WORKING PAPER

How Gender Affects Adherence to Antiretroviral Therapy in Tanzania

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This research has been supported by the President's Emergency Plan for AIDS Relief (PEPFAR) through the United States Agency for International Development (USAID) under the terms of MEASURE Evaluation-Tanzania associate award AID-621-LA-14-00001. MEASURE Evaluation–Tanzania is implemented by the Carolina Population Center at the University of North Carolina at Chapel Hill, in partnership with ICF International; John Snow, Inc.; Management Sciences for Health; Palladium; and Tulane University. Views expressed are not necessarily those of PEPFAR, USAID or the United States government.
WP-17-196

ACKNOWLEDGEMENTS

This study would not have been possible without financial assistance. We humbly acknowledge the support of the United States Agency for International Development (USAID) and the United States President's Emergency Plan for AIDS Relief (PEPFAR). We thank the USAID- and PEPFAR-funded MEASURE Evaluation–Tanzania project, which facilitated the fieldwork and provided technical support.

We thank our home institution—the College of Social Science and Humanities, Sokoine University of Agriculture, in Morogoro, Tanzania—for its support of our work. Many people made this study possible in different ways. First, our sincere thanks to respondents from Lupembe and Matembwe counselling and testing centres, who devoted their time to engage in this study. We thank Stanislaus Mwashubila and Godwin Hongoli, of those counselling and testing centres, for arranging the logistics at the centres and creating a comfortable data collection environment at the local level.

We acknowledge the Njombe District Council staff, specifically the Office of the District Executive Director, for providing us with a data collection permit. Also, we thank the district medical officer, Michael Banyema, for his support in arranging the field logistics and facilitating a research permit from the district office. We appreciate the assistance of Edward Mapunda, of the Office of the District Medical Officer, who guided the team to the two data collection centres.

Finally, we appreciate the readiness of Bridgit Adamou, of the USAID- and PEPFAR-funded MEASURE Evaluation project, based at the University of North Carolina at Chapel Hill, USA, to provide input on data collection tools and draft reports. We also thank MEASURE Evaluation's knowledge management team for editorial and production services.

CONTENTS

FIGURES

TABLES

ABBREVIATIONS

ART	antiretroviral therapy
ARV	antiretroviral
CTC	care and treatment clinic
FGD	focus group discussion
KII	key informant interview
NGO	nongovernmental organization
PLHIV	people living with HIV
VCT	voluntary counselling and testing
WHO	World Health Organization

EXECUTIVE SUMMARY

Background: AIDS was first diagnosed in 1983. We know that HIV and AIDS have been in Tanzania for more than three decades. Although efforts to find a cure for AIDS have not yet been fruitful, the Government of Tanzania initiated the rollout of free antiretroviral therapy (ART) in 2004. This intervention has dramatically reduced rates of mortality and morbidity and improved the quality of life for people living with HIV (PLHIV). However, the availability of ART does not guarantee that all PLHIV have equal access to it. Gender can increase a person's vulnerability to HIV and influence his or her ability to access information about preventive measures, care, support, and treatment. The purpose of this study was to investigate how gender-related factors affect access to and follow-through of this important treatment for HIV and AIDS.

Methods: We conducted our study in Njombe District of Njombe Region, Tanzania, from October to November 2015. The region has the highest HIV prevalence rate in the country. We used a cross-sectional design to collect data using a structured questionnaire administered at one public permanent care-and-treatment clinic (CTC) and one mobile CTC. The study population consisted of male and female PLHIV who were more than 18 years of age, were registered in an ART program in Njombe District for at least three months, and had consented to participate in the study. A combination of convenience and snowball sampling techniques was used to capture respondents with the desired characteristics. A total of 132 respondents (97 females and 35 males) completed the questionnaire. Five key informant interviews (KIIs) were conducted with health workers, nongovernmental organization (NGO) staff, and caretakers at the family level. Two focus group discussions (FGDs) were also conducted; one consisted of eight females, the other had seven males. In addition, secondary data from Njombe District health facilities were collected.

Results: Our study found that heterosexual intercourse with a spouse was the leading cause of HIV transmission for more than two-thirds of the women (64.9%), and casual sex outside of marriage was the major cause for more than half of men (54.3%). The main reasons respondents gave for getting tested for HIV were compulsory HIV screening during prenatal visits, HIV awareness campaigns (especially for men), and unhealthy symptoms such as weight loss and frequent diseases. Most PLHIV (86% of men and 80% of women) started on ART within the same year they were diagnosed. Partners did not usually get tested for HIV together; men were typically more reluctant, and they denied the problem, usually asserting their wives were the source of the virus. Women were less likely than men to consult their spouse/partners before getting tested and less likely to get support from their partners after they were tested. Women (especially married women) were more likely to face social problems, including stigma, when disclosing their HIV status to their partners. Some women feared family quarrels and harsh consequences, such as being physically abused and/or divorced. Communication barriers during the early stages of deciding to get tested, and the poor responses women received from their partners when the women consulted them, affected women's next phase of living with HIV and had a negative impact on ART access and adherence to services. Respondents had a working knowledge of how to adhere to ART and practice safe sex, but they rarely followed safe-sex practices. While nearly all the women (96.9%) took all their medicine, they were less likely than the men to follow the clinic schedule precisely. Women in the FGD said that heavy household workloads made it more difficult for them to take their medications on time.

Conclusion: Gender inequity adversely affects adherence to ART in different ways for women and men living with HIV. This study has improved understanding of gender differences in ART access and adherence. We hope this will contribute to the development of more effective gender-based interventions that can potentially enhance ART access and follow-through.

INTRODUCTION

HIV and AIDS have affected Tanzania for more than three decades, and have affected all sectors of the population (Nsimba, Irunde, & Comoro, 2010). Following the Government of Tanzania's declaration in 1999 that HIV and AIDS represent a national disaster, new policies, plans, and strategies were developed at international, national, and subnational levels (United Republic of Tanzania, 2010). Since then, to address the socioeconomic and development impacts of HIV and AIDS, health and non-health-related initiatives have been implemented by a wide range of stakeholders, including the government, NGOs, and others.

Although efforts to find a cure for HIV and AIDS have not been fruitful, the Government of Tanzania initiated the rollout of free ART in 2004 as part of a comprehensive prevention, treatment, and care strategy. This intervention has dramatically reduced rates of mortality and morbidity, improved the quality of life for PLHIV, revitalized communities, and transformed the perception of AIDS from being a plague to a manageable, chronic illness (Paterson, Swindells, Mohr, Brester, Vergis, et al., 2000; Irunde, Temu, Maridadi, Nsimba, & Comoro, 2005).

Making antiretroviral (ARV) drugs available to PLHIV has been a national achievement. However, the availability of ARVs does not guarantee that all infected men, women, boys, and girls, have equal access to treatment. It is essential that PLHIV maintain adherence to an ART schedule and consume the entire course of drugs prescribed, to prevent resistance and improve their chances of survival (Wasti, Simkhada, Randall, Freeman, & van Teijlingen, 2012). However, patient behaviour can be affected by personal, socioeconomic, infrastructural, and other challenges (Etienne, Hossain, Redfield, Stafford, & Amoroso, 2010; Nsimba, Irunde, & Comoro, 2010; Rutayuga, 2011; Idindili, Jullu, Mugus, & Tanner, 2012; Wasti, et al., 2012;).

Past research reveals gender-related challenges experienced by people accessing HIV and AIDS care and treatment services. In some countries where treatment is available, for example, women are less likely to access it than men, owing in part to cultural norms that prioritize men's treatment—the traditional breadwinners (Joint United Nations Programme on HIV/AIDS, 2006). The International Community of Women Living with HIV/AIDS argues that gender inequality within households and families is a barrier to women's access to information, treatment, support, and other health services. Moreover, many women must obtain permission from a husband or a male relative to seek HIV care (International Community of Women Living with HIV/AIDS, 2004).

Findings from previous research on adherence to ART services are inconclusive. In Ethiopia, men were more likely than women to discontinue ART, but there was no clear explanation for this gender difference (Mekonnen, Sanders, Tibebu, & Emmart, 2010). An assessment of the uptake of ARVs in Malawi found that men are unlikely to access treatment out of fear of marital discord, because men testing positive are perceived to have contracted HIV because of infidelity. Given that the desire for marital harmony affects men's willingness to access testing services, many men face a barrier in obtaining and maintaining treatment (Muula & Kataika, 2008; Campbell, et al., 2011; Skovdal, et al., 2011).

Depending on social and cultural norms related to gender, one's gender can increase personal vulnerability to HIV and influence one's ability to access information about preventive measures, care, support, and treatment. Hence, gender inequity is recognized as a major barrier to effective care, treatment, and prevention efforts (World Health Organization [WHO], 2003; Herstad, 2010).

In Tanzania, efforts to address gender issues have been initiated only recently. Such efforts aim to ensure that gender considerations are mainstreamed in development programs, interventions, and policies affecting the care and treatment of people affected by HIV and AIDS.

Although research has been conducted to understand factors influencing ART access and adherence, these studies have limitations. Most were conducted in Asia, Latin America, and a few countries in Africa. Among the available studies from other countries, few have specifically captured gender-related factors (Puskas, et al., 2011; Skovdal, et al., 2011; Skovdal, Campbell, Nyamukapa, & Gregson, 2011; Tapp, et al., 2011).

In Tanzania, few studies have shed light on gender factors related to ART adherence (Roura, et al., 2009; Nsimba, et al., 2010; Rutayuga, et al., 2011; Idindili, et al., 2012). Most Tanzanian studies paid little attention to a gendered analysis of the factors influencing adherence to ART. Gender has been mentioned as a variable contributing to nonadherence, but without exploration of how this occurs.

Given the paucity of gendered analyses of factors affecting adherence to ART services, it is not likely that equitable access to these services will be attained, without further study. We therefore conducted an empirical, gendered analysis of location-specific findings to guide the development of effective gender-focused strategies and policies for ART adherence. Recognizing that the HIV- and AIDS-related needs of women, men, girls, and boys are unique and context-specific, we aimed to present our findings and practical recommendations from a gender perspective to enhance efforts to improve the equitable uptake of HIV and AIDS prevention, care, and treatment services by men and women.

Research Questions

The main objective of our study was to investigate how gender-related factors affect access to and follow-through of treatment for HIV and AIDS. Specifically, the study sought to answer the following research questions:

1) What is the role of the patient's sociodemographic characteristics in access to ART and follow-through of treatment?
2) What communication barriers between men and women affect access to and follow-through for treatment?
3) How does household division of labour affect ART access and follow-through?
4) How does household decision making affect ART access and adherence?
5) How do access to and control of resources affect ART access and adherence?

METHODS

Study Setting

We conducted the study in Njombe District of Njombe Region, Tanzania from October to November 2015. The region has the highest HIV prevalence rate in the country. Respondents were drawn from one public permanent CTC and one mobile CTC from another village. These CTCs are among the oldest and most well-established in Njombe District.

Study Design

A cross-sectional design was used, in which data were collected once by the project team: four experienced researchers and one research assistant. A one-day training was conducted with the research assistant and project team to familiarize them with the project objectives, data collections tools, techniques on data collection, and research ethics.

Sampling

The study population consisted of male and female PLHIV in Njombe District who were registered at the CTC centre within the district. The study's inclusion criteria required the PLHIV to be more than 18 years of age, registered at one of two ART programs within Njombe District for at least three months, and given verbal or written consent to participate in the study. Respondents were drawn from Lupembe CTC, which is a permanent public centre and one mobile CTC from Matembwe Village. These CTCs are among the oldest and most well-established in Njombe District. With the support of the CTC staff, participants were selected daily from those who attended a scheduled clinic visit on that day. Owing to the sensitivity of the study topic, a convenience technique was used to identify respondents with the desired characteristics. Whenever the selected respondent was not willing to participate, a replacement was selected; the respondent who refused to participate was asked to recommend another person with the same characteristics, or the CTC staff was asked for support in finding one. A total of 132 respondents (97 females and 35 males) completed the structured questionnaire that was used for the collection of quantitative data.

Data Collection

The study used a mixed-methods approach. For the quantitative component, a structured questionnaire was used at the CTCs to capture individual patient information related to adherence and treatment. Personal information was collected on lifestyle and risk behaviours, number of missed doses of ART, attendance at the clinics, and HIV/ART knowledge. The structured questionnaire also captured data on sociocultural and gender-related challenges influencing ART access and adherence.

The qualitative component consisted of semi-structured interviews with key informants and focus group discussions. A semi-structured interview checklist and FGD guide were used to collect information from key informants and FGD participants on gender factors related to the care and treatment of HIV and AIDS (health workers, NGO staff, and caretakers at the family level). Two FGDs were conducted to complement information from the structured questionnaire. One FGD consisted of eight women and the other had seven men.

Data Analysis

Quantitative data were analysed using Statistical Package for the Social Sciences (Version 17), with descriptive analyses computed to find the distribution of respondents and relationship among variables. Adherence to ART services was measured based on patients' self-reported attendance at scheduled appointments, use of recommended dosage, and attendance at regular medical check-ups and tests. Qualitative data were analysed by content analysis. The focus was on key issues related to specific research objectives. Thematic content analysis with constant comparison was used to analyse quantitative data. We chose respondents' quotes according to their relevance to the research questions.

Ethics Review

Research ethics approval was granted by the ethics committee of the Directorate of Research and Postgraduate Studies at Sokoine University of Agriculture. Permission to undertake the research was obtained from the vice chancellor of Sokoine University of Agriculture. Later, the permit was submitted to the district Executive Director of Njombe District Council, who introduced the research team to the District Medical Officer (DMO), whom in turn presented the team to the coordinators of Lupembe Care and Treatment Clinic (CTC) and Matembwe CTC outreach centres.

In cooperation with the CTC coordinators of the centres, the researchers were introduced to the clients who were attending the clinic on the days scheduled for data collection. The researchers explained the overall objective of the study to the interested clients, that participation in the research was voluntary, and emphasized that clients could leave the interview or FGD if they felt uncomfortable. Prior to collecting the data, the researchers read the consent forms to the respondents. They were informed that the information collected would be kept confidential and that their names would not be recorded. Respondents were reassured that the information provided would be used only for the study and shared only with the research team. Each respondent was asked to voluntarily agree or disagree to take part in the study before proceeding with the interview or FGD. Only respondents who agreed were interviewed or included in the FGDs.

RESULTS

Participant Characteristics

As shown in Table 1, about 87 percent of study participants were 26–58 years of age. Very few clients were ages 15–25 or older than 58 years of age. Half (50.8%) of all respondents were married. Almost one-third (30.3%) were widows or widowers.

More than half (56.8%) of all study respondents (75 of 132) were heads of household. The heads of household represent only one-quarter of the women in the study, compared to more than half being male-headed (56%). About 86 percent of all respondents had a primary level of education. Study findings reveal that 91.7 percent of participants reported farming as their major occupation. Very few reported being employed in the formal sector or keeping livestock as their primary occupation.

More than half (56.1%) of all respondents had a household size of 4–6 members, and 39 percent had a household size of fewer than four members.

More than half of respondents (52.3%) reported earning less than 50,000 Tanzanian shillings (Tsh) per month (equivalent to US$22), and 21.2 percent earned Tsh 51,000–Tsh 100,000 (US$23–$46). Only about 19 percent earned more than Tsh 151,000 (US$69) per month. This could be because nearly three-quarters (73.5%) of the study participants were women, who tend to earn less than men.

Table 1. Socioeconomic characteristics of respondents (n = 132)

Category	Frequency	Percentage
Age		
15–25 years	36	27.3
26–36 years	55	41.7
37–47 years	24	18.2
48–58 years	8	6.1
59+ years	9	6.8
Sex		
Male	35	26.5
Female	97	73.5
Marital Status		
Married	67	50.8
Widow/widower	40	30.3
Divorced	15	11.4
Single	7	5.3
Separated	3	2.3
Relation to Household Head		
Head	75	56.8
Spouse	40	30.3
Relative	1	0.8
Child	15	11.4
Grandchild	1	0.8
Education Level Achieved/Completed		
Primary school	13	9.8
Ordinary Secondary school	113	85.6
Advanced Secondary school	5	3.8
College	1	0.8
Occupation		
Farming	121	91.7
Petty business	7	5.3
Livestock keeping	2	1.5
Employed in the formal sector	2	1.5
Household Size (Persons)		
1–3	48	39.0
4–6	69	56.1
7 and more	6	4.9
Average Monthly Income (in Tanzanian Shillings)		
<50,000	69	52.3
51,000–100,000	28	21.2
101,000–150,000	10	7.6
>151,000	25	18.9

Reported Modes of HIV Transmission

Respondents believed they had contracted HIV by various means. The leading source of transmission for women was reported as sexual intercourse with their spouse (64.9%), whereas just 5.7 percent of men reported this as a cause. More than half (54.3%) of the men reported casual sex as a major means of HIV infection; only 10.3 percent of women reported this as a source. No male respondents reported acquiring

HIV through caring for an HIV patient, sexual assault or rape, or blood transfusion. Four females reported acquiring HIV through one of these means (Table 2).

Table 2. Modes of HIV transmission reported by respondents

Sources	Male % (N=35)	Female % (N=97)	All % (N=132)
Sexually from spouse	5.7	64.9	49.6
Don't know	37.1	20.6	25.2
Casual sex	54.3	10.3	22.2
Through caring for an HIV patient	0	2.1	1.5
Sexual assault/rape	0	1.0	0.8
Blood transfusion	0	1.0	0.8

Reasons for Testing for HIV

As shown in Figure 1, both men and women reported frequent illness as the primary reason for seeking HIV testing. A second major reason for women getting tested was pregnancy (15.5%), but for men it was exposure to HIV and AIDS awareness campaigns (14.3%). As shown in Figure 1, no men reported being motivated to test for HIV because of a partner's pregnancy.

The third major reason for men seeking HIV testing services was loss of body weight and general body weakness (11.4%), but for women it was loss of trust in their spouse or partner (12.4%). Among women reporting loss of trust, some reported deciding to test after suspecting that their partners might be HIV-positive because they engaged in risk behaviours. Some reasons for testing were reported by men only, such as casual sex (5.7%) and having multiple partners (5.7%).

Men are more involved in economic activities that take them away from their families, which can lead them to additional sexual partners.

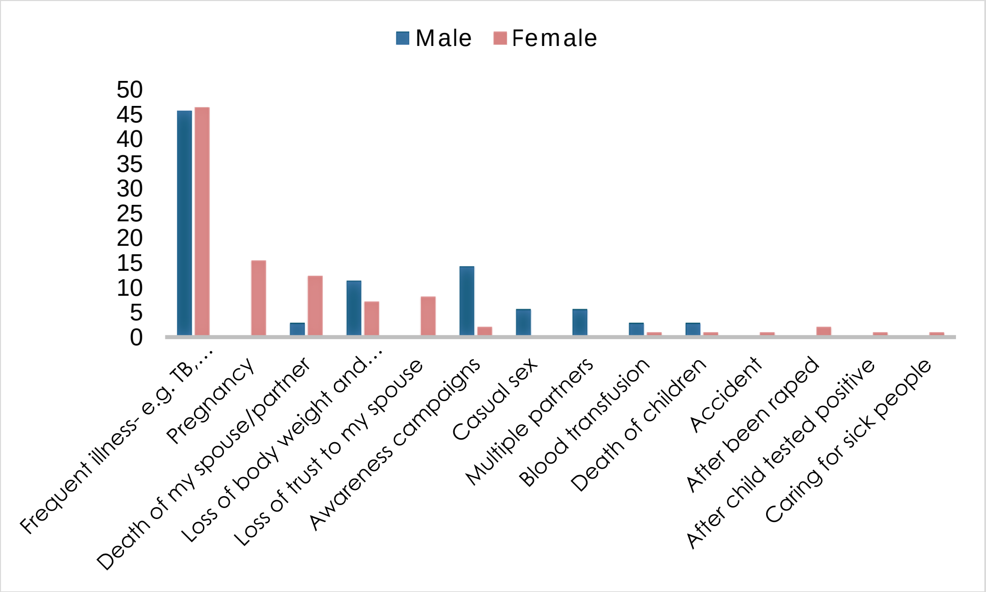
During the men's FGD, a participant said the following:

> *Getting a woman to be with (me) is not difficult in this area. . . . A man is only required to bring the blanket to the parents of the woman to be recognized as a legal partner.*

Another male participant gave the following explanation:

> *When men are away in the forest to cut timber, they go* [to] *the nearby villages looking for part-time women who can support them in cooking food, washing, and fulfilling their sexual needs. . . . To make sure that they are recognized by the parents, they go with blankets. . . . This leads men to engage into sex with women who* [they] *are not married to.*

Figure 1. Distribution of reasons for HIV testing by sex of respondents living with HIV



Time between Testing and Enrolment in Care and Treatment

The study found a gender difference in the time between testing HIV positive and enrolling in care and treatment, depending on the advancement of the disease stage. As shown in Table 3, most patients (81.1%) started ART the same year they tested positive. Sex-disaggregated findings showed that 85.8 percent of men and 79.4 percent of women started ART treatment the same year they tested. About 10 percent of the women and 6 percent of men waited for three years after testing positive for HIV to start ART.

Table 3. Time span between testing and enrolment in ART

	Male (n= 35)		Female (n= 97)		Total	
Year started on ART	**Frequency**	**% male**	**Frequency**	**% Female**	**Frequency**	**%**
The same year	30	85.8	77	79.4	107	81.1
After one year	2	5.7	8	8.3	10	7.7
After two years	1	2.8	2	2	3	2.2
After three years or more	2	5.7	10	10.3		9.0

Partner Communication in Access to and Follow-Through for ART

Communication Before HIV Testing

Interpersonal communications affected how women and men access and follow through with ART differently. For prevention and treatment interventions to be successful, communication between partners is essential. Communication with others is often the means whereby people seek or avoid information to enhance trust or mistrust, and deal with (or deny) bad news; this involves negotiation of emotional, relational, identity, and decision-making concerns (Brusher, et al, 2004).

We examined several kinds of communications that occurred before people decided to get tested for HIV. As shown in Table 4, slightly more than half (54.5%) of all respondents reported consulting their spouse/partner before visiting the clinic for HIV testing: 64 percent of the men (22 of 35) and 51.5 percent of the women (50 of 97).

One participant in the women's FGD reported:

> *How can a woman go to test this life-threatening disease without telling her husband? . . . When you are married you belong to a man.*

One-third (32.6%) of respondents reported not consulting their partners before testing, including 34 percent of the women (33 of 97) and 29 percent of the men (10 of 35).

Table 4. Consultation between partners before and after HIV testing

	Percent of respondents (N = 132)		
Statement	**Male (%)**	**Female (%)**	**All (%)**
Consulted spouse/partner before visiting VCT† clinic	16.9	37.9	54.5
Yes	7.6	25	32.6
No	2.3	10.6	12.9
N/A*	26.5	73.5	100
Total			
Spouse/partner's responses after consulting			
Positive and supportive	16.7	18.2	34.9
Advised me to go first and will come later	0.0	3.8	3.8
Negative and reactive	0.0	12.1	12.1
N/A*	9.8	39.4	49.2
Total	26.5	73.5	100

* Respondents who had no partners at the time they were tested for HIV

† Voluntary counselling and testing

As shown in Table 4, among those who reported consulting their partners before visiting a CTC clinic, about a third (34.9%) said they received positive and supportive responses, including 63 percent of the men (22 of 35) and 25 percent of the women (24 out of 97). Among respondents who consulted their spouses or partners, 12.1 percent (all of whom were women) reported receiving negative reactions; no men said they received negative reactions.

Overall, women in the FGD indicated that their partners wanted them to refrain from consulting about, discussing, and disclosing their HIV status. Those living with spouses had more challenges communicating their status. One of the female FGD participants said the following:

> *For those who are living with a partner,* [they] *are always stubborn.*

One key informant reported the following:

> *In some cases, women test and find to be HIV-positive but they don't enrol to the ART due to the communication barriers between the two.*

Communication with the Partner after HIV Testing

When respondents were asked if they went with their partner to the clinic for HIV testing, about 38 percent reported that they had. Most men (62.9%) reported having gone to the clinic with their partners, while less than one-third of women (28.9%) had done so. More women (33%) than men (5.7%) reported not going to get tested with their partners.

Table 5. Communication and disclosure of HIV status after testing between partners (N= 132)

Went together with partner for VCT	Male Frequency	Male (%)	Female Frequency	Female (%)	All (%)
Yes	22	62.9	28	28.9	37.9
No	2	5.7	32	33.0	25.8
N/A	11	31.4	37	38.1	36.4
Total	35	100	97	100	100
If you went for VCT alone, did you communicate the results to your partner?					
Yes	15	11.4	34	25.8	37.1
No	1	0.8	6	8.3	8.3
N/A	19	14.4	53	40.2	54.5

Respondents in the FGD with men reported that, after HIV testing, partners often quarrelled. When asked about problems arising between partners after testing, one male FGD participant reported the following:

> *It is often very obvious that most partners enter into quarrels during the early stages of the infections, and this is normally due to the fact that each one of them is trying to condemn the other and accusations about who is responsible for bringing the disease into their marriage. In most cases, this communication breakdown between spouses is caused by lack of trust and it really does affect partners' decision to go for medications and even using them.*

One of the male FGD participants indicated that conflicts sometimes lead to the breakdown of the marriage:

> *Sometimes, these grievances between partners continue until elders intervene and provide a piece of advice; in some cases, marriage break.*

This point was echoed by a health centre coordinator during a KII:

> *In most cases, once a wife is the first to test and found to be positive, there is a tendency for men to break the relationship, even without them being tested. Men blame women to be the source of the problem.*

Sharing Information about HIV Status

We assessed the sharing of information between PLHIV and others who were not their partners. As shown in Table 6, most respondents shared their HIV status with others. The maximum number of people to whom patients indicated disclosing their status was three for men and four for women. Every patient reported disclosing to at least one person.

During the male FGD, being HIV-positive was indicated as both positively and negatively affecting men's willingness to disclose their HIV status. Men also described male community members as frequently asking their neighbours or close community members whether there are HIV-positive people in their families. When asked whether people share their HIV status with their neighbours, a male FGD participant said:

> *You might hear neighbours saying, "How's your home? Is it stained already?" And we just talk about it very openly.*

We found differences regarding to whom women and men disclosed their status. Nearly half of the men (48.6%) shared information with their spouse or partner, while only 17.7 percent of the women did so. Nearly 40 percent of the women, but only 20 percent of the men, shared the information with their relatives. Women preferred sharing with relatives much more than with partners and children. When men decided to disclose their status, they felt most comfortable sharing with their partners (Table 6).

Men and women in the FGDs also reported that men have expectations that wives will be caregivers, as exemplified by the responses below:

> *When our men get sick, they put their hopes towards us. . . . A man expect to take care of him as a child . . . even those with mistresses they get closer to us* [wives] *to get a close attention.* (Female FGD participant)
>
> *Our spouses are the ones who take of us when are sick. . . . They remind us to attend the scheduled visits and taking medications.* (Male FGD participant)]

Table 6. Responses to the question, "To whom did you disclose your HIV status?"

Response	Male% (n=35)	Female% (n=97)	All % (n=132)
Parents	5.8	9.3	8.4
Partner/spouse	48.6	17.7	26.0
Children	5.7	13.5	11.5
Relatives	20.0	39.6	34.4
Neighbours' and other people in the village	20.0	18.8	19.9

Influence of Communication on ART Adherence

The KII data indicated that, in most cases, men do not support their partners when they test HIV-positive and decide to enrol in care and treatment. For example, one of the women from the FGD made the following statement:

> *Mostly women are not given any support after testing positive and decide to enrol for the treatment.*

Communication barriers experienced by women during the early stages of deciding to test, such as negative reactions by their partners, affect the next phase of living with the disease. The female FGD participants said that women have less say than men as to whether condoms are used during sexual activity. One female FGD participant said the following:

> *The major challenge in lifestyle is on the permanent use of condom for partners during sex. It has been very challenging for men to constantly use condom with their wives or partners. Men are complaining that once they use condom they don't enjoy sex. It is very serious . . .* [when] *one of the partners is HIV-negative and the other is positive.*

Male opposition to using condoms was cited as common, even when the partner is HIV-positive. As one of the female FGD participants said:

> *When a wife tests positive and husband negative, men will always insist on sexing without condom.*

Likewise, HIV-positive men were described as not using condoms during sexual intercourse with HIV-negative women, as in this quote from a key informant:

> *This is among the challenges we have been facing in our clinic. Generally, men are not ready to use condoms. Women have been complaining that very few men are ready to use condoms.*

Although there is a tendency for men not to abide by recommended health practices, men may be unaware of the need to do so, as a male FGD participant reported:

> *The doctors are really trying hard to educate us, especially about issues relating to family planning, alcohol drinking, and unprotected sex, and they have told us to be aware, as these issues may affect our medications.*

During the male FGD, few men said they adhered to health workers' advice. Some tried to explain how hard it is to practice safe sex. For example, when asked if men's or women's sexual lives suffer more because of positive HIV status, one man responded as follows:

> *It is the man who suffers the most, because, in most cases, the man with a positive HIV status is more likely to fall sick, is more likely to lose sexual attractiveness to their partners, and experience low sexual drive/energy.*

Household Division of Labour's Effect on Access and Follow-Through of ART

Division of Labour at the Household

When asked about roles in the household (Table 7), most respondents said that several roles were performed only by women: namely feeding children (done by 41.7% of women), washing clothes (53%), and cooking for the family (54.5%). Some roles were done by both men and women, such as income-generating activities (35.1%) and agricultural activities (40.2%).

The findings indicated that there was no specific role performed by men only. A key informant reported that the biggest challenge women faced with taking their medication on time was their heavy workload, as expressed below:

> *There is high level of commitment on the part of women on adhering to medication, since they know medication is their life, but the challenge is on taking the medication on time due to so many activities they have to do at home.* (Female FGD participant)
>
> *Men can rest but not women.* (Female FGD participant)

Men acknowledged the unequal distribution of household roles. A male FGD participant said the following:

> *In most households, there is no equal distribution of responsibilities among men and women, so in that case women are the ones who perform majority of the work in home than the men.*

Women in the female FGD said that men were less engaged in agricultural activities. They stressed that some men helped with land preparations, but not other farm activities.

Our findings in Table 7 revealed that women were much more involved in keeping livestock than men were.

Table 7. Division of labour at the household

Activity	W	M	M/W	C	W/C	O	NA	W/R	P
Feeding the young children	41.7%	0	0.8%	1.5%	4.5%	22.7%	28.8%	0	0
Washing family members' clothes	53.0%	0	2.3%	2.3%	11.4%	28.8%	1.5%	0.8%	0
Cooking for the family	54.5%	0	0	1.5%	9.8%	28.8%	0	1.5%	3.8%
Taking care of the elderly	7.6%	0	0.8%	0.8%	2.3%	0.8%	3.8%	84.1%	0
Household income-generating activities	18.3%	4.6%	35.1%	3.1%	3.8%	27.5%	3.8%	1.5%	2.3%
Agricultural activities	18.9%	0	40.2%	2.3%	12.1%	18.9%	0.8%	0.8%	6.1%
Livestock-keeping	21.2%	1.5%	20.5%	2.3%	9.1%	12.9%	25.8	3.0	3.8%

Key: W=women, M=men, M/W=both men and women, C=children, W/C=women and children, O=oneself, NA=not applicable, W/R= women and relatives, P= parents

Impact of Household Activity on Attending Scheduled ART Clinics

Although the FGD participants said that household chores limited women from taking their medication on time, most of the questionnaire respondents (89.7% of women and 85.7% of men) said there was not a specific household activity that kept them too busy to attend scheduled appointments. During the FGD, women participants reported that, despite a heavy workload, they still managed to adhere to the scheduled clinic visits more consistently than did men. Patients valued attending scheduled clinics in person rather than sending someone to collect the medication for them, as expressed by one woman:

> *Attending in person is very important since you're supposed to check the progress of CD4 count. . . . Our doctors do not encourage sending representative several times; they want to see you in person.*

This shows that most PLHIV are already taking ARVs and are aware of the importance of taking the prescribed doses and visiting clinics for in-person check-ups. This also explains why women, despite heavy workloads, try not to skip their clinic visits. One female FGD participant said the following:

> *How can I not come to the clinic? I am now depending on these pills; my health was very bad as compares to now. . . . this is a place you cannot ignore to come if you have this disease.*

Male FGD participants confirmed that women are more likely to attend scheduled appointments. Men usually go to the clinics when their health conditions worsen. One male participant declared the following:

> *In most cases, women are more likely than men to attend clinics. . . . Most men prefer to go to the clinics after their health conditions have started to become critical. You will hear somebody saying 'ndifwa' "* [a native word implying, "I am dying"] *and that is when he remembers to go for medications.*

One key informant reported that patients attend scheduled clinic visits more frequently than before:

> *Nowadays things have improved, unlike in the past. Many patients try to keep the schedule for visiting the clinic. Even if they are not able to come, they usually send someone to collect some medication for them. Currently, when patients are requested to indicate next of kin, who in case of emergence is allowed collect medication for them, they normally mention their partners or a close relative.* (Coordinator of Matembwe CTC)

Access to and Control over Resources Influence ART Adherence

Travel Time to Clinic and Means of Transport

We found that access to and control over resources affected access and adherence to ART. Study participants were asked about time spent going to the clinic, transport used and who paid the transport costs, dependence on transport facilities or charges, and their access to a nutritious diet, as recommended for people on ART.

We found that more than half of participants (58.5%) spent one hour or less traveling to the CTC and more than a third (38.6%) spent one to one-and-a-half hours (Table 8). Most participants (71.2%) went to the clinic on foot. Though no women reported using a bicycle, about 17 percent of men said that they biked to the clinic. Women were not restricted from using the family bicycle, but they preferred not to, because, culturally, bicycles are seen as being for men only. One female FGD participant expressed this sentiment:

> *Hmm! How can I use a bicycle? In this area, women usually don't use bicycles.*

Given that most women walked to the clinic (81.4% of women, compared to 42.9% of males), only 14 percent of females indicated they use paid transport to get to the clinic, compared to 40 percent of males. One female FGD participant said the following:

> *Women are facing challenge of getting money for a bus or motorcycle fare. Most of the time, women wake up early in the morning and walk to the clinic. . . . If it happens that you have the same clinic appointment as your husband, he is likely to pay for you, but not when you go on your own.*

Very few participants (2.9% of males and 6.2% of females) declared that their dependence on transport affected their access and adherence to ART.

Table 8. Access to and control over resources and adherence to ART

Statement	Male % (N = 35)	Female % (N=97)		All %) (N = 132)
Travel time to the clinic				
Less than 1hour	34.3	33.0		33.3
1 hour	22.9	25.8		25.0
1.5 hours	11.4	14.4		13.6
2 hours	20.0	19.6		19.7
3 hours	8.6	5.2		6.1
More than 3 hours	2.9	2.1		2.3
Transport used to reach the CTC				
Bicycle	17.1	0		4.5
Public transport	22.9	16.5		18.2
Private transport	17.1	2.1		6.1
Walk (on foot)	42.9	81.4		71.2
Do you pay for the transport fare?				
Yes	40.0	14.4		21.2
No	42.9	38.1		39.4
N/A	17.1	47.4		39.4

Does the dependence on transport affect access and adherence to scheduled clinics?				
Yes	2.9	6.2		5.3
No	51.4	36.1		40.2
N/A	45.7	57.7		54.5
Do you have access to a special diet for people taking ARVs?				
Yes	48.6	47.4		47.7
No	17.1	29.9		26.5
N/A	34.3	22.7		25.8
Do you have control over the diet?				
Yes	42.9	46.4		45.5
No	2.9	8.2		6.8
N/A	54.3	45.4		47.7

Accessing a Special Diet

Nearly all the respondents (99.2%) indicated that taking ARVs requires eating well. About 80 percent of the respondents agreed that a special diet was required for those on ART. One female focus group participant said:

> *We are not allowed to take any medication without taking enough food. If you don't take food, you are advised to take a lot of water before the medicine. It has been a norm for us to make sure that we eat something before taking our tabs. If you take tabs before eating, you feel very bad.*

Men in the FGD reported the following:

> *We are usually advised by the doctors to eat frequently different varieties of food, including fruits, vegetables, and* [whole] *grains.*
>
> *The doctors also insist about balanced diet, due to what they said it will strengthen our immunity systems and thus enable the proper functioning of medications.*

A CTC staff member pointed out that ART clients are advised on eating well.

> *We always advice our client who are enrolled on ART on eating diverse foods for the maintenance of their health. . . . Most of them, they do adhere, since failure to eat well affect the intake of medicines.*

However, as Table 8 shows, fewer than half all survey respondents (47.7% of all, including 48.6% of men and 47.4% of women) reported having access to the special diet needed by someone on ART. Nearly twice as many women as men (about 30% versus 17%) said they did not have access to that diet. The same problem was reported during the FGDs:

> *For some foods, like the ones which are good sources of protein, we have to buy from the markets or from neighbours in the village. For example, one litre of milk is sold at Tsh1000 of which some cannot afford. The challenge is low income for majority of the people. For the people who are doing small business or casual labour, you can buy most of the foods.* (Female FGD participant)

> *Due to tough economic conditions for most of us, it is often not possible to afford all the dietary requirements suggested by doctors as part of medications. . . . We just eat anything that is available in our homes.* (Male FGD participant)

One key informant stated the problem as follows:

> *Some few clients complain that food is not available, but majority, they get food. . . . The problem is for some food items, like meat and milk, which needs to be bought.* (Key informant from CTC)

Access to Income for Food and Transport

When asked which small businesses or casual labours were done by women to earn money to buy food, the primary activities mentioned in female FGDs were plucking tea and carrying timber. However, the availability of employment or farm work for women did not mean that the income they earned would stay in their hands and be used for their own needs, such as paying for transport to the CTC or buying food. One female FGD participant said the following:

> *Some few crops, like millet, beans, can be controlled by women. . . . These are women crops; but once you sell, the money will be spent for the family.*

Women in the FGD said that it was common for men to exercise full control over the household finances, even when the income was a result of the women's efforts. One said the following:

> *Some men have a tendency of stealing the harvested crop and sell so that they can get money for drink alcohol.*

When the female FGD participants were asked what would happen if a woman decided to sell crops to contribute to the household income, the women said that their husbands would physically abuse them. One said this:

> *If it happens that a woman decides to sell some crops for supporting family needs, their husbands beat them. . . . Men can even leave their home once a woman had sold some crops without his permission.*

Adherence to ART

Our findings indicated that most patients (96.6% of females and 82.9% of males) could take all their medication as prescribed (Table 9). However, adhering to the ART clinic schedule as recommended was much lower, with men more likely to attend to scheduled clinics than females (77.1% of men and 64.9% of women). The male FGD participants explained that, even when both partners were HIV-positive and attended ART together, women had a more difficult time adhering to a regular schedule, because they were overburdened with household chores, such as cooking, fetching firewood, collecting water, and taking care of children or the disabled. These were chores that men rarely did, as indicated by one male FGD participant in the statement below:

> *We love our wives, but there are some duties men cannot do. . . . They should continue doing them unless they are too sick to do them.*

Both male and female FGD participants acknowledged that they had received sufficient education on dietary requirements, especially for people who were on ARVs. They reiterated that noncompliance with dietary recommendations was not because of lack of knowledge or interest, but rather lack of money or seasonable scarcity of some foods.

Table 9. Adherence to ART

Statement	Male% (*n*=35)	Female% (*n*=97)	All% (N=132)
Ability to take all medications prescribed for the past 4 weeks			
Very poor	5.7	2.1	3.0
Fair	8.6	1.0	3.0
Good	17.1	15.5	15.9
Very good	31.4	43.3	40.2
Excellent	37.1	38.1	37.9
Adherence to scheduled clinical visits for the past four weeks			
A little bit of the time	2.9	6.2	4.5
Most of the time	20.0	28.9	26.5
All the time	77.1	64.9	68.2
Percentage of medication taken for the past four weeks			
60	2.9	0	0.8
70	5.7	0	1.5
90	8.6	3.1	4.5
100	82.9	96.9	93.2

Despite adherence below recommended levels, women are doing better relative to men, overall, when it comes to the variables for adherence. When asked about adherence to clinical visits, one key informant said the following:

> *Nowadays it is not like in the past. The patients try to keep the schedule for visiting the clinic. . . . Women are the leading in terms of registered clients and adherence to the [clinical] visits.*

The relatively higher level of adherence was also discussed during FGDs. When women were asked about adherence to scheduled clinic appointments, one of the FGD respondents said the following:

> *In fact, women are the most who adhere to the [clinical] visits than men.*

The study used binary logistic regression to estimate the contribution of sociodemographic characteristics on adherence to scheduled clinic visits for ART (Table 10) and adherence to prescribed ARV doses (Table 11). We found that the amount of time one had spent in an ART program was an important predictor of adherence to scheduled visits for ART. The rest of the variables were not statistically significant.

Table 10. Adherence to ART (based on scheduled ART clinic)

	B	S.E.	Wald	df	Sig.	Exp(B)
Sex	.492	.540	.832	1	.362	1.636
Education level	-.125	.547	.052	1	.819	.882
Occupation	-.607	.412	2.167	1	.141	.545
Total household members	-.115	.106	1.181	1	.277	.891
Age	.013	.022	.332	1	.564	1.013
Marital status	-.318	.214	2.205	1	.138	.728

Average income	.000	.000	2.461	1	.117	1.000
Time since HIV diagnosis	-.131	.061	4.616	1	.032	.877
Type of transport	-.394	.263	2.244	1	.134	.674
Commute time to the clinic	-.047	.103	.205	1	.651	.954
Taking alcohol	-.202	.532	.144	1	.704	.817
Constant	3.713	2.270	2.675	1	.102	40.968

Table 11. Adherence to ART (based on ARV dose)

Variable	B	S.E.	Wald	df	Sig.	Exp(B)
Sex	.940	.673	1.950	1	.163	2.560
Education level	-2.136	.975	4.803	1	.028	.118
Occupation	.262	.626	.175	1	.676	1.299
Total household members	.368	.182	4.090	1	.043	1.445
Age	.059	.033	3.177	1	.075	1.061
Marital status	.604	.337	3.224	1	.073	1.830
Average income	.000	.000	2.209	1	.137	1.000
Time tested HIV	.014	.079	.033	1	.857	1.014
Type of transport	-.057	.316	.032	1	.857	.945
Time it takes to go the clinic	.240	.152	2.486	1	.115	1.272
Taking alcohol	-.498	.726	.471	1	.493	.608
Constant	-.890	2.893	.095	1	.758	.411

DISCUSSION

The study intended to investigate how gender-related factors affect access and follow-through of treatment for HIV and AIDS. It found that the leading cause of HIV infection among women has remained heterosexual intercourse with a spouse, and for men it is casual sex outside of marriage. Women's responses, however, might be influenced by cultural norms whereby it would not be appropriate for married Tanzanian women to acknowledge practising multiple sexual relationships. Similarly, although casual sex was reported only by men, one could argue that this is influenced by cultural practices that condone men having multiple partners. Men are more involved in economic activities that take them away from their families, which can lead to seeking additional sexual partners.

Testing for HIV was found to be associated with awareness of HIV and AIDS symptoms, risk factors for contracting HIV (such as multiple partners and casual sex), awareness campaigns, and pregnancy. Our findings also reveal that awareness campaigns play a greater role in motivating men than women to get tested. This might be because women have less mobility, which affects their attendance at public gatherings. Although Tanzania requires HIV testing for all pregnant women and their partners, our study shows that male partners do not accompany their spouses to testing. Our findings indicate that men prefer not to accompany their partners to avoid an HIV diagnosis for themselves. This allows them to remain in denial, and maintain the common perception that their wives are the source of the disease. This belief indirectly affects the degree to which men support women's access and adherence to HIV and AIDS treatment and care services.

People living with HIV experience medical, social, and personal uncertainties (Brashers, Neidig, & Goldsmith, 2004; Weitz, 1989) that require an appropriate management strategy, if they are to avoid negative consequences. Our study found that men still mistreat and physically abuse their partners or spouses, particularly at the time of disclosure of HIV status. It also confirms that social support from people other than a woman's partner is important to her ability to manage disease-related uncertainties. Women prefer to share their status with relatives, rather than partners, to cultivate social support. Or they often keep quiet, owing to the fear of family quarrels and harsh consequences, including physical abuse or divorce. Unlike women, when men decide to disclose their HIV status, they prefer to disclose to their partners, likely because men depend on women for care and support during illness. Although study findings show that people are becoming more open about their HIV status, PLHIV still experience social stigma.

Even though women often support their husbands' adherence to ART, they continue to be more vulnerable, owing to communication challenges between partners.

The study further confirms the influence of a power imbalance between men and women in negotiating safer sex. A high level of awareness among couples of best practices for people living with HIV has not improved women's ability to negotiate safe sex, including the use of a condom with their HIV-positive partners. Women may advocate engaging in safe sex, but still fail to persuade men to use a condom, because men ultimately control decisions about sexual relations. This supports the assertion that education itself is not enough to protect someone who is living with an HIV-positive partner (Joint United Nations Programme on HIV/AIDS, 2001). Whether a woman is protected from HIV is often determined by her male partner, who may not wish to remain faithful or use a condom.

Unequal household division of labour still burdens women more than men. Women engage in most of the household chores and income-generating activities. However, this has not affected women's adherence to scheduled clinic visits.

It is well known that income is one of the factors facilitating access to and follow-through with care and treatment services for PLHIV (Grede, de Pee, & Bloem, 2014; Tomori, Kennedy, Brahmbhatt, Wagman, Mbwambo, et al., 2014; Mugisha, Teasdale, Wang, Lahuerta, Nuwagaba-Biribonwoha, et al., 2014). Our study found women to have no decision-making power over household resources. This affects women's position, ultimately making them financially dependent on their partners. This lack of financial independence underscores women's lack of agency in many relationships. It is one aspect of disempowerment that women face when trying to address their healthcare needs.

Despite these challenges, our study reveals that the rate of adherence to ART is more than 60 percent among men and women. This degree of adherence is attributed to a higher level of awareness about the importance of ART services among PLHIV and the increasing accessibility of CTC locations. These two factors have improved attendance to scheduled clinic visits even for the people with limited financial resources or means of transport. These findings regarding levels of adherence to ART compare well with those from similar studies reported in the literature. For example, one study in Cameroon (Akam, 2004) found an adherence rate of 68 percent. Another study, conducted in Botswana, found that between 54 percent and 56 percent of patients had an optimal adherence rate of at least 95 percent (Weiser, Wolfe, Bangsberg, Thior, Gilbert, et al., 2003). Despite improvements in adherence, men and women have still not achieved the recommended adherence levels for ART. People with HIV must achieve at least 95 percent ART adherence to avoid treatment failure and the risk of developing drug-resistant strains of the virus. For this reason, poor adherence to ART is a problem, with implications both for clients' well-being and public health (Sethi, Celentano, Gange, Moore, & Gallant, 2003).

RECOMMENDATIONS

Our study should enhance understanding of gender differences in ART access and adherence. We hope this new knowledge will contribute to the development of more effective gender-based interventions that can potentially enhance ART access and follow-through. We offer the following recommendations.

Recommendations

- Ensure that HIV information, education, and communication efforts targeting men denounce violence against women.
- Train HIV counsellors on how to address violence or potential violence against partners and spouses.
- Develop stronger messages about the importance of condom use.
- Better enforce laws against knowingly transmitting HIV to others.
- Strengthen programs that encourage couples to get tested at the same time.
- Ensure that HIV protocols emphasize total ART adherence as an imperative for public and personal health.
- Speak out and encourage discussion of the importance of ART adherence and the gender issues that affect it.
- Integrate gender issues in HIV literacy programs.
- Support PLHIV in establishing agricultural projects that increase year-round availability of high-protein food sources for their diets.

CONCLUSION

Heterosexual intercourse is a leading source of HIV transmission. In our study, men reported casual sex as a major means of acquiring HIV, while women said they acquired the virus from their spouse or partner. Frequent illness was the main reason that men and women decided to get tested for HIV. Women also reported the death of spouse and pregnancy as reasons for getting tested for HIV. Men were more likely to say that awareness campaigns prompted them to be tested. Most respondents (both men and women) reported beginning ART the same year they tested HIV-positive.

The study findings show that a lack of communication (because of fear of mistreatment) often prevents PLHIV from disclosing their HIV status to their partners. The overall poor reactions women receive from their partners constrain women from discussing or disclosing their HIV status with male partners. This limits social and economic support from their partners and ultimately affects their ability to adhere to ART successfully. We found that most female respondents share their status with relatives, but not partners, partly because of fear of abuse. The implication is that women are more vulnerable when communicating about issues related to testing. Male respondents seem to be more candid with their partners, with the expectation that their partners will care for them. Overall, most respondents report having shared their HIV status with at least one person; this may imply that HIV stigma is decreasing. If so, this is likely to enhance adherence to ART.

Actual access to ART needs to be understood in the context of where ART is available free of charge in Tanzania. Free ART and the availability of mobile clinics have dramatically increased access to medication. However, we found that women have lower rates of adherence to ART than their male counterparts. Even though most men and women take their prescribed medication daily, women are more constrained in taking medication on time, because of heavy household workloads. We also found that women are less likely to attend scheduled clinic appointments, because of demanding domestic obligations. Consequently, the health of these women is likely to be affected by failure to attend scheduled clinic visits and limited time for rest.

Maintaining a good diet was a problem reported by most of the respondents, especially women, owing to a lack of control over financial resources. This limits the ability to purchase nutritious food. High levels of poverty and the seasonal scarcity of some nutritious foods also limit the ability of clients to fully follow the dietary recommendations.

Gender inequities have been recognized as a major barrier to effective care, treatment, and prevention of HIV. As treatment programs are rolled out and scaled up, gender inequity still adversely affects adherence in different ways for women and men living with HIV.

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This research has been supported by the President's Emergency Plan for AIDS Relief (PEPFAR) through the United States Agency for International Development (USAID) under the terms of MEASURE Evaluation-Tanzania associate award AID-621-LA-14-00001. MEASURE Evaluation–Tanzania is implemented by the Carolina Population Center at the University of North Carolina at Chapel Hill, in partnership with ICF International; John Snow, Inc.; Management Sciences for Health; Palladium; and Tulane University. Views expressed are not necessarily those of PEPFAR, USAID or the United States government. WP-17-196