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Financial obligations and economic barriers to antiretroviral therapy experienced by HIV positive women who participated in a job-creation programme in northern Uganda

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Abstract

Economic costs are commonly cited as barriers to women's use of antiretroviral therapy (ART) in sub-Saharan Africa; however, little is known about how changes in women's income influence economic barriers to care. We analysed in-depth interviews with 17 HIV positive women who participated in a job-creation programme in northern Uganda and two key informant interviews with programme staff to examine lingering economic barriers to care experienced after programme enrolment. We found that participants continued to experience economic barriers even after receiving steady income and improving their economic status. Two themes emerged: first, limited resources in health facilities (e.g., drug and staff shortages) led participants to view ART utilisation as a primarily economic endeavour where clients made informal payments for prompter services or sought treatment in private facilities where ART was readily available; second, increased economic status also increased expectations of economic reciprocity among participants' social networks. Financial obligations often manifested in the form of caring for additional dependents, limiting the resources women could allocate toward their HIV treatment. When paired with limited resources in health facilities, increased financial obligations perpetuated the economic barriers to care experienced by participants. Job-creation programmes should consider how health institutions interact with participants' financial obligations to influence women's access to HIV services.

Keywords

HIV; barriers to ART utilisation; women; northern Uganda; income-generating programmes

Introduction

In sub-Saharan Africa, income-generating interventions have become a popular strategy to reduce HIV transmission and mitigate the negative affects of HIV infection (Dworkin and Blankenship 2009; White and Morton 2005; van Rooyen, Stewart, and de Wet 2012; Padian et al. 2011). The United States Agency for International Development (USAID) defines income-generating interventions as strategies that “attempt to address poverty,

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unemployment, and lack of economic opportunities to increase participants' ability to generate income and secure livelihoods." (USAID and Project SEARCH 2013, pg. 1) Such interventions usually include microfinance, livelihood, or job-creation strategies, and usually seek to engage poor women who are often cited as particularly vulnerable to HIV (Kim et al. 2009; Gupta 2002). While more organizations are using income-generating interventions, little is known about the effects of such interventions on the uptake of and adherence to antiretroviral therapy (ART). Since ART coverage is under 70% in sub-Saharan Africa as of 2012 (UNAIDS 2013),¹ understanding these effects are important. In sub-Saharan Africa, common barriers to ART utilisation include transportation costs, distance to clinics, long wait times, loss of income, food insecurity, and HIV-related stigma (Duff et al. 2010; Weiser et al. 2010; Posse et al. 2008). While ART is now offered free-of-charge in public facilities throughout much of sub-Saharan Africa, additional costs associated with treatment (e.g., transportation, consultation fees, and food requirements associated with adherence) are still major barriers to care, particularly for women who may have limited autonomy over household resources (Duff et al. 2010; Tuller et al. 2010). Indeed, in Uganda economic costs were the most common barriers to care cited by HIV positive women (Duff et al. 2010; Tuller et al. 2010; Weiser et al. 2010).

Income-generating interventions have the potential to reduce economic barriers to HIV treatment through several mechanisms. First, participating women may increase their access to financial resources that could be allocated to treatment costs. Second, women may obtain training in life skills and/or gender relations, trainings that are often included in livelihoods programs and may increase participants' level of economic and/or social empowerment (for example, see Pronyk et al. 2008). Other studies suggest that increased empowerment may be linked with improved ART adherence (Arrivillaga et al. 2012; Nguyen et al. 2007). Finally, female participants may increase their social support by developing new social networks with other programme participants and programme staff. Social support has been linked to improved clinical outcomes for people living with HIV (Bateganya et al. 2015; Gaede et al. 2006).

A small but growing body of literature suggests that microfinance programmes, one form of income-generating interventions, may reduce economic barriers to ART. HIV positive microfinance recipients have used loans and the income gained from loan investments to support their ART regimens (Chao, Obuya, and Macharia 2004; Wagner et al. 2012; Viravaidya, Wolf, and Guest 2008; Holmes et al. 2011). Weiser and colleagues found that a microfinance programme, when coupled with livelihood trainings, was associated with increased CD4 counts and suppressed viral loads among HIV positive participants in Kenya (Weiser et al. 2015). However, HIV positive recipients have also experienced increased stress due to loan repayment obligations, low returns from loan investments, and high rates of loan default (Chao, Obuya, and Macharia 2004; Wagner et al. 2012; Barnes 2002).

Job-creation programmes, another form of income-generating interventions, are becoming increasing popular throughout sub-Saharan Africa, although robust evaluations of these programmes are rare (World Bank 2015). Job-creation programmes are intended to create

¹Estimates are based on 2010 WHO guidelines. Coverage is substantially lower when applying 2013 WHO guidelines.

jobs that should ensure regular income for an extended period of time. Most job-creation programmes target poor women, provide full or part time employment, and offer life skills training.² The effects of job-creation programmes may influence economic barriers to HIV treatment differently than those of microfinance programmes. For example, job-creation participants are not concerned with loan repayments or generating successful returns from their financial investments since regular income is guaranteed as long as participants attend the programme. Staff from job-creation programmes in Uganda reported that small local jobs, such as selling crafts, community gardening, or household cleaning, provided critical financial support for participants living with HIV (Yager, Kadiyala, and Weiser 2011), however, researchers have not examined the influence of these programmes on barriers to HIV treatment. In this paper, we add to the existing literature by analysing lingering economic barriers to care experienced by HIV positive women who participated in a job-creation programme in Gulu, northern Uganda. Our analysis focuses on economic barriers to care since these barriers should, theoretically, be reduced by participating in the programme.

Context

Gulu is the most populated district in northern Uganda. In 2010, 10% of pregnant women were HIV positive (Ochola et al. 2013), a rate higher than the Ugandan national average (Ministry of Health [Uganda] 2010b). Beginning in the 1980s, the region experienced two decades of civil strife. Millions of people were displaced and over 1.5 million people lived in internally displaced camps (MoH et al. 2005; Fabiani et al. 2007). In 2010, the region was peaceful and camps were closed; however, as international funding declined, the transition to peace increased the vulnerability of those who remain near previous internally displaced sites (Jacobsen et al. 2006).

Limited resources in health facilities and persisting costs associated with services continue to limit health service utilization. In 2008, over 50% of Ugandan government healthcare positions were vacant (Ministry of Health [Uganda] 2008; Wojczewski et al. 2015). In 2012, out-of-pocket costs for ART, including the cost of transportation, consultation fees, and hidden costs, were estimated at 121 USD per year (Moreland et al. 2013), more than the average monthly income for rural Ugandans (mywage 2010). At the time of the study, government health facilities officially offered ART free-of-charge, while private facilities charged approximately 3 USD per visit in order to cover consultation fees (Hardon et al. 2007).³ In 2010, Gulu District had eight facilities that offered ART: one regional referral hospital, three primary hospitals, two mini-hospitals (HC IV), one health centre (HC III), and one AIDS clinic (Ministry of Health [Uganda] 2010a). All facilities were located in or near Gulu town; rural, decentralised facilities did not offer ART services at that time.

²Examples of job-creation programmes in Uganda include 31Bits International (www.31bits.com), Krochet Kids (www.krochetkids.org), Bead for life (<http://www.beadforlife.org>), Sseko Designs (<http://ssekodesigns.com>), and Wawoto Kacel (<http://www.wawotokacel.org>).

³Private health facilities charged a small fee for each consultation. ART was provided free-of-charge.

Methods

Programme Description

31Bits International is a job-creation programme aimed to improve the financial stability of poor women in northern Uganda. The programme was developed in 2008 to create a demand for Ugandan paper jewellery in the USA, thereby providing market opportunities and long-term employment for poor women who were able to make paper jewellery but were unable to access a market in which the jewelry could be sold on a consistent basis. In 2010, participants were offered fair and consistent wages, life skills trainings, on-site counselling from a certified counsellor, and opportunities for micro-loans. Income diversification and entrepreneurship was encouraged and supported throughout the programme. Participants were required to work three days per week with two optional workdays (up to five days per week) and had opportunities for sick leave, paid leave, compassion leave, and unpaid leave. Women earned a salary similar to an elementary teacher's assistant, approximately 150 USD per month (mywage 2010). Salaries were paid bimonthly into participants' personal bank accounts. If a woman did not have a personal bank account upon enrolment, the organisation's staff helped her get one. At the time of data collection, 31Bits International did not provide services directly tailored to HIV positive women.⁴

Every year a new cohort of women joined the programme. Cohort size averaged roughly 35 women. New cohorts were recruited through community-based advertisements, local partnerships, and word-of-mouth. Women interested in the programme completed a home-based, in-depth interview with programme staff to assess their eligibility using a needs-based criterion that included the following indicators: the presence of income-generating activities prior to enrolment; the number of dependents supported by the household; and household assets based on standardised questions used by the Demographic Health Survey (UBOS and ORC Macro 2012). Women whose household earned less than 2 USD per day, had at least one dependent, and had little to no household assets were prioritised for enrolment. In 2010, 106 women were employed by the organisation. Although the 31Bits International programme was located in Gulu town, most participants lived in surrounding rural areas.

Data Collection

We developed an interview guide which included questions about participant demographics, current use of HIV services, and perceived barriers and facilitators to participants' use of ART. Open-ended questions drew on the socio-ecological framework, including probes about barriers and facilitators at the interpersonal, community, and societal level (Bronfenbrenner 1979). The interview guide was piloted with four HIV positive women involved in income-generating activities outside of 31Bits International and was modified as needed. Participants were recruited during an annual survey conducted by 31Bits' programme staff for monitoring and evaluation purposes. Women who self-identified as HIV positive and eligible for ART during the annual survey were recruited to participate in an in-depth interview. Twenty-two women (21% of all programme participants) were recruited. Five women refused to participate; three due to time restrictions and two due to fear of status

⁴More information about the 31Bits International programme can be found at <http://31bits.com/about>.

disclosure. Refusers had similar demographic characteristics as interview participants. In total, in-depth interviews were completed with 17 HIV positive women employed by the 31Bits International job-creation programme.

Interviews were conducted in a private location by an experienced female interviewer who was from northern Uganda, familiar with the 31Bits programme, and trained by the lead author in qualitative research methods and protection of human subjects principles. Interviews were conducted in the local language of the area and were recorded. Recorded interviews were transcribed verbatim and translated into English. All interviews were conducted between June and August 2010 and lasted approximately 50 minutes.

We also conducted key informant interviews with two of the organisation's on-site staff, using an interview guide developed based on preliminary analyses of participant interviews. Key informant interviews were conducted in English by the lead author in December 2010 and lasted approximately one hour each. Interviews were recorded and transcribed verbatim.

Data Analysis

Interviews were analysed in Atlas.ti v. 6.2 using thematic analysis (Boyatzis 1998) and a combination of deductive and inductive coding methods (Fereday and Muir-Cochrane 2006). We used a socio-ecological framework to code barriers to care at the interpersonal, community, and societal-level (Bronfenbrenner 1979). We then assigned specific codes within each level, allowing new themes to emerge (Fereday and Muir-Cochrane 2006; Boyatzis 1998). Both authors individually coded transcripts through multiple readings and met multiple times throughout the coding process to resolve discrepancies and discuss new themes that emerged.

Thematic saturation was reached early in the data analysis process. Early saturation was likely due to the homogenous nature of participants; based on eligibility criteria for programme enrolment, all participants had a history of earning less than 2 USD per day, had at least one dependent, and resided in or near Gulu town. As well, all participants experienced a similar 'rags to riches' story once they joined the program. Unsurprisingly, participants were also homogenous on multiple factors relevant ART utilisation. Thus, even though saturation was reached early (for factors that influence point of saturation, see Charmaz 2006; Mason 2010), we are confident that the data captures the full range of responses for this specific population.

Ethics

Ethical approval was received from the Colorado Multiple Institutional Review Board to conduct a secondary analysis on in-depth interviews initially collected for an internal needs assessment by 31Bits International. Verbal consent was obtained from all participants before completing the interviews and again before analysing data for research purposes.

Results

In-depth interviews revealed multiple economic barriers to women's use of ART. Other barriers, such as stigma and fear of disclosure, were identified but are not discussed in this

paper. In what follows, we first describe the economic costs associated with ART utilization in northern Uganda. We then describe the social context that exacerbated ART costs for women involved in the job-creation programme.

Sample demographic characteristics

Participants averaged 35 years of age, had 4.2 dependents, had five years of formal education, were the sole providers for their household, and knew their HIV positive status for 3.8 years. Participants worked for 31Bits at least one year prior to the interview. Fifteen participants currently used ART. Twelve of the 15 participants on treatment had missed one or more ART-related appointment in the previous six months; five missed more than three appointments in the same time period. Of those currently on ART, three participants had stopped using treatment for one week or longer.

Economic costs associated with ART

All but one participant listed economic costs associated with ART as a major barrier to care. The costs cited included transportation, food, and formal and informal payments for accessing ART at health facilities. The majority of women reported unofficially paying for consultation services or paying to skip long lines and thus avoid ART stock-outs. Unofficial payments averaged 4 USD per visit. One woman explained,

What prevents people mostly is money. Because the distance to go to the hospital requires money. Then secondly when you go to the hospital you have to pay some money to access your file. So if you do not have those money it is very hard to access those treatments or services. (Natalia, 25 years with four children)

Stock-outs were also commonly reported. In the past year, 9 of the 15 participants on ART were turned away from their regular source of care and told to purchase ART from private facilities. One woman described her experience with drug shortages:

When you go to the hospital and they tell you it [ART] is not there, you have to buy at least a month's worth of drugs. Because you cannot buy a half of tin [half month supply], you have to buy it all when you want it. I pay 40,000 [40,000 Ugandan shillings, equivalent to 16 USD in 2010] ... But if it [ART] is not there, they [healthcare workers] will inform you. If they know you they will go to your place and tell you that, "there is no drugs so bring some money so you can buy more before this one [ART] is finished". (Maria, age 20 with three children)

Participants viewed health facilities as overwhelmed and unable to provide promised services. One participant described why women in the job-creation programme were discouraged with health facilities and, at times, stopped taking ART:

So in terms of location there are no services in the villages that are helping sick people. So the only thing I can do is to struggle and come to the hospital ... If you go to a [private hospital] you find the population is very high. If you go to [the regional hospital] you will find that the population is overwhelming. So there are little resources for us. So now if you go there [regional hospital] at times the drugs are not there. So they tell me to go to purchase it in the dispensary ... now if you do

not have the money what will you do? Definitely you will go and stop taking the drugs. (Eva, age 30 with seven children)

Later in the interview, the same participant reported previously stopping ART for one week or longer due to ART shortages at her local health facility. She chose to stop taking ART instead of spending the additional money for treatment.

Participants also reported inconsistent clinic hours, resulting in long wait times and missed appointments. At times, health facilities were closed on days women were scheduled to refill their prescription, leading clients to return to the facility on a later date or to lapse on their treatment. One woman who initiated ART three years ago described her experience with public health facilities:

It is not really possible to see the medical person when needed because sometimes you go there and they say they are not there and you wait and wait until it is time for you to go home. So it is not really possible [to receive care]. (Marilyn, age 30 with five children)

Later in the interview, the participant reported missing two ART appointments in the previous year. She explained, "I have missed twice [in the previous year] because when I go there [to the health facility] I will not get [a medical consultation] there. So sometimes when I am busy I will just not go."

Food requirements associated with ART adherence were also discussed. Participants who did not use ART listed food requirements as the predominant barrier to starting treatment. One participant described the relationship between food and treatment utilisation:

The greatest problem is food, because without food you cannot take the drugs. Because you do not really eat like a normal person. Each time you feel hungry you are supposed to eat. So you find that the hunger also frequently keeps coming. So if you do not have the food you can definitely not take the drugs. (Becca, 40 years of age with four children)

Finally, travel costs were commonly cited among participants who currently used ART. One woman explained the burden of transportation within the post-conflict setting:

Lack of money because that is the key thing to our life. Secondly location to these services is hard. Right now I live in a village that is very far from the hospital. Those days we used to be in a camp because of the war and the services were a little bit near to us. But right now we have moved from the camp to our different villages where there is not even a health center, there are no dispensaries We are supposed to move from there [the village] to [the main hospital] where the transport can cost 20,000 shillings and then to and from would be 40,000 shillings. So you find that location alone can be a big problem and it can be very expensive for us to travel. You see that 20,000 [shillings], I have seven children and I can use that 20,000 for other things. So these are the things that are preventing me from getting treatment. (Nancy, age 34 with seven children)

Social context

Economic barriers to women's use of ART were evident for the majority of participants, even though participants were employed in a job-creation programme. This raised the question, Why do treatment costs translate into economic barriers to care for women who have stable incomes with above average earnings? To answer this question, we examined the social context in which women worked and lived. We found two factors that limited the amount of resources women could spend on HIV treatment: financial obligations to social networks and gender relations with male partners that influenced women's control over money earned.

Financial expectations from social networks

As earnings increased, financial expectations from social networks also increased. This was particularly evident among women's extended family members. After enrolling in the job-creation programme, women reported purchasing mattresses, sending their children to expensive schools, and eating meat 1–2 times per week. Women were, for the first time, able to purchase 'luxury goods'. These economic shifts changed women's social status and led their social networks to perceive them as able and obliged to contribute more money to the social network. A key informant described how women participating in the programme faced increased economic responsibilities based on their improved economic status:

By growing up in a family and then doing well [making money], you must support someone at least. If a relative dies, then they can give you a child and you cannot refuse that responsibility. And it is true that the majority of programme participants have at least one or two children that they are taking care of that are not their own biological children. So it is really happening ... Most of them [participants] are supporting so many children because they have family members that assume that they have enough money because they are working for 31Bits. Many of the women at 31Bits have between three and fifteen children. Yes!

Financial obligations often came in the form of caring for additional dependents. Over half of participants reported caring for at least one additional dependent that was not their biological child, five cared for three or more additional dependents. Women also paid other expenses for extended family members. For example, one participant recently bought a mattress and bedframe for her parents (a luxury item in rural Uganda), and several women paid for their brothers to attend school.

Over a third of participants directly discussed how additional dependents negatively influenced their ability to use ART. These participants averaged 6.7 dependents each and explained that there was not enough time or money to care for dependents, go to medical appointments, buy food, and adhere to their ART regimen. The following quote is from a woman who was the sole provider for her household and cared for three biological and two additional dependents. She currently used ART but, similar to others, had missed two medical appointments in the last six months:

The things that make it difficult are first of all I have three of my own children and two orphans that I take care of. And the father is already dead. They are all more or less orphans. So I find it is difficult to raise school fees, feed the children, and pay

the rent. So at times dividing this money to also pay for myself becomes difficult.
(Becca, 40 years of age with four children)

This quote reflects how the context of social responsibility led to continued economic barriers to care. Although this participant earned enough money to care for additional children, the added expenses associated with dependents, and the time needed to care for them, limited the resources she could spend on accessing HIV services for herself. Another woman described how providing food for relatives limited the resources she could spend on treatment:

The support [money] is there, but it is not all that much. Right now my sister lives with me so right now sometimes food is very difficult to get. Because the population becomes so much in the same house. My sister also has children. She has six children plus my five children. (Carol, 35 years with five children).

Although the participant's sister contributed to the family through subsistence farming and occasional income-generating activities, the participant was the primary bread-winner and provider of the home.

Women often had to choose between their dependents and their HIV treatment for allocation of resources. One woman cared for four children of her own and three children from her sister who worked but lived in another district. She explained how her responsibilities as a caregiver trumped her responsibilities as an "ideal client."

I have missed six appointments [ever] because sometimes I have seven children and I may not want to miss getting food at home for the children. So I will go to the village to get food and then find it expensive to go back into town to go to the hospital. (Eva, age 30 with seven children)

Similar to other participants, this woman faced economic barriers as well as additional time barriers that led her to prioritise caregiving over self-care. These themes were common throughout the interviews, often referring to additional children or additional household responsibilities women were obliged to manage.

Gender Relations

Gender relations also influenced economic barriers to HIV treatment. When women initially joined the programme, male partners were known to take women's earnings. This theme was not directly discussed by interview participants as influencing economic barriers to ART, but was mentioned by key informants. One key informant explained how women's dramatic increase in income may cause tension between partners and could influence men to control women's earnings:

For some women, before working at [31Bits International] their husbands were *boda boda* [motorcycle taxi drivers] or contractors, so the husband would bring money home for food. The men used to not take their [women's] money because they were only making pancakes and selling them. But immediately when the women started working for 31Bits they [male partners] looked at that money as too much, like the women were making more money than their husbands. So the men got jealous and then they [women] had to make sure to bring the money home and

give it to them [men]. So the husbands are the ones dividing the money, “this one is for food, this is for medicine, this one is mine.” Ha! You had nothing you could say.

At the time of data collection, the organisation had taken precautions to help women control their own earnings. In order to decrease men’s direct access to women’s income, female participants were given personal bank accounts and all earnings were deposited directly. Training in gender relations and couples counselling were also offered. Nevertheless, female participants still may have limited control over their earnings. Furthermore, the potential for partners to take women’s earnings may affect how participants perceived economic barriers to HIV treatment.

Discussion

Findings from this study suggest that economic barriers to ART persisted even after HIV positive women enrolled in a job-creation programme that provided above average wages. Wagner and colleagues, who studied the economic status of people living with HIV in Uganda, found that over 80% of study participants relied on economic support from extended family members before initiating ART and 35% still received support even after initiating treatment and beginning income-generating activities (Wagner et al. 2009). In contrast, our findings show that a job-creation programme can facilitate economic stability for HIV positive women. None of the 17 participants reported accessing economic support from extended family members. Instead, participants paid their children’s school fees, supported the educational pursuits of extended family members, and cared for additional dependents. Indeed, the job-creation programme supported a lifestyle otherwise unattainable for most participants. Despite increased economic stability, however, economic barriers to HIV treatment persisted due for two overarching factors.

First, poor resources within health facilities created an environment where participants accessed ART primarily through economic means. In Uganda, ART is theoretically offered free-of-charge at government facilities, a practice shown to increase ART uptake and adherence (Souteyrand et al. 2008; Harries et al. 2010). Yet many participants reported unofficially paying healthcare workers for improved services or paying for treatment in private facilities when government facilities experienced drug shortages. Participants’ perceived need for informal payments are important as these perceptions may influence women’s interactions with healthcare providers and women’s satisfaction with the services received, all of which may influence ART adherence (Murphy et al. 2000; Watt et al. 2010; Campbell et al. 2011). Recently, researchers have begun documenting the existence of informal payments for health services (Maestad and Mwisongo 2011; Wojczewski et al. 2015; Kankeu et al. 2014). Additional research is needed to understand the prevalence of informal payments and the contexts in which they occur.

Staff shortages, a well-known problem in Ugandan health facilities (Ministry of Health [Uganda] 2008; Wojczewski et al. 2015), also increased the cost of ART. Women waited extended hours to see a healthcare provider and returned to the facility multiple times if a provider was unavailable during the first visit. Although not directly associated with facility resources, food and transportation costs were also mentioned and contributed to the overall

perception that accessing and using HIV treatment was an economic endeavour. Others have reported similar findings (Weiser et al. 2010; Hardon et al. 2007).

The second factor that influenced economic barriers to care was participants' financial obligations to their social networks. Upon enrollment in the programme, women experienced significant increases in economic attainment, followed by improved social status - participants sent their children to higher quality schools, bought luxury items, and ate meat on a semi-regular basis (for similar findings, see Gnauck et al. 2013; Pronyk, Hargreaves, and Morduch 2007). We found that increased economic attainment fundamentally shifted expectations between participants and their social networks so that participants felt obligated to care for extended family members. Participants reported that improved status was coupled with increased financial expectations, such as caring for additional dependents and buying goods for relatives. As a consequence, dramatic increases in women's income limited the amount of earned resources women could allocate to HIV treatment, exacerbating the economic costs associated with ART. This is a novel finding that deserves further investigation. Additional research is needed to understand how women in job-creation programmes negotiate these shifting dynamics, and the potential benefits participants receive by complying with increased financial expectations.

Wealth redistribution within social networks is not surprising. In rural sub-Saharan Africa, individual income is often unstable, relies heavily on agricultural production, and is rarely protected by formal structures such as insurance or government safety nets (Arbache, Kolev, and Filipik 2010; World Bank 2011). In this context, economic security is established through sharing goods and providing reciprocal assistance within one's social network. It is important for individuals to fulfill expectations of economic reciprocity so they may also benefit from others' success when 'their luck runs out'. In this context, reciprocal strategies within social networks are the most logical arrangements to ensure financial stability (Watkins and Swidler 2007; Kohler et al. 2012; Cox and Fafchamps 2007). HIV positive participants in the 31Bits International job-creation programme were not exempt from such expectations.

Gender power dynamics also influenced the economic realities of women participating in the job-creation programme, potentially limiting women's access to the money earned. Male partners may take a portion of women's earnings, a pattern well-documented in microfinance interventions (Hunt and Kasynathan 2001; Goetz and Gupta 1996). Other research shows that drastic change in women's resources, without similar changes for men, may threaten the masculine ideals held by male partners and lead to increased conflict within the household (Farré 2013; Macmillan and Gartner 1999; Withers et al. 2015). Women participating in the job-creation programme experienced such changes: participants increased their earnings; opened a bank account for the first time; received life skills training; and had opportunities for micro-loans. These gains were not available to male partners. Our findings support a larger body of literature that documents the need for female-focused income-generating interventions to be coupled with additional strategies to address gender inequality (Kim et al. 2007; Goetz and Gupta 1996; Kabeer 2001; Vyas and Watts 2009).

Limitations

Several limitations should be noted. First, we relied on self-reports for HIV status, ART use, and barriers to treatment, topics that could be sensitive to social desirability bias. Because interviews were conducted in the context of a job-creation programme, participants may have overreported economic barriers to care in hopes of gaining further support from the organisation. Other research has documented the underreporting of household assets in order to receive external support, especially among female respondents (Miller, Msiyaphazi Zulu, and Watkins 2001). However, barriers reported by participants were corroborated by key informants, increasing our confidence in the validity of the data. Furthermore, the programme rewarded financial success among participants – women who gained household assets or increased their financial savings were eligible for micro-loans. Therefore, in routine monitoring and evaluation strategies, programme staff found that participants were more likely to exaggerate their resources instead of underreport them.

Finally, the small number of participants, and the unique experiences of participants, limit the generalisability of our findings. Our results cannot be generalised outside the HIV positive women who participated in the 31Bits International programme during 2010. However, our findings do provide insight into a population largely absent from the ART utilisation literature, namely, women employed or supported by job-creation programmes.

Conclusion

Economic barriers to ART are more complex than individual poverty would indicate. The complex interactions between poverty among extended family members and scarce resources within health facilities created a socio-political context where women in a job-creation programme still faced economic barriers to care, even though they earned a stable, above average income. Income-generating programmes provide useful venues to address poverty and economic inequality for women (Pronyk, Hargreaves, and Morduch 2007; Kim et al. 2007), however, expectations of their influence on barriers to women's use of HIV treatment should be approached with caution unless paired with services specifically targeting women living with HIV. We suggest that job-creation programmes, and income-generating strategies more broadly, should be combined with other strategies to increase women's use of HIV treatment, such as counselling, social support programmes, and work-based HIV testing and treatment. Further, participants may require extensive support in order to negotiate financial obligations from their social networks amidst shifting economic statuses. Additional research is needed to understand how women in job-creation programmes successfully navigate financial expectations and how such programmes can be coupled with other strategies to reduce barriers to health services.

References

- Arbache, J.; Kolev, A.; Filipik, E. Gender Disparities in Africa's Labor Market. Washington, D.C.: The International Bank for Reconstruction and Development/The World Bank; 2010.
- Arrivillaga M, Springer A, Lopera M, Correa D, Useche B, Ross M. HIV/AIDS treatment adherence in economically better off women in Colombia. *AIDS Care*. 2012; 24(7):929–935. [PubMed: 22273077]

- Barnes, C. Microfinance and Mitigation of the Impacts of HIV/AIDS: An Exploratory Study from Zimbabwe. Washington D.C.: Assessing the Impact of Microenterprise Services (AIMS) Project; 2002. <http://www.mip.org/pdfs/aims/brief34.pdf> [Accessed June 15, 2014]
- Bateganya M, Amanyeiwe U, Roxo U, Dong M. Impact of support groups for people living With HIV on clinical outcomes: a systematic review of the literature. *Journal of Acquired Immune Deficiency Syndromes*. 2015; 68:S368–S374. [PubMed: 25768876]
- Boyatzis, R. Transforming qualitative information: Thematic analysis and code development. Thousand Oaks, CA: SAGE; 1998.
- Bronfenbrenner, U. The ecology of human development. Cambridge, MA: Harvard University Press; 1979.
- Campbell C, Scott K, Madanhire C, Nyamukapa C, Gregson S. A 'good hospital': nurse and patient perceptions of good clinical care for HIV-positive people on antiretroviral treatment in rural Zimbabwe—a mixed-methods qualitative study. *International Journal of Nursing Studies*. 2011; 48(2):175–183. [PubMed: 20801450]
- Chao, V.; Obuya, M.; Macharia, M. The XV International AIDS Conference. Bangkok, Thailand: 2004. Voices of AIDS in microfinance: making microfinance work for infected and affected clients.
- Charmaz, K. Constructing Grounded Theory: A Practical Guide through Qualitative Analysis. London: Sage Publications; 2006.
- Cox, D.; Fafchamps, M. Extended family and kinship networks: economic insights and evolutionary directions. In: Schultz, PT.; Strauss, J., editors. *Handbook of Development Economics*. Oxford: Elsevier; 2007. p. 3711–3784.
- Duff P, Kipp W, Wild TC, Rubaale T, Okech-Ojony J. Barriers to accessing highly active antiretroviral therapy by HIV-positive women attending an antenatal clinic in a regional hospital in western Uganda. *Journal of International AIDS Society*. 2010; 13:37.
- Dworkin SL, Blankenship K. Microfinance and HIV/AIDS prevention: assessing its promise and limitations. *AIDS & Behavior*. 2009; 13(3):462–469. [PubMed: 19294500]
- Fabiani M, Nattabi B, Pierotti C, Ciantia F, Opio AA, Musinguzi J, Ayella EO, Declich S. HIV-1 prevalence and factors associated with infection in the conflict-affected region of North Uganda. *Conflict and Health*. 2007; 1:3. [PubMed: 17411455]
- Farré L. The role of men in the economic and social development of women: implications for gender equality. *The World Bank Research Observer*. 2013; 28(1):22–51.
- Fereday J, Muir-Cochrane E. Demonstrating rigor using thematic analysis: A hybrid approach of inductive and deductive coding and theme development. *International Journal of Qualitative Methods*. 2006; 5(1):80–92.
- Gaede B, Majeke S, Modeste RRM, Naidoo JR, Titus MJ, Uys LR. Social support and health behaviour in women living with HIV in KwaZulu-Natal. *SAHARA-J: Journal of Social Aspects of HIV/AIDS*. 2006; 3(1):362–368. [PubMed: 17601018]
- Gnauck K, Ruiz J, Kellett N, Sussman A, Sullivan MA, Montoya M, Levin N, Tomedi A, Mwanthi MA. Economic empowerment and AIDS-related stigma in rural Kenya: a double-edged sword? *Culture, Health & Sexuality*. 2013; 15(7):851–865.
- Goetz AM, Gupta RS. Who takes the credit? Gender, power, and control over loan use in rural credit programs in Bangladesh. *World Development*. 1996; 24(1):45–63.
- Gupta G. How men's power over women fuels the HIV epidemic: It limits women's ability to control sexual interactions. *British Medical Journal*. 2002; 324(7331):183. [PubMed: 11809629]
- Hardon AP, Akurut D, Comoro C, Ekezie C, Irunde HF, Gerrits T, Kglatwane J, et al. Hunger, waiting time and transport costs: time to confront challenges to ART adherence in Africa. *AIDS Care*. 2007; 19(5):658–665. [PubMed: 17505927]
- Harries AD, Zachariah R, Lawn SD, Rosen S. Strategies to improve patient retention on antiretroviral therapy in sub-Saharan Africa. *Tropical Medicine and International Health*. 2010; 15(Suppl 1):S70–S75.
- Holmes K, Winskell K, Hennink M, Chidiac S. Microfinance and HIV mitigation among people living with HIV in the era of anti-retroviral therapy: emerging lessons from Cote d'Ivoire. *Global Public Health*. 2011; 6(4):447–461. [PubMed: 20936558]

- Hunt J, Kasynathan N. Pathways to empowerment? Reflections on microfinance and transformation in gender relations in South Asia. *Gender & Development*. 2001; 9(1):42–52.
- Jacobsen K, Marshak A, Ofori-Adjei A, Kembabazi J. IDP LIVELIHOODS: Using Microenterprise Interventions to Support the Livelihoods of Forcibly Displaced People: The Impact of a Microcredit Program in Idp Camps in Lira, Northern Uganda. *Refugee Survey Quarterly*. 2006; 25(2):23–39.
- Kabeer N. Conflicts Over Credit: Re-Evaluating the Empowerment Potential of Loans to Women in Rural Bangladesh. *World Development*. 2001; 29(1):63–84.
- Kankeu HT, Boyer S, Fodjo Toukam R, Abu-Zaineh M. How do supply-side factors influence informal payments for healthcare? The case of HIV patients in Cameroon. *The International Journal of Health Planning and Management*. 2014
- Kim J, Ferrari G, Watts C, Hargreaves J, Morison L, Phetla G, Porter J, Pronykh P, Abramsky T. Assessing the incremental effects of combining economic and health interventions: the IMAGE study in South Africa. *Bulletin of the World Health Organization*. 2009; 87(11):824–832. [PubMed: 20072767]
- Kim JC, Watts CH, Hargreaves JR, Ndhlovu LX, Phetla G, Morison LA, Busza J, Porter JD, Pronyk P. Understanding the impact of a microfinance-based intervention on women's empowerment and the reduction of intimate partner violence in South Africa. *American Journal of Public Health*. 2007; 97(10):1794–1802. [PubMed: 17761566]
- Kohler I, Kohler H, Anglewicz P, Behrman J. Intergenerational transfers in the era of HIV/AIDS: Evidence from rural Malawi. *Demographic Research*. 2012; 13(27):775–834. [PubMed: 23606809]
- Macmillan R, Gartner R. When she brings home the bacon: labor-force participation and the risk of spousal violence against women. *Journal of Marriage and Family*. 1999; 61(4):947–958.
- Maestad O, Mwisongo A. Informal payments and the quality of health care: Mechanisms revealed by Tanzanian health workers. *Health Policy*. 2011; 99:107–115. [PubMed: 20709420]
- Mason M. Sample size and saturation in PhD studies using qualitative interviews. *Forum: Qualitative Social Research*. 2010; 11(3):8.
- Miller K, Msiyaphazi Zulu E, Watkins SC. Husband—Wife Survey Responses in Malawi. *Studies in Family Planning*. 2001; 32(2):161–174. [PubMed: 11449864]
- Ministry of Health [Uganda]. Kampala, Uganda: 2008. National antiretroviral treatment and care guidelines for adults, adolescents and children.
- Ministry of Health [Uganda]. Kampala, Uganda: 2010a. Status of antiretroviral therapy in Uganda.
- Ministry of Health [Uganda]. Kampala, Uganda: 2010b. The status of the HIV/AIDS epidemic in Uganda: the HIV/AIDS epidemiological surveillance report 2010.
- Ministry of Health [Uganda], WHO, UNICEF, and IRC. Health and mortality survey among internally displaced persons in Gulu, Kitgum and Pader districts, northern Uganda. 2005 <http://www.who.int/hac/crises/uga/sitreps/Ugandamortsurvey.pdf>.
- Moreland S, Namisango E, Paxton A, Powell R. The costs of HIV treatment, care, and support services in Uganda. MEASURE Evaluation. 2013 www.cpc.unc.edu/measure/publications/tr-13-94.
- Murphy D, Roberts K, Martin D, Marelich W, Hoffman D. Barriers to antiretroviral adherence among HIV-infected adults. *AIDS Patient Care and STDS*. 2000; 14(1):47–58. [PubMed: 12240882]
- mywage. 2010 Mywage.org/Uganda.
- Nguyen V, Ako C, Niamba P, Sylla A, Tiendrébéogo I. Adherence as therapeutic citizenship: impact of the history of access to antiretroviral drugs on adherence to treatment. *AIDS*. 2007; 21:S31–S35. [PubMed: 18090265]
- Ochola E, Bayo P, Ogwang MD, Opio A, Fabiani M. HIV prevalence trend in the conflict to post-conflict transition period in Gulu District, northern Uganda. *Sexually Transmitted Infections*. 2013; 89(Suppl 1):A1–A428. [PubMed: 23862196]
- Padian NS, McCoy SI, Karim SSA, Hasen N, Kim J, Bartos M, Katabira E, Bertozzi SM, Schwartländer B, Cohen MS. HIV prevention transformed: the new prevention research agenda. *The Lancet*. 2011; 378(9787):269–278.

- Posse M, Meheus F, van Asten H, van der Ven A, Baltussen R. Barriers to access to antiretroviral treatment in developing countries: a review. *Tropical Medicine and International Health*. 2008; 13(7):904–913. [PubMed: 18466183]
- Pronyk PM, Hargreaves JR, Morduch J. Microfinance programs and better health prospects for sub-Saharan Africa. *The Journal of the American Medical Association*. 2007; 298(16):1925–1927. [PubMed: 17954543]
- Pronyk PM, Kim JC, Abramsky T, Phetla G, Hargreaves JR, Morison LA, Watts C, Busza J, Porter JD. A combined microfinance and training intervention can reduce HIV risk behaviour in young female participants. *AIDS*. 2008; 22:1659–1665. [PubMed: 18670227]
- Souteyrand YP, Collard V, Moatti JP, Grubb I, Guerma T. Free care at the point of service delivery: a key component for reaching universal access to HIV/AIDS treatment in developing countries. *AIDS*. 2008; 22:S161–S168. [PubMed: 18664948]
- Tuller DM, Bangsberg DR, Senkungu J, Ware NC, Emenyonu N, Weiser SD. Transportation costs impede sustained adherence and access to HAART in a clinic population in southwestern Uganda: a qualitative study. *AIDS & Behavior*. 2010; 14(4):778–784. [PubMed: 19283464]
- UBOS and ORC Macro. Calverton, MD: UBOS and ORC Macro; 2012. Uganda demographic and health survey 2011.
- UNAIDS. Global report: UNAIDS report on the global AIDS epidemic 2013. 2013 www.unaids.org/sites/default/files/media_asset/UNAIDS_Global_Report_2013_en_1.pdf.
- USAID, and Project SEARCH. Income generation rigorous evidence – usable results. 2013 www.jhsph.edu/research/centers-and-institutes/research-to-prevention/publications/income-generation-final.pdf.
- van Rooyen C, Stewart R, de Wet T. The Impact of Microfinance in Sub-Saharan Africa: A Systematic Review of the Evidence. *World Development*. 2012; 40(11):2249–2262.
- Viravaidya M, Wolf RC, Guest P. An assessment of the positive partnership project in Thailand: key considerations for scaling-up microcredit loans for HIV-positive and negative pairs in other settings. *Global Public Health*. 2008; 3(2):115–136. [PubMed: 19288366]
- Vyas S, Watts C. How does economic empowerment affect women's risk of intimate partner violence in low and middle income countries? A systematic review of published evidence. *Journal of International Development*. 2009; 21(5):577–602.
- Wagner G, Rana Y, Linnemayr S, Balya J, Buzaalirwa L. A Qualitative Exploration of the Economic and Social Effects of Microcredit among People Living with HIV/AIDS in Uganda. *AIDS Research and Treatment*. 2012; 2012:318957. [PubMed: 22778923]
- Wagner G, Ryan G, Huynh A, Kityo C, Mugenyi P. A Qualitative Analysis of the Economic Impact of HIV and Antiretroviral Therapy on Individuals and Households in Uganda. *AIDS Patient Care and STDs*. 2009; 23(9):793–798. [PubMed: 19663715]
- Watkins SC, Swidler A. Ties of Dependence: AIDS and Transactional Sex in Rural Malawi. *Studies in Family Planning*. 2007; 38(3):147–162. [PubMed: 17933289]
- Watt M, Maman S, Golin C, Earp J, Eng E, Bangdiwala S, Jacobson M. Factors associated with self-reported adherence to antiretroviral therapy in a Tanzanian setting. *AIDS Care*. 2010; 22(3):381–389. [PubMed: 20390519]
- Weiser SD, Bukusi EA, Steinfeld RL, Frongillo EA, Weke E, Dworkin SL, Pusateri K, et al. Shamba Maisha: randomized controlled trial of an agricultural and finance intervention to improve HIV health outcomes in Kenya. *AIDS*. 2015; 29:1. [PubMed: 25387315]
- Weiser SD, Tuller DM, Frongillo EA, Senkungu J, Mukiibi N, Bangsberg DR. Food insecurity as a barrier to sustained antiretroviral therapy adherence in Uganda. *PLoS One*. 2010; 5(4):e10340. [PubMed: 20442769]
- White J, Morton J. Mitigating impacts of HIV/AIDS on rural livelihoods: NGO experiences in sub-Saharan Africa. *Development in Practice*. 2005; 15(2):186–199.
- Withers M, Dworkin SL, Zakaras JM, Onono M, Oyier B, Cohen CR, Bukusi EA, Grossman D, Newmann SJ. 'Women now wear trousers': men's perceptions of family planning in the context of changing gender relations in western Kenya. *Culture, Health & Sexuality*. 2015; 17(9):1132–1146.

- Wojczewski S, Willcox M, Mubangizi V, Hoffmann K, Peersman W, Niederkrotenthaler T, Natukunda S, et al. Portrayal of the human resource crisis and accountability in healthcare: a qualitative analysis of ugandan newspapers. PLoS One. 2015; 10(4):e0121766. [PubMed: 25837490]
- World Bank. Washington D.C.: The International Bank for Reconstruction and Development/The World Bank; 2011. World Development Report 2012: Gender Equality and Development.
- World Bank. [Accessed August 22 2015] Africa gender innovation lab - impact evaluations: private sector development. 2015. <http://www.worldbank.org/en/programs/africa-gender-innovation-lab/brief/africa-gender-innovation-lab-impact-evaluations-private-sector-development>
- Yager JE, Kadiyala S, Weiser SD. HIV/AIDS, food supplementation and livelihood programs in Uganda: a way forward? PLoS One. 2011; 6(10):e26117. [PubMed: 22022530]