorted by Sauti peer educators. Despite this offer, it is unlikely they received immediate counseling and an ARV supply.
3. The ongoing contact between clients in the intervention arm and peer educators who schedule appointments for ARV refills and hold monthly meetings to support adherence: These peer educators are the same ones the clients had from the time they were diagnosed at baseline to treatment initiation and continuation.
4. More FSW-friendly services in the intervention arm: Providers and peer educators have been trained to provide sensitive, private, and confidential services to key and vulnerable populations.

Lastly, ART programs for FSWs should examine how they are addressing internalized HIV-related stigma to ensure that clients have a healthy and positive outlook about living with HIV.

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