



# Project Shikamana: Baseline findings from a community empowerment-based combination HIV prevention trial among female sex workers in Iringa, Tanzania

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# Background

- Female sex workers (FSW) have 13.5 greater odds of having HIV than women overall
  - Structural factors characterize heightened risk for HIV infection
- Sub-Saharan Africa has the highest regional HIV prevalence (29.3%) among FSW
  - 98,000 FSW die of HIV each year
- Inequitable ART access among FSW
  - 38% of FSW have access to ART & among those 57% suppressed



# Background

- Study setting
  - Iringa, Tanzania: 500 km southwest of Dar es Salaam
  - 2nd highest regional HIV prevalence at 9%; 32.9% in FSW
- Formative research
  - Minimal services tailored to the needs and priorities of FSW
  - Stigma, discrimination, violence; desire for financial security
  - Organic mobilization examples: community savings groups



Region is located along the TanZam highway: mobility migration and trade create demand for female sex work

# Specific Aims

- **Aim 1**-To establish a preliminary effect size estimate to test the hypotheses that community empowerment-based combination prevention will reduce **HIV incidence** and increase **viral suppression**
- **Aim 2**-To examine how socio-structural (stigma, social cohesion) and behavioral (condom use, service engagement) factors mediate primary study outcomes (HIV incidence and viral suppression)
- **Aim 3**-To assess the feasibility, acceptability, and safety of a community empowerment model of combination HIV prevention



# Design & Methods

- Community randomized controlled Phase II trial
  - Sample of 496 FSW with 203 HIV+/293 HIV- women, distributed across two matched study communities
  - FSW recruited using time location sampling (venues)
- All participants surveyed at 0 and 12 months, with subsequent HIV testing and viral load assessments
  - Multivariate logistic regression models for primary outcomes, HIV status and viral suppression, at baseline study visit
  - Comprehensive, mixed methods process evaluation



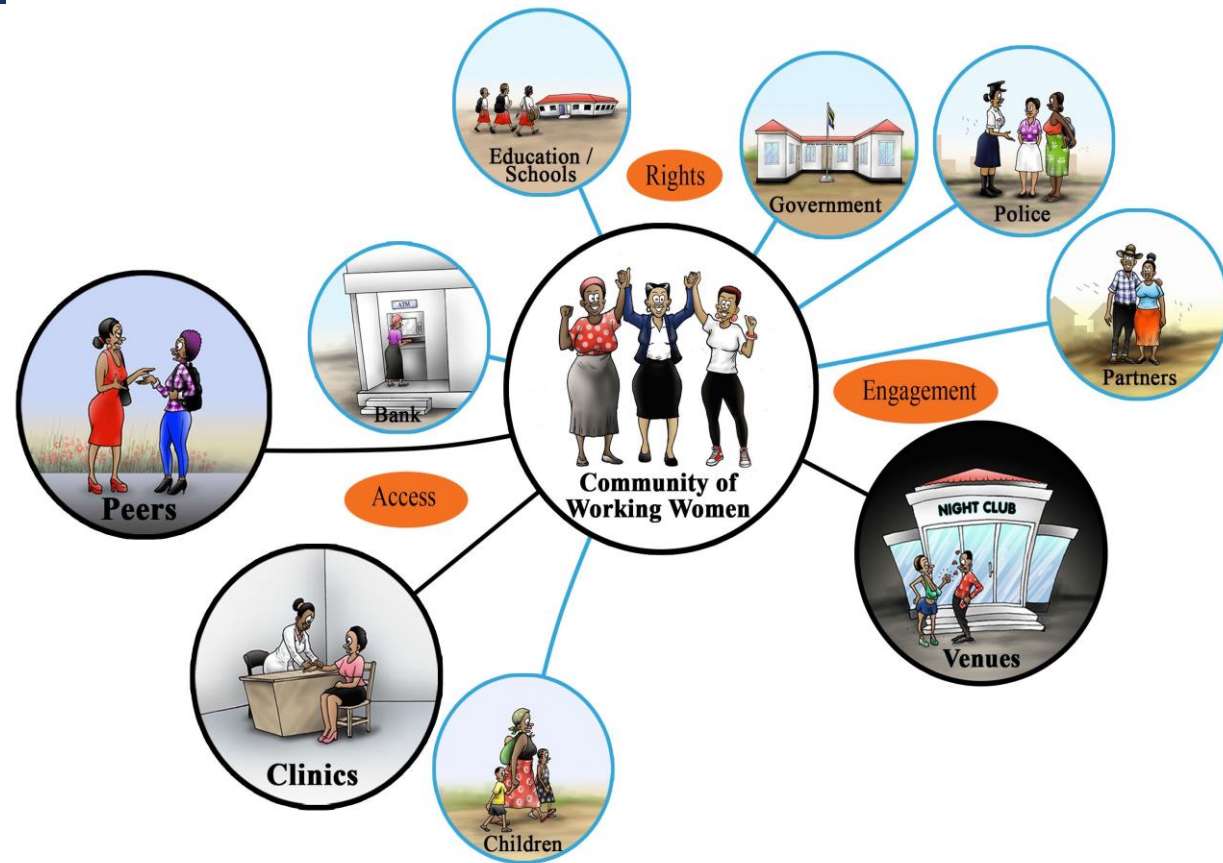
# Conceptual Framework

## Community empowerment response to HIV:

### Community takes

collective ownership of programs to address structural constraints

- Associated with 32% reduction in the odds of HIV infection



FSW at the center of the HIV response, creating strategic partnerships to increase access to resources

# Intervention Components

**Drop-in-center to facilitate community mobilization**



**Sensitivity training for HIV service providers**



**Peer service navigation**



**Venue based peer education, condoms, HIV testing**



**SMS reminders for relevant components**

# Baseline Sample Characteristics

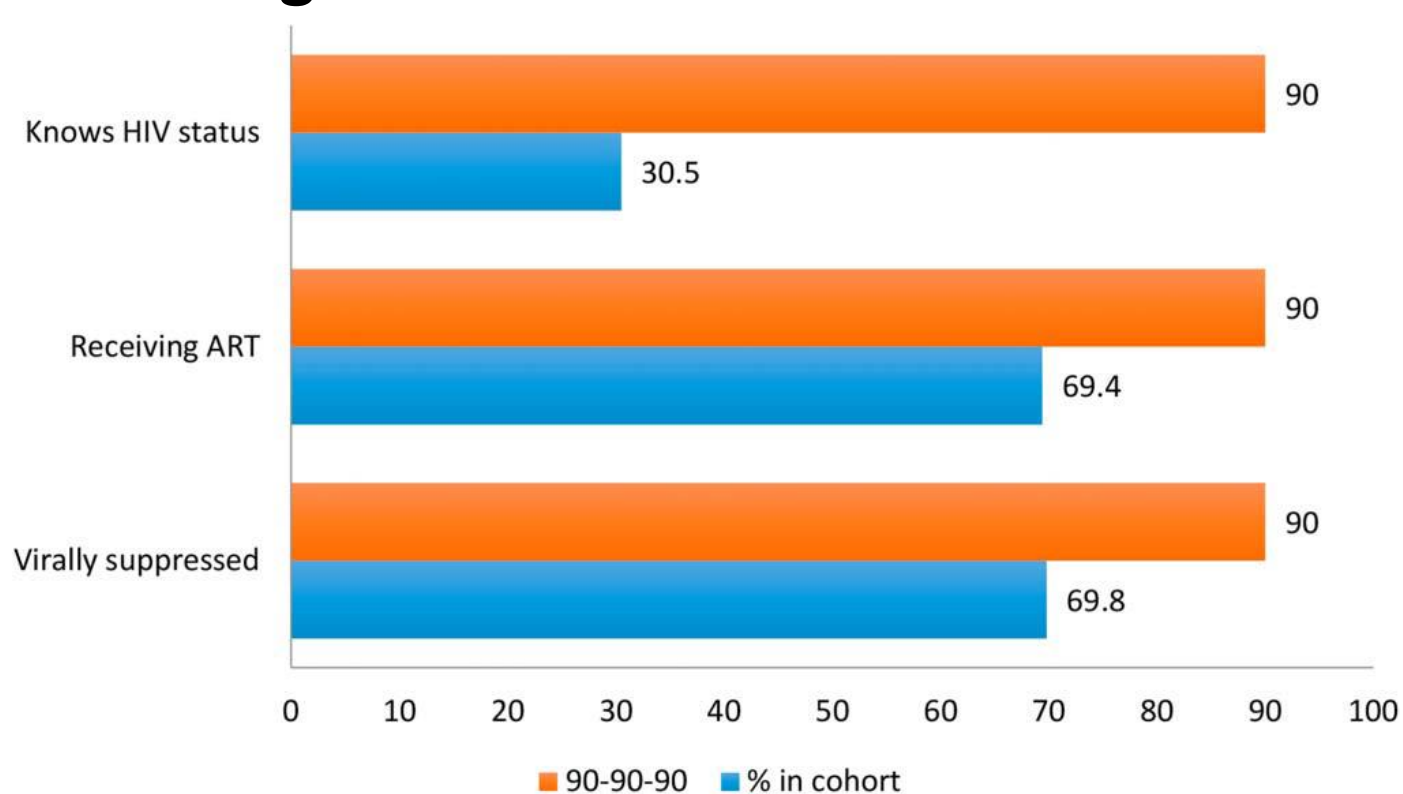
- Mean age is 26.9 years
- Majority are mothers: mean number of 2.0 children
- More than half are married or have a steady partner (56.4%)
- Minority have completed secondary school education (29.2%)
- More than 2/3 use substances (alcohol) during sex work (71.2%)
- Mean number of clients per week: 4.0
- Less than half report using condoms consistently in last month:
  - New clients (40.4%)
  - Regular clients (34.3%)
  - Non-paying steady partners (21.1%)
- Half have ever experienced gender-based violence (50.8%)
- **HIV prevalence: 40.9%**





# Reaching the 90-90-90 Target

## Progress towards “90-90-90” target among Shikamana cohort at baseline



Among HIV+,  
30.5% (62/203)  
were previously  
aware of status;

Among those  
aware 69.4% were  
on ART (43/62);

For those on ART,  
69.8% (30/43)  
were suppressed  
(<400 copies/mL).

# Multivariate Model for HIV Status

Variables in the model (n=491)	adjOR	95%CI	P-value
Community: Mafinga	1.688	1.046, 2.723	0.032
Age (years)	1.080	1.038, 1.124	<0.001
Migration (time in community) > 0.5 years	1.616	1.042, 2.504	0.032
Married/ Live w sexual/partner/ Past married	1.528	0.992, 2.354	0.054
Income per sex-work encounter > 15,000 Tsh	0.564	0.332, 0.958	0.034
Number of clients per week $\geq 4$	1.547	0.944, 2.535	0.083
Use Alcohol/Drugs during sex work	1.620	1.038, 2.527	0.034
Having tested for STI in last 6 months	0.610	0.422, 0.882	0.009



# Multivariate Model for Viral Suppression

Variables in the model (n=62)	adjOR	95%CI	P-value
Community: Mafinga	4.272	0.992, 18.390	0.051
Age >30 years	7.095	1.401, 35.922	0.018
Duration of work in venue $\leq$ 0.5 year	0.209	0.067, 0.649	0.007
Average # Clients per week $\geq$ 4	0.097	0.016, 0.581	0.011
Use Alcohol/Drugs during sex work	0.315	0.093, 1.060	0.062
Social cohesion score > median	5.326	0.851, 33.352	0.074



# Discussion

- Significant burden of HIV in FSW with major gaps in achieving optimal service outcomes along the HIV care continuum
- Need for greater access to HIV testing and linkage services
  - Mobile, venue-based strategy; drop-in-center
  - Sustained approach to peer service navigation
- How to address alcohol use as a barrier to both HIV prevention and treatment outcomes among FSW
- Salience of socio-structural factors shaping HIV outcomes: importance of promoting communication at multiple levels



# Future Directions

- Fully and equitably operationalize TasP for FSW
  - Continued engagement and training of government clinical care providers and policy makers regarding needs and rights of FSW
- Community-driven approach to PrEP engagement
  - Develop strategy to integrate PrEP into community-driven platform where PrEP is part of a comprehensive menu of prevention options



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