WORKING PAPER

Prevention Needs and Priorities among Vulnerable Female Populations Living with HIV:
The Case of Temeke Municipality, Tanzania

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Prevention Needs and Priorities among Vulnerable Female Populations Living with HIV:
The Case of Temeke Municipality, Tanzania

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ABBREVIATIONS

ART	antiretroviral treatment
ARV	antiretroviral drugs
CSO	civil society organization
CTC	care and treatment center
FP	family planning
FBO	faith-based organization
FGD	focus group discussion
FSW	female sex worker
IUD	intrauterine device
KONGA	Kongamano la Watu Wanaoishi na Virusi Vya UKIMWI
MOHCDGEC	Ministry of Health, Community Development, Gender, Elderly, and Children
NGO	Non-governmental organization
NIMR	National Institute for Medical Research
NMSF	National Multisector HIV Strategic Framework
PASADA	Pastoral Services and Activities for People with AIDS Archdiocese of Dar es Salaam
PLHIV	people living with HIV
PMTCT	prevention of mother to child transmission
OI	opportunistic infection
TACAIDS	Tanzania Commission for AIDS
UNAIDS	Joint United Nations Programme on HIV/AIDS
USAID	United State Agency for International Development
WHO	World Health Organization

EXECUTIVE SUMMARY

Background: More than three decades have passed since the first AIDS cases were reported in Tanzania. The HIV prevalence rate in urban areas is almost twice that in rural areas. It is also higher among women (5.8%) than men (3.6%)—a variation exacerbated by social and economic factors. Historically, HIV prevention efforts have focused on reducing risk among those who have tested negative for the virus and those with unknown serostatus. However, these efforts overlook the specific role that people living with HIV (PLHIV) can play in prevention. These HIV-positive populations should be engaged in prevention efforts to help them live healthy lives and to minimize the risk of spreading HIV to others. Our study's purpose was to establish the prevention needs and priorities for vulnerable female populations living with HIV, e.g., pregnant women, adolescent girls, female sex workers (FSWs), and female elders.

Methods: Using a mixed-methods approach relying on qualitative and quantitative research methods, survey data were collected from 246 females living with HIV who were attending four care and treatment centers (CTCs) across Temeke municipality in the Dar es Salaam region. Focus group discussions (FGDs) were conducted with 50 selected respondents and eight policy-related questionnaires were completed by program administrators.

Results: Three-fourth of the respondents have disclosed their HIV test results to only one person since they were tested 3–5 years ago. The majority of participants (62%) had not used any family planning (FP) method two months prior to the study. More than three-quarters of the participants said they are not receiving HIV-related services at a non-governmental organization (NGO) or civil society organization (CSO) apart from the CTC they are attending; Moreover, consistent condom use was reported in only half (49%) of the respondents. A quarter (25%) said they use a condom sometimes or infrequently**.**

The four categories of study participants identified the same top five prevention needs: cotrimoxazole prophylaxis, antiretroviral treatment (ART), psychological counselling and services, prevention of mother-to-child transmission (PMTCT), and income-generating activities. Participants reported stigma among family members and the community as the top barrier towards the attainment of socioeconomic prevention needs as they are not ready to disclose their serostatus. Paying for medicine to prevent and treat opportunistic infection (OI) is a significant challenge for most of the participants due to meager incomes. Participants also lack other social support to help them.

Recommendations: Efforts should be made to increase HIV awareness education to encourage spouses or partners to accompany their pregnant partners to the antenatal clinic and to ensure that couples are not afraid to learn their HIV test results. Education on HIV and AIDS prevention and awareness should be continuous. The CTCs should emphasize adherence and disclosure counselling by offering education every time someone comes to the clinic for antiretroviral drugs (ARVs). Nutrition education and counselling on how to adhere to ART should be provided to empower PLHIV. Addressing stigma and introducing income-generating activities within the CTC premises should be encouraged to help raise the social and economic status of women and girls living with HIV.

Conclusion: Findings from this study overwhelmingly show that vulnerable females living with HIV have specific prevention needs and priorities that can be categorized as biomedical, structural, and behavioral. The Tanzania government has implemented various HIV prevention measures. Hence, determining the prevention needs and priorities of at-risk populations and establishing the social, economic, and individual factors that impact their effectiveness are essential steps if stakeholders want to attain the goal of healthy living for PLHIV and reducing HIV and AIDS across Tanzania.

INTRODUCTION

Background

The magnitude and momentum of HIV infection in Africa, particularly in sub-Saharan Africa, has far exceeded the worst projections. Its impact on communities, families, and individuals has been devastating. The Tanzanian government, through the Tanzania Commission for AIDS (TACAIDS), has done a tremendous job responding to this crisis.

It has been more than three decades since the first AIDS cases were reported in Tanzania in Kagera region. Since then, the government has deployed various measures to prevent and address the disease (Government of Tanzania, 2012). The vision of the National Multisector HIV Strategic Framework (NMSF) is for "an HIV-free society where new infections are halted and people living with HIV and those affected by HIV and AIDS receive quality services" (Government of Tanzania, 2013a). The framework recommends increasing adoption of safer sex behaviors; strengthening the enabling environment that mitigates the underlying factors driving the HIV epidemic; increasing coverage, quality and utilization of HIV services; increasing public understanding of HIV; reducing risky behaviors among key populations with increased HIV transmission; and strengthening coordination among HIV prevention programs (Government of Tanzania, 2013a).

The Tanzania HIV Indicator Survey (THIS) showed a decline in HIV prevalence among adults ages 15–49 from 7 percent in 2003/2004 to 5.1 percent in 2011/2012 (Government of Tanzania, 2012). More recently, the World Bank reported the HIV prevalence among people 15–49 years old in Tanzania was 4.7 percent (World Bank, 2015).

Despite a decrease in the national HIV prevalence rate, HIV prevalence varies greatly across the country. Some regions, such as Zanzibar, have very low prevalence (0.2%) while the rate in other regions, such as Njombe, is much higher (15.4%) (United States Agency for International Development [USAID], 2017). The HIV prevalence in urban areas is almost twice that in rural areas. This difference has been associated with economic, social, and cultural factors and varies based on individual prevention needs and priorities (Joint United Nations Programme on HIV/AIDS [UNAIDS], 2010).

The HIV prevalence rate also varies across diverse population groups. The prevalence of HIV is higher among women (5.8%) compared to men (3.6%) (UNAIDS, 2014). The HIV prevalence among women ranges from 1 percent among females ages 15–19 to 10 percent for those ages 45–49 (Government of Tanzania, 2014). The 2010 Behavior Surveillance Survey shows FSWs in Dar es Salaam are the most vulnerable individuals, with an HIV prevalence rate of 31.4 percent (Government of Tanzania, 2013). Moreover, the Tanzania HIV/AIDS and Malaria Indicator Survey of 2011–12 shows high HIV prevalence among widows (25%) and divorcees (13%) (Government of Tanzania, 2012).

Programs providing care and treatment for PLHIV face a range of challenges (Government of Tanzania, 2014), such as the following:

- Unequal access to HIV care and treatment services
- Losses associated with poor follow-up and adherence
- Late enrollment into care and treatment services
- HIV drug resistance and treatment failure

- Limited information on the impact of HIV and PMTCT
- Weak documentation and underutilization of data at the health facility level
- Inadequate ART for adults and children

Moreover, vulnerable female populations living with HIV (such as pregnant women, adolescent girls, FSWs, and female elders) have specific needs and priorities for coming to terms with their infection. Females living with HIV need the following services and assistance:

- Psychological counselling and support
- HIV testing and counselling, and assistance with disclosure issues with partners and others
- TB screening and prevention therapy
- Fungal infection prevention
- STI/reproductive tract infection screening, diagnosis, and management
- Prevention of malaria and other vaccine-preventable diseases, such as hepatitis B, pneumococcal, influenza, and yellow fever
- Nutritional assessment support and micronutrient supplements
- Reproductive health services such as FP counselling and provision of condoms and other contraceptives
- Water sanitation and hygiene
- Income-generating activities

The specific needs of females living with HIV go beyond the general HIV prevention measures the government is addressing. Thus, our study sought to assess the specific prevention needs and priorities of the vulnerable female populations living with HIV. The study explored the level of awareness these women have of their prevention needs and priorities. It also investigated the challenges these populations face in accessing HIV prevention services in Temeke Municipality, Dar es Salaam region.

Study Justification

Historically, HIV prevention efforts have tended to focus on reducing HIV risk among people who have tested negative or those with unknown serostatus, while overlooking the specific role that people who have tested positive for HIV can play in prevention (USAID, 2012). This has created a demand to engage PLHIV in prevention efforts to help them live healthy lives and minimize the risk of spreading HIV to others (USAID, 2012). Prevention efforts need to target specific population groups and be tailored to their needs (USAID, 2012). Such efforts include HIV counselling and testing for couples to reduce risk behaviors; ART for preventing HIV transmission; condom use and the use of lubricants; abstinence; effective diagnosis and treatment of STIs; creating awareness of prevention of unintended pregnancies; and PMTCT (USAID 2012).

The Tanzanian government has implemented HIV prevention measures. However, determining prevention needs and priorities and establishing the social, economic, and individual factors that affect their effectiveness are essential steps to attain the goal of good health for PLHIV.

Research Objectives

The purpose of this study was to establish what the prevention needs and priorities are among vulnerable female populations living with HIV, such as pregnant women, adolescent girls, FSWs, and female elders in Temeke municipality. The following research questions guided our study:

1) What are the socioeconomic prevention needs and priorities of PLHIV?
2) What are the individual prevention needs and priorities of PLHIV?
3) What are the challenges facing vulnerable female populations living with HIV in accessing HIV prevention needs and priorities?

This study tested the following hypotheses:

1) There is no relationship between socioeconomic factors and prevention needs and priorities among vulnerable female populations living with HIV.
2) There is no relationship between individual factors and prevention needs and priorities among vulnerable female populations living with HIV.

METHODS

Study Design

Our study adopted an exploratory research design using a combination of qualitative and quantitative data research methods. The research team used secondary data to shape the approach and inform the research questions, including assisting in the development of the research tools. The duration of the study was January 2017–December 2017.

Study Setting

The study was conducted in Temeke Municipal in the Dar es Salaam region of Tanzania. Temeke occupies about half of the total land of Dar es Salaam. The district has a total population of 1,368,881 (Dar es Salaam Regional Social Economic Profile 2010). The same report states there were 37,049 PLHIV in Temeke District and 14,649 on ART in 2010. The rate of new AIDS cases among adults ages 15–49 in Temeke is 6.8 percent, which is higher than the region's other districts (Kinondoni and Ilala). Temeke has several health centers (public, private, NGO, and CSO) serving PLHIV. Within Temeke, we collected data from Azimio, Chang'ombe, Keko, Mbagala, and Temeke wards.

Data Collection

All work was done in two major phases. Phase One involved preparatory work and development of research tools. We conducted a review of literature on HIV prevention from international organizations, such as USAID, the World Health Organization (WHO), and FHI 360. We also reviewed country reports from TACAIDS and MOHCDGEC, and local, regional, and municipal/district HIV/AIDS reports.

To answer our research questions, we developed a general questionnaire, a policy-maker's questionnaire, and a focus group discussion guide. The original research tools were developed in English and translated to Swahili to facilitate communication with research participants, following National Institute for Medical Research (NIMR) requirements. After the research tools were developed, an Excel spreadsheet was created for data entry and cleaning.

Sampling Procedures

Prior to fieldwork, the research tools were tested to substantiate their usefulness and relevance in the field with the aim of ensuring quality control, cost efficiency, and effectiveness. We established the reliability of instruments based on preliminary results from the pilot study. After discussions with the research technical team, the study instruments were modified, as needed, for the pilot run.

Research assistants were orientated on the study objectives and research tools. After research assistants pre-tested the tools, we reviewed the tools again and revised them as needed.

We randomly selected CTCs (in one hospital, one health center, and two dispensaries) from the five study wards. Before starting interviews, researchers visited the selected CTCs and presented research permits obtained from NIMR, the Temeke municipal director, and the Temeke municipal medical officer. The CTC supervisors directed the interviewers to the most available attendees to interview. Two hundred fifty participants were randomly selected among vulnerable female populations living with HIV—specifically, pregnant women who presented for PMTCT services during the study time, adolescent girls (ages 12–18), FSWs, and female elders (women over age 50). To avoid category overlap, we used clear inclusion criteria for selecting study participants.

The participants are CTC clients at three government-level CTCs, located at Temeke public hospital in Temeke ward, a roundtable health center in Mbagala ward, and Tambukareli dispensary in Azimio ward. We also sampled a CTC at a faith-based organization (FBO) dispensary affiliated with Pastoral Activities and Services for People with AIDS Dar es Salaam Archdiocese (PASADA) in Chang'ombe ward. Study participants were interviewed as they were visiting the CTCs for their ARV refills and other services. Data were also collected from women receiving care and treatment services from NGOs in a community-based organization commonly known as a Kongamano la Watu wanaoishi na Virusi Vya UKIMWI (KONGA) and Wanawake Wanaoishi na Virusi vya Ukimwi Temeke Tanzania (WAWAVITETA) in Temeke municipality. Established by the National Council of People Living with HIV/AIDS in Tanzania (NACOPHA), a KONGA is a cluster of PLHIV in each municipality/district council in Tanzania.

General Questionnaires

Among the 250 adolescent girls and women who agreed to participate in the study, 246 completed a study questionnaire. The questionnaires were primarily self-administered; research assistants administered the questionnaires for study participants who are illiterate.

All NGOs and FBOs providing continuous care and treatment services for PLHIV in the study municipality were listed and then randomly sampled. To obtain complete data for the study, women who failed to show up at CTC for the past two months were also interviewed to get their viewpoints. Thirty questionnaires were completed from the chosen NGOs and FBO (15 from participants with good attendance and 15 from women who did not show up at the CTC for the past two months). Among those who stopped attending the CTC, respondents were purposively chosen with the help of a CTC representative from the respective NGO, CSO, or FBO.

The sample size of 246 adolescent girls and women was enough to determine that at least 30 percent of PLHIV have a particular need, with a 5 percent significance level and 95 percent confidence. Epicalc was used to calculate the sample size for a single proportion.

Focus Group Discussions

The FGDs were conducted at the three participating government facilities and at participating NGO, CSO, and FBO sites. Seven FGDs were conducted with a total of 50 participants. Each FGD comprised 7–8 female participants, with women elders and pregnant women in a group together and FSWs and adolescents in their own groups. Using the FGD guide, researchers ensured that each topic area was covered within the discussions.

The FGDs assessed participants' knowledge and skills on self-prevention and on how to prevent HIV transmission to others. For example, participants were asked what preventive needs or methods they know, and how prevention measures used in their communities. Researchers explored how participants identify their economic, social, and individual prevention needs and priorities; why participants prioritize certain things; what challenges they face in accessing HIV prevention needs and priorities; and how they think those challenges can be resolved.

The study results include the views of all four groups of vulnerable females.

Policy Questionnaire

A questionnaire covering policy issues was completed by eight CTC heads. The questions relate to the composition of HIV prevention priorities at the CTCs, why they are considered priorities in HIV programming, what should be the priority areas from a policy perspective, and what basic criteria are used to prioritize them.

Data Interpretation and Presentation

All data from the general questionnaires were entered into a prepared Excel spreadsheet. Data were checked for accuracy and completeness. All data gathered through open-ended questions were coded. The data were imported into the EpiInfo statistical package where quantitative data analysis was done. Descriptive analysis (frequencies) was run to determine the proportion of PLHIV with various needs. The seven FGD reports were combined and included in the study findings with the policy makers' questionnaires. The qualitative and quantitative data were analyzed thematically according to the specific research objectives.

Ethics Review

The research protocol and data collection tools were submitted to NIMR for ethical approval before primary data collection was conducted. Participants involved in the quantitative survey, FGDs, and policy-level interviews read the study's detailed information sheet before each data collection exercise began (researchers read and explained this information to participants who could not read). The information sheet explained that participation in the study was voluntary, how information and data would be handled, and how participants could contact researchers for any queries. The principle of confidentiality was highlighted to the study participants during the consent process.

All participants signed an informed consent using their thumb print sign to maintain anonymity. During data collection and analysis, participants were assigned a code to protect their identity and ensure the process was anonymous. Hard copies, transcripts of interviews and FGDs, and observation notes were stored in a locked filing cabinet. Only study staff and authorized members of the research team could access these files.

Limitations and Challenges

Several notable limitations and challenges arose with this research study. Finding the appropriate number of desired research participants was difficult. Two-thirds of the selected government officials were unable to respond to the policy maker's questionnaire, stating they had no extra time from their busy schedules to participate.

Due to low enrollment at some CTCs at the dispensary level in Temeke municipality, the field researcher could not sample the number of women that were needed. They returned to the Temeke municipal medical officer to secure additional permission to conduct interviews in another CTC in the municipality. This step delayed the completion of data collection. In some CTCs, adolescent services are provided only once per month, so fieldworkers had to rearrange their schedules to ensure they were at the center on that specific day. Likewise, pregnant women were hard to find because the PMTCT clinics, where the researchers found this target population, included mothers who had already delivered. Field researchers had to visit the PMTCT clinics frequently to get the required number of pregnant participants. The FSWs were also difficult to find in sufficient numbers because some CTCs give them two months' supply of ARVs to take home; therefore, FSWs' attendance at CTCs is infrequent and undetermined.

About 11 percent of respondents were illiterate. Researchers explained everything in the consent form for them to understand and sign, which took more time. The majority of respondents were afraid to participate in the study. The FSWs were particularly reluctant to talk about anything that seemed related to their involvement in sex work. The research participants' fear and uncertainty subsided when they were informed of the research objectives and terms of confidentiality. With that assurance, the participants agreed to participate and provided maximum cooperation.

Seven participants (four from Temeke Hospital and three from Roundtable Health Center) responded negatively to all the questions, even the obvious ones that would usually illicit a positive response. This response pattern was partly due to underlying frustration with the long waiting times at the CTCs. This was resolved with later research participants by giving them priority to be seen for CTC activities soon after the interview.

RESULTS

Study Participants' Demographic Characteristics

Approximately half of the study participants were interviewed at a dispensary: nearly 30 percent at a health center and 15 percent at a hospital (Table 1).

Table 1. Research participants by facility name and type

Facility name	Facility ward	Facility status	Facility type	N	(%)
PASADA	Chan'gombe	FBO	Dispensary	47	(19.11)
Round table	Mbagala	Government	Health Center	73	(29.67)
Tambukareli	Azimio	Government	Dispensary	81	(32.93)
Temeke	Temeke	Government	Hospital	37	(15.04)
Total				**246**	**(100)***

* Eight participants (3.25%) were picked from an NGO that was not a health facility.

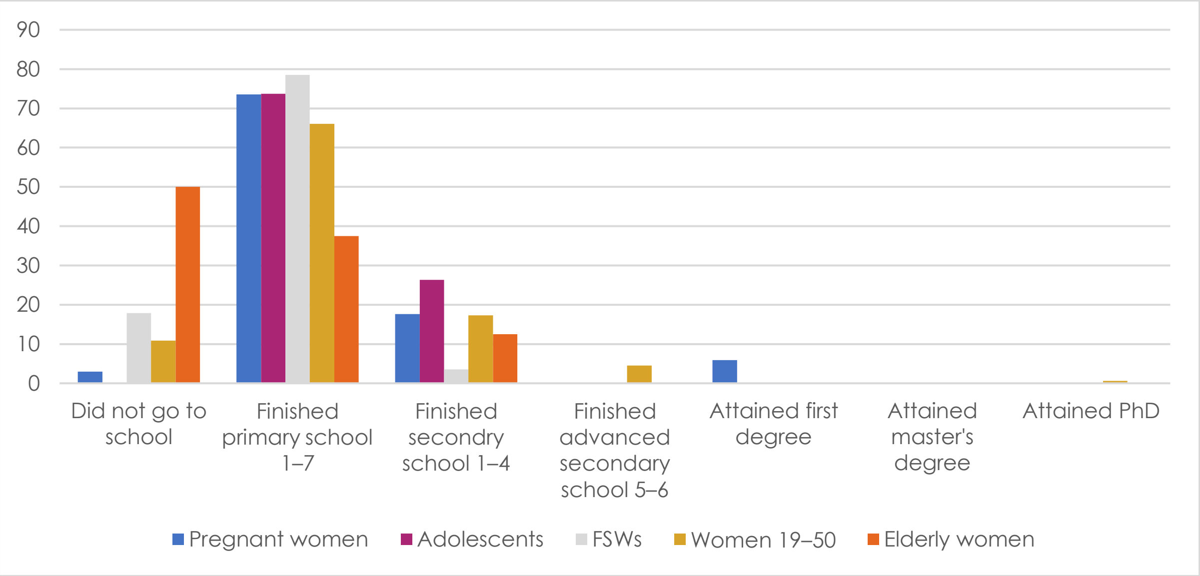
The research participants range in age from 12–69 years with nearly half in the 31–40 age range. Elderly age 50 and older compose the smallest age group (less than 4%). More than two-thirds of the respondents (68%) have a primary education. About 16 percent have completed form 1–4 (secondary school) and only 3 percent have completed form 5–6, equivalent to a US high school degree. About 11 percent have no schooling at all, and less than 1 percent have a bachelor's or master's degree (Table 2).

Table 2. Demographic characteristics of study participants

Variable	Characteristic	N	(%)
Age	12–19	29	(11.79)
	20–29	63	(25.61)
	30–39	108	(43.90)
	40–49	38	(15.45)
	50–59	5	(2.03)
	60–69	3	(1.22)
Category of participants	FSW (not pregnant; not an adolescent nor elderly)	29	(11.70)
	Adolescent (12–18 years; not pregnant and not an FSW)	19	(7.72)
	Pregnant (not an FSW and not an adolescent)	34	(13.82)
	Women (19–50 years; not pregnant and not an FSW)	156	(63.41)
	Elderly women (51–69 years; not an FSW)	8	(3.25)
Level of education completed	No schooling	27	(11.02)
	Finished primary education	167	(68.16)
	Finished form 1–4 (secondary school)	40	(16.33)
	Finished form 5–6 (equivalent to US high school degree)	7	(2.86)
	Attended some college after secondary school	2	(0.82)
	Obtained bachelor's degree	1	(0.41)
	Obtained master's degree	1	(0.41)
Employment	*Shost* (someone who exchanges sex for money)	5	(2.03)
	Casual day laborer	19	(7.72)
	Salaried employee	58	(23.58)
	Student	15	(6.10)
	Self-employed: farming	8	(3.25)
	Self-employed: small business	88	(35.77)
	No employment	53	(21.55)

When disaggregating education level by study participant, most FSWs either have a primary education (74%) or no schooling at all (18%). Most of the pregnant women have a primary education (74%) or a secondary education (18%), and very few (3%) have no schooling. In general, the adolescents are the most well-educated in the study population with 74 percent having a primary education and 26 percent (66%), 17 percent have a secondary education, 11 percent have no formal education at all, and 4 percent have the equivalent of a high school degree (form 5–6). Half of the elderly women have no education at all, 36 percent have finished primary education, and 13 percent have a secondary education. (Figure 1.)

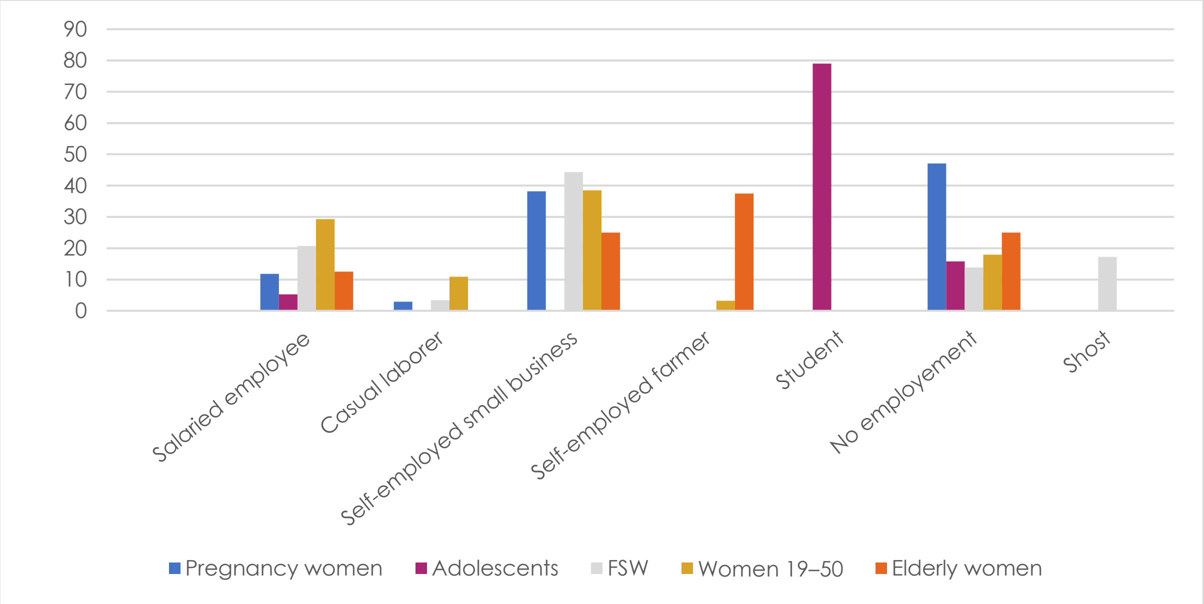
Figure 1. Education level by category of participants



To assess socioeconomic status, the study participants were asked several questions to obtain proxy measures of wealth, such as employment status, means of transport to the CTC, roofing material on their home, type of toilet in their home, and ownership of specific material possessions. More than one-third (36%) of the participants are self-employed in a small business. Nearly a quarter (24%) are salaried employees. Over one fifth (22%) do not have a job and are seeking employment, and a small percentage (2%) work as *shost* (exchanging sex for money).

Figure 2 shows a comparison of the participants' occupations by group. Forty-four percent of FSW are self-employed in small business. An equal percentage (38%) of pregnant women and women ages 19–50 are self-employed in small business. Elderly women account for the highest proportion of farmers (38%) and adolescents make up the highest proportion of students (79%). Fewer than one in five (17%) of FSWs said their occupation is a *shost*. Twenty-nine percent of women 19–50 said they have salaried employment.

Figure 2. Type of employment by category of participants



Participants were asked about transportation they use when visiting the CTC. Public transport is the most popular means of conveyance, reported by 69 percent across the categories of participants, followed by walking (19%). Participants indicated that it is not common to use other vehicles (hiring a motorcycle or taxi, driving their own car, or getting a ride).

Nearly half (46%) of the respondents reported they live in houses with corrugated iron sheet roofs and ceiling board. A slightly smaller percentage (42%) live in houses with a corrugated iron sheet roof but no ceiling board. Only 8 percent live in the nicest kind of house, that are roofed with tiles and have ceiling board.

A group comparison shows that pregnant women are more likely than other groups to live in a house roofed with corrugated iron sheet with a ceiling board. The majority of FSWs (43%) live in simple houses which are roofed with corrugated iron sheet without ceiling board.

Nearly half (49%) of all respondents (and 62% of women age 19–50) have a self-contained flush toilet (a toilet used by one household), a third of all respondents (32%) have a pit latrine with a roof, 17 percent have a flush toilet shared by many, five participants (2%) have only the most basic toilet (a pit latrine with no roof), and one does not have a toilet facility.

As an indicator of personal wealth, participants were asked if they had one of the following six items in their homes: drinking water from a tap, electricity, television, electric or gas cooker, air conditioning or a fan, and refrigerator. A third of the participants (33%) have none of the items, 12–16 percent have up to four of the items, 9 percent have five items, and only 5 percent have all six items.

More than half (58%) have electricity followed by tap water (41%), television (40%), refrigerator (30%), air conditioning/fan (29%), and an electric or gas cooker (19%).

Participants' Use of Health Services

Use of Family Planning Methods and Services

Two-thirds (66%) of all respondents said they are not using any FP method. They cited various reasons (Table 3). More than half (55%) said they tried to obtain an FP method from a community- or facility-based provider. More than two-thirds (70%) said it is easy to obtain an FP method or service, and 8 percent said free access to these methods makes it easy. Conversely, among the 30 percent who said it is difficult to get FP, 4 percent said that high cost is a key barrier.

Table 3. Reasons for not using a family planning method

Variable	Characteristic	*n*=154*	(%)
Reason for not using an FP method	Currently pregnant	34	(22.08)
	Trying to conceive	26	(15.88)
	Reached menopause	12	(7.79)
	Have sex infrequently or not at all	22	(14.29)
	Fear of side effects	23	(14.94)
	Was using but ran out of the method	9	(5.84)
	Religious beliefs	1	(0.65)
	Breast feeding	9	(5.84)
	Does not need FP	3	(1.95)
	Student under age 15** years	3	(1.95)
	Have not yet decided to practice FP	12	(7.79)

* Four participants did not respond.

** Although most of the adolescent participants are not yet sexually active, all adolescents were asked this question. Some chose not to respond.

The majority of participants (62%) had not used any FP method two months prior to the study (Table 4). Among those who used FP, the most frequently used method is injection (15%), followed by condoms (14%), and contraceptive pills (6%). Eleven participants use two methods. Many respondents use condoms for dual protection to prevent both pregnancy and HIV transmission to partner. Condoms also are used to prevent reinfection of HIV.

Table 4. Family planning methods used by participants in the two months prior to the study

FP method used (*n*=211)*	Yes (%)	
Contraceptive pills	12	(5.69)
Injection	31	(14.69)
Intrauterine device (IUD or Loop)	7	(3.32)
Vaginal foam	1	(0.45)
Vaginal suppositories	4	(1.90)
Tubal ligation	5	(2.37)
Condom (male or female)	30	(14.22)
Standard days method or rhythm method	8	(3.79)
Outside ejaculation/withdrawal	5	(2.37)
Breastfeeding/ lactational amenorrhea	1	(0.47)
Implant	9	(4.27)
Vasectomy	0	(0.00)
Diaphragm	2	(0.95)

*Not all research participants answered this question.

HIV Testing and Counselling

Learning about one's HIV serostatus through testing is an important step for preventing transmission. Researchers asked participants how long ago they were first tested for HIV (Table 5). Nearly one-third (31%) of study participants were first tested 3–5 years ago. Only about 5 percent were first tested within the past six months. About 15 percent were first tested 6–8 years ago, and 15 percent at least nine years ago.

Table 5. Time span since participants received their first HIV test

Time span	N=246 (%)	
Past three months	15	(6.10%)
Past four to six months	12	(4.88%)
Past seven months to two years	65	(26.42%)
Past three to five years	76	(30.89%)
Past six to eight years	37	(15.04%)
Past nine years or more	37	(15.04%)
Don't know	4	(1.63%)

The participants were asked where they received their first HIV test. More than half (56%) reported they were tested for the first time at a hospital. About one-fourth were tested at a dispensary, and 13 percent were tested at a health information center or voluntary counseling center. Only seven participants (3%) reported being tested at a CTC, six participants (2%) said they were first tested at a community testing event, and three participants (1%) were tested at a school.

Participants were asked if they received counselling and an explanation of the meaning of the blood test prior to the HIV testing. Most participants (82%) responded that they were counselled, but thirty-eight (16%) were not. An additional six participants said they didn't know, and one refused to answer.

For HIV prevention, once individuals discover through testing that they are HIV-positive, they are expected to follow through with counselling and enroll in a CTC for ongoing treatment. The researchers asked participants if they followed up on the counselling they received after their HIV test. Three quarters (75%) followed up and nearly a quarter (24%) did not. Only two respondents did not remember.

When participants were asked how many people they told about their test results, about three-fourth of those who shared their results discussed it with only one person. Nearly one in five (19%) shared their HIV status with two people. Only 11 participants shared their status with three or four people.

Table 6. Categories of people with whom research participants shared their test results

Who did you share your blood test results with? N=195	N	(%)
Spouse/partner	96	(49.0)
Non-spouse sex partner	9	(4.6)
Child	9	(4.6)
Sibling	53	(27.2)
Parents	41	(21.0)
Neighbor	5	(2.5)
Other relatives/friends	42	(21.5)
Priest/religious leader	1	(0.5)
Other person	2	(1.0)
Have not shared results with anyone **[n=246]**	50	(20.3)

Table 6 shows the various categories of people with whom participants shared their HIV test results. Among the 195 participants who shared their HIV status, nearly half (49%) told a spouse or partner, more than one-fourth (27%) told a sibling, more than one in five (21%) told parents, and the same percentage told other relatives and friends. About one-fifth of all participants in the study (50 out of 246) did not share their HIV test results with anyone.

Condom Use

More than three-quarters (77%) of participants said they did not use a condom in the past two months. For those who did, nearly all (82%) used a male condom. More than one-third (40 %) said they purchased condoms at the shops, and a quarter (25%) said they were given the condoms. Some respondents said they obtained free condoms at work (13%), at public health clinics (nearly 8%), and FP clinics (nearly 5%); one said she obtained a condom for free at a bar or guesthouse.

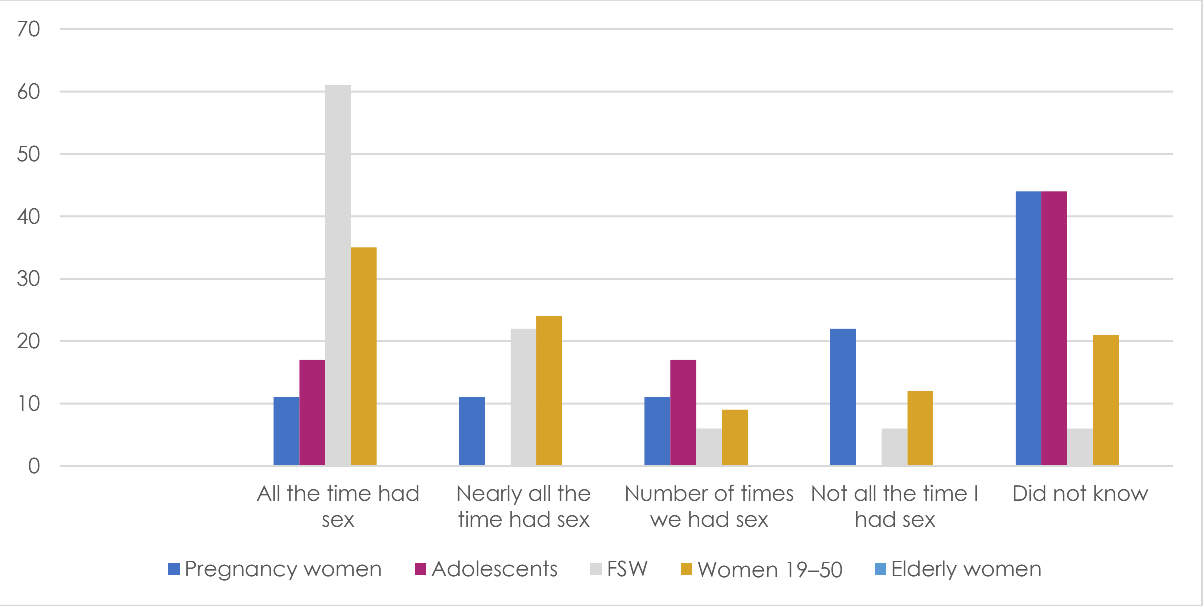
In the past two months, less than half of the participants (28%) said they had a condom readily available, such as in their pocket, handbag, or in their home. Consistent condom use was reported in only half (49%) of the respondents using condoms. A quarter (25%) said they used a condom sometimes or infrequently.

Table 7. Obtaining, carrying, and using a condom in the past two months

Variable	Characteristics	N	(%)
Use of condom in the past two months (*n*=240)	No	184	(76.67)
	Yes	56	(23.33)
Type of condom used (*n*=56)	Female condom	4	(7.14)
	Male condom	46	(82.14)
	Refused to answer	6	(10.71)
How the condoms were obtained (*n*=52)	Purchased	27	(39.71)
	Given for free	17	(25.00)
	Both of the above	1	(1.47)
	Neither of the above	7	(10.29)
Places condoms were obtained for free (n=17)	Bar/hotel/guesthouse	1	(1.54)
	Public health clinic	5	(7.69)
	FP clinic	3	(4.62)
	Work	6	(13.00)
	Don't know	2	(3.08)
Tendency of carrying a condom in one's pocket/handbag, or having one at home (*n*=46)	Very infrequently or never	10	(22.00)
	Less than half of the time	15	(33.00)
	More than half of the time	8	(17.00)
	Very frequently or always	13	(28.00)
Condom use with partner/spouse during intercourse in past two months (*n*=51; 5 who reported using a condom did not respond to this question)	Each time we had sex	25	(49.00)
	Nearly each time we had sex	13	(25.00)
	Sometimes	6	(12.00)
	Not all the time	7	(14.00)

More than half of commercial sex workers reportedly used condoms every time they had sexual intercourse in the past two months, followed by women age 19–50. Very few of the adolescents reported having sexual intercourse in the past two months (Figure 3.)

Figure 3. Frequency of condom use during intercourse in the past two months, by group



Care and Treatment Center Services

Participants indicated their desired services from a list of all possible CTC services (Table 8). Most participants were interested in receiving all the services CTCs have to offer. However, currently no health insurance covers treatment and prevention of other sexual and reproductive illnesses, such as treatment of STIs for PLHIV. Most of the respondents refuse to use traditional healing. Many respondents reported they do not know what legal services are or how they might benefit from them. Most of the research participants (nearly 94%) responded that they are using ARVs.

Table 8. Participants use of antiretrovirals

Use of ARV	N	%
Yes	231	93.90
No	15	6.10
Total	246	100.00

Table 9. Care and treatment center services desired and received in the past two months

Service desired by participant	Yes	No	No answer	Received service* N (%)
Testing and counselling with informed consent and confidentiality	242	4		43 (17.5)
Counselling on adherence to ART	245	1		57 (23.2)
PMTCT services	244	2		77 (31.3)
Information on testing and counselling for preventing HIV transmission (primary prevention)	245	1		104 (42.3)
FP services for women living with HIV and their partners	232	12	2	61 (24.8)
Use of ARV drugs for PMTCT	241	4	1	205 (83.3)
HIV treatment, care, and support services for infected mothers, infants, and other family members	243	3		87 (35.4)
Other sexual and reproductive health services, such as treatment of STIs	236	9	1	76 (30.9)
Weight checks	245	1		189 (77.1)
Nutritional counselling	244	2		120 (48.8)
Health education	244	2		116 (47.2)
Ongoing /supportive counselling	241	5		103 (41.9)
Psychosocial services	238	8		93 (37.8)
Treatment literacy/ explanation on the treatment	243	3		105 (42.7)
Assessing client's condition for priority care	244	2		97 (39.4)
Assistance with accessing health insurance	235	11		13 (5.3)
Community support	217	29		10 (4.1)
Legal services	177	69		6 (2.4)
Traditional healing	68	178		3 (1.2)
Total number of study participants	246			

*Received service within two months of participating in the study

Study participants said the most common services participants are provided with at CTC visits are: use of ARV drugs for PMTCT (83%), checking weight (77%), nutritional counselling (49%), health education (47%), and information on testing and counselling for preventing HIV transmission (42%).

Nearly 80 percent of study participants said they are not receiving HIV-related services at an NGO or CSO apart from the CTC they attend (Table 9). For those who said they receive services at an NGO or CSO, more than half (52%) said they are receiving HIV education. The main reason given for why services are not sought at another NGO or CSO is lack of knowledge about the presence of any NGO or CSO rendering services to PLHIV. More than one-third said they know about the presence of such organizations, but do not wish to join.

Table 10. Participants' engagement in other non-governmental and community service organizations apart from the primary care and treatment center

Variable	Characteristics	N (%)	
Seeking services at a CSO or NGO for PLHIV (*n*=242)	Yes	52	(21.22)
	No	190	(78.78)
Types of services rendered at the CSO or NGO attended (*n*=25)	HIV education	13	(52.00)
	Information on how to live with HIV	6	(24.00)
	Entrepreneurship skills	6	(24.00)
	Home-based care	0	
Reasons for not seeking services for PLHIV at a CSO or NGO (*n*=190)*	Didn't know about their presence	106	(55.79)
	Knew about their presence, but did not want to join	68	(35.79)
	It is very far from where I live	2	(1.05)
	Unable to pay contributions	5	(2.63)
	Unwilling to disclose HIV status	3	(1.58)
	No time	3	(1.58)
	Would be willing to join in the future	2	(1.05)
	Recently diagnosed	1	(0.53)

* Three participants did not indicate if they sought the services of CSOs but still gave reasons for not seeking services. Five others said they sought services, but also gave reasons for not seeking services.

Prevention Needs and Priorities for Women Living with HIV

Participants were asked to list their top 10 priorities for CTC services (see Table 10). The following were selected by more than half of the participants: Cotrimoxazole prophylaxis (88%), ARV continuing care (88%), PMTCT (nearly 80%), psychological counselling and services (76%), income-generating activities (57%), dental services (56%), and nutritional support, especially for pregnant women (50%).

Table 11. Study participants' priority services at the care and treatment centers

Prevention need identified N= 246	N	(%)
Cotrimoxazole prophylaxis (antibiotic for prevention of OIs)	217	(88.2)
ARV continuing care	216	(87.8)
Psychological counselling and services	187	(76.0)
PMTCT services	172	(79.9)
Income-generating activities	141	(57.3)
Dental services	138	(56.1)
Nutritional support, especially for pregnant women	124	(50.4)
Partner notification and testing and counselling (Disclosure)	115	(46.7)
STI screening	101	(41.1)
Prevention of fungal infections	99	(40.2)
Diagnostic and treatment services	97	(39.4)
Rehabilitation services	93	(37.8)
TB prevention	89	(36.2)
Condom availability	88	(35.8)
Social and psychological support	84	(34.1)
Empowering positive clubs	81	(32.9)
Malaria prevention	80	(32.5)
Vaccines for preventable diseases	70	(28.5)
Home-based care	55	(22.4)
Greater involvement of PLWHIV in the national forum	55	(22.4)
TB treatment	49	(19.9)
FP services	49	(19.9)
Water, sanitation, and hygiene services	49	(19.9)

Challenges Facing Vulnerable Female Populations Living with HIV

Participants rated the extent that economic, social/cultural, psychological/emotional, and physical challenges of living with HIV affect them (very low, low, high, or very high). Table 11 lists a range of challenges and the women's assessment of their impact. The challenges most affecting the lives of these vulnerable women living with HIV are personal income (42%), social support (37%), paying for healthcare (37%), discrimination and depression (30%), stigma (29%), mood swings (28%), and fatigue (27.5%).

Table 12. Extent to which vulnerable women living with HIV experience challenges in their lives

Challenges	Participants’ experiences with challenges					
	Very low *n*	Low *n*	High *n*	Very high *n*	High/Very high %	Don’t know
Self-perceptions and self-esteem	196	30	9	11	8.1	0
Cognitive functioning	152	51	33	8	16.8	2
Psychological dysfunction	134	66	25	19	18.0	2
Fatigue	96	81	36	31	27.5	2
Trauma	98	84	36	26	25.4	2
AIDS-related illnesses	128	60	30	26	23.0	1
Depression	101	71	41	32	29.8	1
Mood swings	123	52	40	27	27.7	4
Loss of appetite for food	138	63	27	17	18.0	1
Transportation to the hospital	115	65	34	31	26.5	1
Physical access to health services	135	69	29	13	17.1	0
Stigma	100	73	30	41	29.1	2
Discrimination	97	75	33	40	29.8	1
Attending clinic	142	57	30	17	19.1	0
Social support	81	73	53	38	37.1	1
Paying for healthcare/Insurance	80	74	35	55	36.9	1
Quality of health services	135	57	24	29	21.6	1
Personal income	92	50	44	59	42.0	1
Cultural beliefs (traditional beliefs towards HIV)	112	56	43	34	31.4	1
Counselling	180	38	6	20	10.7	2
Accessing/Adhering to ARVs	210	21	6	7	5.3	2
Distance from the health center	113	70	26	34	24.7	3

Results from the Focus Group Discussions

Understanding of Prevention Needs/Measures

Respondents showed a high understanding of what they were taught at the CTC. They are able to explain the importance of several HIV prevention measures, such as the following:

- Taking medicine on time
- Keeping their bodies clean and following general cleanliness principles
- Using safer sex practices to avoid reinfection and prevent HIV transmission
- Sticking to a daily balanced diet
- Starting PMTCT medications at the antenatal clinic to protect the child and prevent the mother’s own health from deteriorating
- Using modern FP methods
- Protecting oneself from diseases like malaria by sleeping under mosquito nets
- Preventing bacterial infections by eating warm foods and drinking boiled water

Application of Prevention Knowledge and Skills

Pregnant respondents frequently mentioned the importance of having a treatment supporter. Because of fear and reluctance to disclose their HIV status, most of the women said they prefer to have only their spouse/partner and children living in the home. Taking care of other kids and doing household chores make some very tired. Thus, one respondent explained why it would be good to have a treatment supporter:

> "Having [a] treatment supporter who knows my health status and that I am on ARVs, so [he or she] could care [for] my health…Treatment supporter can offer me any information granted in the hospital, or when facility need[s] to contact me when there is any problem or if I could not manage to go for my ARVs."

Respondents also discussed the importance of the daily regimen of taking medicine for the prevention of OIs and storing ARVs appropriately.

Adolescents' reluctance to disclose their HIV status to peers in the community is an ongoing problem. When one is hiding his or her personal care items and skin piercing objects for self-use and infection prevention, others may perceive it as selfish. The adolescents expressed their strong need to avoid sexual partners to prevent reinfection or transmission. They have different experiences from typical adolescents from the day they discovered their HIV status and started attending a CTC on their own. Some were informed of their status as young as seven years old.

Although the FSWs learned about and attempt to practice safer sex, it is difficult for some sexual partners to agree to consistent condom use. The FSWs say their partners suspect they are lying about being HIV positive when they ask the partner to use condoms. One FSW respondent said,

> "Now we are using ARVs, we look very healthy, our skin is smooth, we are not different from other people."

Some married women experienced problems when they told their partners about their HIV status. They say their partners do not want to hear about HIV counselling and testing. This communication barrier has made it difficult to encourage women to bring their spouse/partners to the CTC for couples counselling.

Biomedical, Social, and Economic Needs and Priorities

All focus group participants reported biomedical, behavioral, structural, and social needs, with biomedical needs being the most significant. The most pressing biomedical needs expressed by respondents are availability of ARVs and Septrin for prevention of OIs (such as fungal infections, urinary tract infections, and TB), PMTCT education (such as safe infant feeding), and FP.

Behavioral and social needs involve support for a balanced diet (with nutrition information and health education), continuous psychosocial counselling and social support at home, regular condom use, body cleanliness, and disclosure to a partner.

Participants expressed a significant structural need: to establish community groups to improve economic and social conditions and eliminate loneliness for females living with HIV.

Most of the adolescent respondents mentioned social needs, especially ways to address stigma in the family and in the general society. One respondent said,

> "The society we live in should not announce our serostatus. After the death of our parents we were raised in our grandparents, uncle, [or] sisters [home]. When the guests visited our house, they used to tell them about our serostatus. It is very bad because they disclosed our status without our will."

Most of the adolescent respondents said they need psychological counselling because sometimes they see themselves as valueless human beings. One respondent said,

> "We take a lot of medicines every day in order to live as other people. It would be better if there would be a possibility of getting a complete cure medicine."

Adolescents also discussed the need for social clubs within CTCs. Some of the CTCs already have youth social clubs, which operate very well, but others do not. One youth said,

> "Social clubs help us to get experience of getting rid of stigmatization and thoughts of living with HIV. We learned different games in order to recognize our talents."

The FSW respondents also mentioned biological issues as a top priority for preventing transmission and reinfection. They insist on the availability and use of condoms for each time they meet with sexual partners; medication to prevent STIs and other OIs; massive HIV health education to the whole public, especially to dispel the myth that you can determine one's HIV serostatus by looking at the person (such as the notion that a fat person can't be HIV-positive, but a thin person might be); and ARV adherence. One FSW said,

> "Sometimes I failed to take my ARVs as I was instructed because of the nature of my work. I have to take alcohol nearly every day."

Another said,

> "I felt difficulty to remember carrying ARVs because sometimes I had to sleep over partners place for certain number of days without a prior plan."

Women, especially the elderly, insist on the availability of free cotrimoxazole. One respondent expressed the sentiment of others by saying,

> "We should be given Septrin. [For] example, we buy 10 days pills for 2000 . . . not all people can afford this. . . . The problem is we are told to buy opportunistic infections drugs and they are very costly compared to our income.
>
> "It is sad when an entire family is infected with HIV. One has to buy Septrin for the whole family and yet there are other responsibilities and bills like educations, meals, and rent to be paid by the same person."

Elderly women also suggested that social services should be cost free for them and their children because of their limited income. If possible, children who are HIV-positive should be given free education. A parent can have four HIV-positive children, all of whom have the right to education; however, low income forces the parent to choose between the children's health and their education.

All focus group participants mentioned the need for sustainable economic support, such as entrepreneurship training (learning about sources of acquiring new business, knowledge on business opportunities, and marketing strategies) and the formation of lending groups within the CTC (such as village community bank or savings and credit cooperative organization). This kind of economic support would help them cover their daily bills.

Participants also cited the need for health insurance to provide financial stability and empower them to access good healthcare services. When one gets sick, there would be less hesitation to seek medical care due to lack of money. With health insurance a woman can easily go to any health facility accepting insurance cards and receive a consultation, laboratory services, medicine, and even inpatient care.

Challenges with Accessing Priority Needs

The four groups of vulnerable female populations in our study expressed many common challenges related to living with HIV. They are especially concerned about the stigma of HIV and disclosing their serostatus to their partners for fear of abuse or divorce. One adolescent participant said,

> "We have to miss classes at least once a month so as to attend at the CTC. This has made the teachers to know about our serostatus because they are the one who permit us."

One FSW said,

> "Some of the CTCs' rooms [for HIV services] have been isolated to the extent everyone around knows we are living with HIV/AIDS."

Participants said the stigma of taking ARVs in front of their partners discourages them from attending CTC as required.

Women in all four groups also mentioned concerns about the delay of services at the CTC. One said,

> "Doctors who attend children clinics delay to provide services. Services begin at 10 am while beneficiaries are queuing from very early in the morning."

Testing delays create another barrier in some CTCs. Because the requested CD4 and viral load tests must be taken to Muhimbili National Hospital laboratory, it takes a long time for results to be ready; sometimes results are lost. If tests must be repeated, it discourages clients from wanting to attend again.

Sometimes ARVs are distributed near their expiration date. A respondent recalled,

> "One time we were given ARV called Atripla, whose expiry date was the same provision month."

Moreover, frequent change of ARV medications without laboratory testing has caused complications for clients, such as diminishing vision and hearing ability.

Self-Prevention and Preventing HIV Transmission to Others

All focus group respondents showed a high understanding of HIV prevention practices. They mentioned adherence to ARV and eating a balanced diet to minimize their viral load; avoiding sharing skin piercing objects like ear rings, toothbrushes, and razor blades; practicing self-body cleanliness, and proper disposal of sanitary towels. They also insist on wearing gloves when helping a pregnant woman during delivery or when handling other bodily fluids like vomit, and covering up all open wounds with a bandage. Lastly, they are aware of the importance of using a condom every time they have sex, to avoid reinfection and to protect their partners.

Results from Care and Treatment Center Heads

Every nongovernment CTC has its own priority services for PLHIV depending on the center's policy and needs.

The most frequently mentioned prevention services provided at most of the CTCs are the following:

- ARVs/continuous care
- PMTCT services
- Antibiotics (Cotrimoxazole or Septrin)
- TB self-prevention and TB treatment
- Adherence counselling services
- Support for disclosure of HIV serostatus
- Home-based care to increase and improve health services to the community, especially women living with HIV
- Safe practices for malaria prevention
- Condoms

Faith-based CTCs encourage natural FP methods, such as standard day's method and lactational amenorrhea. Other CTC heads mentioned the use of the most available FP services at the center: injection and implants.

DISCUSSION

Establishing Socioeconomic Prevention Needs and Priorities of Vulnerable Female Populations Living with HIV

The *Basic Demographic and Socio-Economic Profile Report* for Tanzania provides indicators of literacy and education, economic activities, housing conditions, ownership of assets, and household amenities to determine one's social and economic power to access various needs (Government of Tanzania, 2014). For example, it shows that a well-educated person in Tanzania who works in an office earns a sufficient salary to pay for things like good housing and a smokeless cooker. However, less than one-fourth of the vulnerable women who participated in our study are salaried employees and fewer than one in five have an electric or gas cooker.

In most places throughout Tanzania, the roofing materials and finishing of a house are proxy measures for the wealth of the occupant. The most expensive type of house has tiles with ceiling board, yet fewer than one in ten of the study participants live in this type of house.

Another indicator for socioeconomic status is the number and type of toilet facilities in a house. A self-contained flush toilet is the most expensive. Slightly more than a third of the study participants did not have access to a flush toilet and instead used a pit latrine. Based on the proxy measures for wealth used in the study, most of the research respondents' socioeconomic status is low, implying they have high economic needs.

While there was some variation among the four groups of females in our study, nearly 90 percent of indicated that Cotrimoxazole prophylaxis is their leading prevention need and priority. This medicine can prevent infection and prolong life in resource-limited settings and should be used by anyone with progressing HIV disease (World Health Organization, 2014). Although the medicine is inexpensive, many participants said they cannot afford it.

One of the national responses to the spread of HIV/AIDS was to improve the socioeconomic status of PLHIV by forming community-based KONGAs to foster economic empowerment. Initially, KONGAs were given subsidies to start income-generating activities through their cluster groups of people living with HIV. However, more than two-thirds of our study participants said they are not aware of KONGAs.

Other significant prevention needs and priorities mentioned by study participants are ARV treatment (nearly 90%) and PMTCT services (80%). All four groups mentioned treatment prevention (such as taking ARVs for pre- and post-exposure prophylaxis) as a high priority. Biomedical interventions were also rated high priorities by the heads of the CTCs.

Most CTCs follow the 2015 National Guideline for the Management of HIV/AIDS. However, there are some slight differences in the way services are rendered depending on who is managing the center. For example, CTCs run by the Catholic Church, which forbids the use of contraception, do not counsel PLHIV on condom use as a prevention measure, nor do they provide contraceptives. Instead, they promote the prevention of both pregnancy and HIV without the use of condoms or modern FP methods.

Although more than three-quarters of the study participants said they would like to receive all the CTC services offered to PLHIV, there is no community support system and health insurance that covers non-

HIV illnesses. Most of the respondents refuse traditional healing and do not know what is provided by law and what is not.

Establishing Individual Prevention Needs and Priorities of Vulnerable Female Populations Living with HIV

Our research found variations in the individual prevention needs and priorities across the four groups of research respondents. For example, pregnant women indicated they need more biomedical and behavior prevention interventions, such as:

- Use and availability of ARVs and other medicine to prevent OIs
- Education on PMTCT, such as safe infant feeding, eating a balanced diet, and health information
- Psychological counseling
- Social support at home

Youth respondents said psychological counseling is a high priority, as living with HIV affects their self-worth. They said they wish they could be as healthy as their peers and expressed concerns about being a burden for their families. Young people lack purchasing power, which affects their access to transportation, medicine, nutritious food, and other basic needs (such as disposable sanitary towels) that require money.

Adolescent respondents cited several behavioral intervention priorities, such as the following:

- Avoiding risky sexual behaviors
- Maintaining body cleanliness (such as through menstrual hygiene)
- Establishing social clubs within the CTCs
- Ensuring caregivers do not disclose their HIV serostatus unknowingly

The adolescents' responses suggest a good age to tell children about their serostatus is 15 years—old enough to understand what a positive HIV diagnosis means and to attend a CTC by themselves. The adolescents said that before children are 15 years of age, parents and guardians should teach them about prevention.

Research participants' FP-seeking behavior shows that more than half (62%) had not used any FP method during the prior two months. Nearly 40 percent said that is because they are pregnant or trying to conceive; about 30 percent said it was because they fear the side effects of FP, have used up their supply of contraceptives, have not yet decided to practice FP, or they are obeying religious restrictions against modern contraception. This shows a gap in providing accurate and comprehensive family planning services to women living with HIV, such as counselling and provision of methods.

Most of the participants said it was easy to get FP services where they live as they are provided free at the local hospital, health centers, and dispensaries. However, more than one-third (37%) said that access to FP services is difficult, indicating that service delivery needs to be improved.

More than half (56%) of our study participants were initially tested for HIV at a hospital; one-fourth were tested at a dispensary (25%). Nearly 20 percent were not counselled before the first test and one in four did not follow up after receiving a positive test result.

Hospitals are the primary source of counselling and testing. They need support and improvements to follow national counselling and testing guidelines, and provide the services that PLHIV require.

All study participants are people living with HIV, yet half reported not using a condom each time they have sexual relations. Healthcare providers, social marketers, and public health experts need to stress the importance of using a condom with every sexual encounter and they must make condoms more accessible to vulnerable PLHIV with limited incomes.

Identifying Challenges Faced by Vulnerable Female Populations Living with HIV

Most of our study respondents cited inadequate income as a health challenge. They said that cost-sharing policies are meant for all, but in reality not all PLHIV can afford to pay for health services. The high cost of healthcare is exacerbated when lab tests are lost and need to be repeated.

A shortage of doctors/clinicians at some health facilities contributes to delayed starts and long waiting times for patients, forcing them to neglect other personal responsibilities, such as caring for their young children or tending to a small business.

Participants also cited inadequate social support as a significant challenge. Fewer than 40 percent of them have shared their blood test results with a spouse/partner. More than half (56%) do not know of any NGO or CSO where they could receive social support and other HIV-related services. An additional 35 percent are aware of social support services but do not want to accept them because they fear their HIV-positive status could become public.

A common example is a family with young children where the mother is pregnant and taking ARVs. She needs to rest during the day, but cannot, because no one else can take care of the children and household chores. The man and wife do not want to live with relatives, because they don't want their family to know they have HIV. Without social support, these parents will continue to struggle. In general, there is little social support for PLHIV from family, community (society), and national level programs.

Nearly one-third of respondents mentioned discrimination and depression as challenges. As PLHIV, they are discriminated against by family members and the community, partly due to inadequate education and awareness about HIV and AIDS. Many respondents cited HIV stigma as a huge challenge, forcing them to hide their serostatus:

- Couples are reluctant to attend HIV counselling and testing, because of stigma or fear of divorce and/or abuse.
- Adolescents suffer the consequences of stigma, because their serostatus becomes known when they frequently miss classes to attend clinic.
- The FSWs face difficulties when they hide their serostatus and refuse to share their personal items, such as body-piercing tools.

Even though it is an individual's right to decide if and when to share their serostatus, respondents fear HIV clinics will divulge their serostatus without permission.

RECOMMENDATIONS

The study participants were given the opportunity to suggest recommendations for how to address their prevention needs and priorities. These are integrated here with our recommendations.

Pregnant Women

- Increase HIV awareness education to lessen fears of receiving/sharing test results with spouses/partners and to encourage spouses/partners to accompany their pregnant partner to the antenatal clinic.
- Ensure the Ministry of Health and local health authorities make viral load tests available in each CTC to reduce the waiting time for test results.
- Prepare files and medicines the day before the clinic day. Change the system of CTC services so that all start on time and no later than 8:00 a.m. In addition, if a mother is attending clinic with her HIV-positive child, the two should be seen and treated at the same time in the same clinic to minimize waiting times and the problem of children getting tired and hungry. Health education services should also be repeated later in the morning to cater to those who arrive late.

Adolescents

- Emphasize education and advocacy to address stigma among HIV-positive adolescents.
- Provide expert guidance on the appropriate age for children to be informed about their serostatus. The adolescent study respondents proposed informing children ages 12–15 years.
- Establish economic support, through NGOs and CSOs, to help adolescents pay for essentials when their guardians or parents cannot afford them.
- Establish youth clubs within CTCs. This will facilitate youth meetings for various activities, such as educational talks, support groups, or supervised sports teams.
- Prioritize continuous health education and psychological counselling for children at the CTCs.
- Open clinics on Saturdays to accommodate adolescents' school obligations. Some CTCs have already successfully adopted this change.
- Adopt a system of CTCs scheduling appointments so that people arrive at a designated time to reduce waiting time. Currently, everyone arrives early in the morning, with some not seen until the afternoon.

Female Sex Workers

- Integrate CTC services within hospitals; stand-alone centers inadvertently reveal the serostatus of clients as they are seen visiting or leaving the center.
- Make HIV prevention and awareness education more continuous. For example, CTCs should emphasize adherence and disclosure counselling every time one goes for ARVs.

- Increase human resources for community-based health and social programs for municipalities and other stakeholders. Such programs are useful for free condom distribution in the community and ARV adherence, as sometimes people forget their follow-up appointments.
- Provide information at the CTCs on health insurance and how to obtain affordable coverage for medicine to treat OIs.
- Provide business education to PLHIV on loan management and establish village community banks to raise people's economic status and build economic capacity. If this education is provided at the CTC, it will reduce the stigma of attending the clinic. This should be done at least twice a week in addition to provision of ARVs and other ongoing CTC services.

Women and Elderly Women

- Provide counselling on ARV adherence and disclosure. Taking ARVs in front of a spouse/partner, children, and/or grand children can be impossible if a woman has not disclosed her status and fears being asked why she is taking medicine daily. CTCs should encourage couples to attend counselling together and help elderly women choose a close confidante or family member as a treatment support companion.
- Provide health insurance for every PLHIV to cover medicine and treatment of OIs.
- Investigate the numerous side effects associated with the newly-introduced ARV regimen.
- Integrate health services to help avoid stigma and encourage people to attend the health facility that is most convenient for them. Although there is a CTC in every ward, most PLHIV do not attend the one nearest them to avoid being recognized by neighbors and acquaintances.
- Improve communication training for healthcare workers on how to serve PLHIV with tenderness and respect.
- Provide nutrition education and counselling on how to adhere to ART to empower PLHIV.
- Avoid distributing ARVs past or close to their expiration dates.

The study findings can help policy makers, decision makers, and other stakeholders (such as, MOHCDGEC, Council Health Management Teams, Regional Health Management Teams, and TACAIDS to design appropriate strategies for addressing the prevention needs and priorities of vulnerable female populations living with HIV. These groups are numerous in Tanzania, especially in Temeke. The recommendations are designed to help decision makers craft appropriate evidence-based policies and strategies for "zero infection, zero discrimination, and zero AIDS-related deaths" in accordance with the Tanzania Third Health Sector HIV and AIDS Strategic Plan (Government of Tanzania, 2014b).

CONCLUSION

To achieve national HIV goals for "zero infections, zero discrimination, and zero deaths," Tanzania must address the HIV prevention needs and priorities of vulnerable females living with HIV. Our study findings show a relationship between socioeconomic factors and prevention needs and priorities across four groups of this population: pregnant women, adolescent girls, FSWs, and elders.

The Tanzanian government, through TACAIDS, is committed to PEPFAR's priority for epidemic control, which is to achieve the 90-90-90 targets by 2020 (UNAIDS, 2014):

- 90 percent of people living with HIV know their HIV status
- 90 percent of people with diagnosed HIV receive sustainable ART
- 90 percent of people on ART have viral suppression

For the government to reach these goals, research is needed on stigma reduction and raising the socioeconomic status of female PLHIV.

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APPENDIX A. HIV/AIDS PREVENTION INTERVENTION PROGRAMS

Source: https://www.avert.org/professionals/hiv-programming/prevention/overview

1. UNAIDS (2010) 'Combination HIV Prevention: Tailoring and Coordinating Biomedical, Behavioral and Structural Strategies to Reduce New HIV Infections'
2. Gupta, G.R., Parkhurst, J.O., Ogden, J.A., Aggleton, P., & Mahal, A. (2008). Structural approaches to HIV prevention. *The Lancet, 372*(9640), 764–775.

TYPE OF INTERVENTION	EXAMPLE OF INTERVENTION
BIOMEDICAL	• antiretroviral drugs for the prevention of mother-to-child transmission, pre-exposure prophylaxis, post-exposure prophylaxis and treatment as prevention • HIV testing and counselling • testing and treatment of sexually transmitted infections sex and • reproductive health services • Blood screening.
BEHAVIOUR	• information provision (such as sex education) • counselling and other forms of psycho-social support • safe infant feeding guidelines • stigma and discrimination reduction programs
STRUCTURAL	Structural interventions seek to address underlying factors that make individuals or groups vulnerable to HIV infection. These can be social, economic, political or environmental. "For many people, the simple fact that 90% of the world's HIV infections occur in developing countries is evidence that social, economic and political structures drive risk behaviors and shape vulnerability." Structural interventions are much more difficult to implement because they attempt to deal with deep-rooted socio-economic issues such as poverty, gender inequality and social marginalization. They can also be reliant on the cooperation of governments to achieve law or policy reforms.

WORKING PAPER

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