

**UNDERSTANDINGS AND
INTERPRETATIONS OF
COMMUNICATION CAMPAIGN MESSAGES
ABOUT CONCURRENT PARTNERSHIPS,
ACUTE HIV INFECTION AND
SEXUAL NETWORKS IN
BOTSWANA AND TANZANIA**



Understandings and Interpretations of Communication Campaign Messages about Concurrent Partnerships, Acute HIV Infection And Sexual Networks in Botswana and Tanzania

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EXECUTIVE SUMMARY

Background and aims

Concurrent partnerships in Botswana and Tanzania

Concurrent partnerships (CP) are “overlapping sexual partnerships in which sexual intercourse with one partner occurs between two acts of intercourse with another partner” (UNAIDS Reference Group on Estimates, Modelling, and Projections: Working Group on Measuring Concurrent Sexual Partnerships, 2010). CP can heighten risk of infection by increasing the number of HIV transmission opportunities in general and particularly during acute HIV infection, the period directly after HIV infection when individuals are highly infectious but often unaware of their HIV status. CP and acute HIV infection further increase the spread of HIV through sexual networks—systems of individuals connected to each other through sexual partnerships over a given period of time (Morris, 2010; Morris, 2001; Mah & Halperin, 2010). Each individual in a sexual network is linked primarily to their own sexual partners, but also indirectly to other individuals through their partners’ sexual partners.

In Botswana, where HIV prevalence is 23.4% among adults aged 15-49 (UNAIDS, 2012), concurrent partnerships have been identified as an important driver of the HIV epidemic (NACA, 2009). The Botswana National AIDS Coordinating Agency (NACA) reports that as many as 1 in 5 sexually active women and 1 in 3 sexually active men have multiple partnerships (NACA, 2009). Likewise, in Tanzania, the *National Multi-Sectoral Prevention Strategy 2009-2012* identified a reduction in CP as one of its key objectives (TACAIDS, 2007). National HIV prevalence is 5.7% in Tanzania, and 2.7% of married women and 25% of married men reported multiple partners in the past year (the survey did not measure concurrent partnerships) (TACAIDS, 2008).

Previous research from R2P has found that emotional, sexual, and financial dissatisfaction with a primary partner are reasons participants practice CP, particularly for married participants (Muntifering et al., 2013). However, results also suggest that the larger cultural context plays a key role in shaping behavior around CP (Research to Prevention, 2010). Among the many findings, environmental-structural factors such as poverty and economic vulnerability, labor migration, and the social and structural context surrounding alcohol were found to create an enabling context for sexual concurrency. Additionally, social norms that support gender inequality created a gendered double standard whereby CP were deemed acceptable for men but not for women.

HIV prevention communication campaigns

Communication campaigns are a cornerstone of global HIV prevention efforts. Typically, these campaigns disseminate health messages that are designed to increase public knowledge about HIV and challenge social norms that legitimize HIV risk behaviors such as CP. They utilize a variety of strategies and channels to disseminate these messages, generally combining mass media, community-level activities, and individual-level activities to reinforce messages under a unified platform. In a model proposed by Kinkaid et al. (2013), messages operate at different levels to facilitate directive (i.e., instructional communication), non-directive (i.e., community discussion and problem-solving), and public communication (e.g., debate regarding policy decisions). These modes of communication

facilitate changes in skills and knowledge, ideational factors, and environmental changes that in turn influence health-related behavior change.

Mass media campaigns have shown mixed effectiveness in changing HIV-related knowledge, attitudes, and behaviors (Bertrand et al., 2006). However, evaluations of communication campaigns generally measure indicators such as campaign coverage, HIV-related knowledge, and reported sexual risk behaviors. Little is known about how people understand and interpret the terms and constructs promoted through such campaigns or about the way the cultural context affects these interpretations. In light of these gaps, the specific aims of this study were

1. To explore how individuals in Botswana and Tanzania interpret communication campaign messages about CP, acute HIV infection, and sexual networks.
2. To understand how local understandings and interpretations of CP, acute HIV infection, and sexual networks fit within the larger social context surrounding sexual behavior and HIV prevention decision-making in Botswana and Tanzania.

Study sites and campaigns

Study locations were selected to represent two sub-Saharan African countries where CP is highly prevalent and where ongoing communication campaigns on CP were in place. In each country, the study was conducted in a large city and a small city: Gaborone and Francistown in Botswana, and Dar es Salaam and Iringa in Tanzania.

Botswana campaign

In Botswana, a behavior change communication campaign launched in 2009 aimed to reduce the practice of CP by targeting different forms of CP and the associated risk of HIV infection (NACA, 2009). The campaign used the national mass media to stimulate public discussion as well as district-level behavioral interventions to encourage communities to change norms and individuals to change behavior. The campaign targeted young women aged 18 to 24 engaged in CP for personal or material gain, men aged 25 to 35 engaged in CP for sexual variety, and older men and girls engaged in cross-generational sexual partnerships (Lillie, 2010). Specific campaign activities operated through a variety of channels, including community discussion, local debates, and messaging through posters, banners, radio, television, newspapers, mobile technology, and email. At the time of data collection for this study, all national campaign components had been launched and all 30 districts in the country had begun local campaign activities (Lillie, 2010).

Tanzania campaign

In Tanzania, the study was conducted in conjunction with the roll-out of a large-scale communications campaign that aimed to reduce CP (JHUCCP, 2011a). Campaign activities were launched in 2012 in a variety of urban settings across Tanzania. The campaign targeted urban men and women aged 25-39 of moderate to high socio-economic status who were already part of a sexual network (through either their own practice of CP or their partners'), or who were considering or intending to engage in CP. At the time of writing, the campaign had already introduced the concepts of acute HIV infection and CP. Later phases have been designed to encourage the audience to talk with their sexual partner(s) about CP and

to seek satisfaction in their relationship with their main partner across a variety of domains, including emotionally, sexually, and financially.

Methods

A qualitative approach was used to answer both study aims. Research methods were designed to be the same for both countries, and included in-depth interviews (up to 2 interviews per participant) and focus group discussions using campaign materials and vignettes.

In-depth interviews

Semi-structured, in-depth interviews (IDIs) were conducted with 23 men and 24 women between the ages of 18 and 39 (the general target age for CP communication campaigns in each country). Sampling was stratified by gender and city in each country. To build rapport and gain a more in-depth understanding of individual experiences, participants were generally interviewed twice. The first interview focused on how participants understood three key concepts: (1) CP, (2) acute HIV infection, and (3) sexual networks. The second interview focused on how the key concepts fit into participants' larger worldviews and understandings of sexual behavior and HIV risk.

Focus group discussions

Focus group discussions (FGDs) were conducted in each country to complement information from IDIs. Each FGD utilized communication campaign materials to examine group discourse about campaign messages as well as socially normative understandings of the concepts included in those campaigns. Questions posed by moderators centered on a series of short vignettes or scenarios that appeared in the communication campaign. FGDs were conducted with younger (18-24) and older (25-39) participants and were further stratified by gender and city. Two FGDs were conducted with each stratum for a total of 32 FGDs (16 in each country).

Data analysis

Qualitative data were transcribed in the local language and translated into English. ATLAS.ti and NVivo were used to code the data. Study team members discussed themes and emerging findings and summarized codes for each country before comparing across countries.

Results

Understandings of acute HIV infection, concurrent partnerships and sexual networks

Participants demonstrated varying levels of understanding of the key campaign concepts. In Tanzania, most participants expressed a narrow understanding of acute HIV infection, correctly noting that this was an early phase of infection but not describing the associated increase in viremia. This interpretation was likely influenced by the translation of the phrase into Swahili. In Botswana, the majority of participants stated that they had neither heard of nor seen campaign messages or materials on acute HIV infection. A few participants in Botswana, however, were able to correctly identify the acute phase of HIV infection and its association with increased viral load and HIV transmission.

The concept of CP was generally understood by participants in both countries, though some misinterpretations did exist. Participants generally understood the relationship between CP and sexual networks, although some had difficulty distinguishing between the two concepts, particularly in Botswana. In both countries there was a broad understanding that being in a concurrent sexual partnership or knowingly or unknowingly being part of a sexual network increases risk of HIV infection. Many participants described the increased risk of acquiring HIV or other sexually transmitted infections (STIs) resulting from CP and sexual networks as not being able to truly trust one's partner.

Local terminology for CP and related behaviors

In both countries, additional local terms were used to describe CP and related behaviors. In Tanzania, participants referred to men with multiple and concurrent partners as *Fataki*, following a recent communication campaign, and used several local metaphors suggesting that CP are necessary for stability and security. In Botswana, participants commonly referred to extramarital relationships as "small houses," a "side dish" or a "snack".

Experience with communication campaigns

To reach a broad audience, participants in both settings recommended using a mix of media channels to reach those who may not have access to television or radio, including billboards, flyers, home visits, and mobile technology. Small group discussions were particularly recommended. Certain campaign messages resonated with participants, particularly through dramas and discussions.

Abstract campaign messages

In both countries, participants stated they had difficulty understanding some campaign messages. In Tanzania, some participants complained that abstract messages were "riddles" or "puzzles" that were difficult to decipher. In Botswana, one campaign tried to challenge cultural proverbs that support multiple partnerships. Participants said that such messages could be confusing, as it was unclear whether the message was intended to support or challenge the proverb.

Credibility of the messenger

Public figures were often used in the Botswana campaign. While some believed that target audiences, especially youth, would value what famous people had to say, others believed that messages may be better accepted if delivered by a more appropriate role model, i.e., a known advocate for HIV prevention. There was also some concern that the public reputation of some of the figures used did not support the intended message. Though Tanzanian campaigns did not use public figures, participants did comment that any messenger charged with promoting campaign ideas should be living out the principles he or she is teaching.

Effect of campaigns on individuals

In both countries, some participants stated that the campaigns had made them more aware of risk of HIV infection and they had taken steps to protect themselves. However, others reported that the campaigns had had little effect on them. Challenges to achieving behavior change included the public's fatigue with HIV prevention campaigns, the difficulty in promoting sustained behavior change, and cultural norms that uphold CP and discourage discussion about topics related to sex.

Discussion

This study sought to explore local understandings of communication campaign messages about acute HIV infection, CP, and sexual networks in Tanzania and Botswana, and to understand how these interpretations fit within the larger cultural environment. In both countries, participants generally understood key concepts of the communications campaigns. Shortcomings in understandings were due to a variety of factors, including the vagueness or contradictory nature of some images and messages, language translation and the medium used in dissemination. Further, the relevance of the images to individuals of different target groups should be considered in future campaigns. As previous studies and campaigns have emphasized, the goal of behavior change communication is to help reshape cultural norms so that they best protect the health of the population. The mechanisms through which campaigns aim to achieve widespread behavior change must be considered within existing cultural norms.

Participants in this study felt that CP campaigns encouraged viewers to be less trustful of their sexual partners. Campaigns that encourage a lack of trust in relationships could increase condom use, as condom use generally decreases when trust and intimacy in relationships increases. However, encouraging a lack of trust might also inadvertently increase concurrency behavior, as previous studies have shown that engaging in concurrency is correlated with knowledge or suspicion that a primary partner also has concurrent partners (Nunn et al., 2011; Nunn et al., 2012; Adimora et al., 2004; Mah, 2008; Senn et al., 2009; Xu et al., 2010). Communication around trust within partnerships may have complex positive and negative implications not only for concurrency, but also other HIV-related behaviors such as couples HIV testing and counseling, HIV serostatus disclosure, and discussions of sexuality and fidelity.

The study has a number of specific strengths and limitations. Strengths include the longitudinal nature of the interviews. Limitations include the potential biases associated with discussion around personal and sensitive topics and the potential differences between participants in this study and the intended target audiences of the communication campaigns.

Conclusion

Individual decisions about sexual partnerships and concurrency are complex and situated within widespread social norms and economic structures. HIV prevention communication campaigns around the concepts of CP, sexual networks and acute HIV infection should be attentive to how they are understood by viewers and how they employ cultural scripts. They should avoid inadvertently promoting cultural scripts that support CP and consider how they might facilitate protective behavior through promoting new or positive cultural scripts. Programs should continue to use best practices in health communications—such as pretesting messages, employing a mix of media, and including small-group discussions where feasible—to reach as wide an audience as possible with messages that resonate. Further, campaigns should encourage discussion about sexual behavior within communities or couples and consider not only how they can influence current social norms, but also how they can encourage critical thinking and conscious decision-making to help individuals make positive life choices.

INTRODUCTION

Concurrent partnerships, acute HIV infection and sexual networks

UNAIDS (2010) has identified unprotected sex with multiple partners as the greatest risk for acquiring HIV in sub-Saharan Africa. This risk is particularly salient in the case of *concurrent partnerships (CP)*, or “overlapping sexual partnerships in which sexual intercourse with one partner occurs between two acts of intercourse with another partner” (UNAIDS Reference Group on Estimates, Modelling, and Projections: Working Group on Measuring Concurrent Sexual Partnerships, 2010). A 2006 expert think tank meeting identified CP, low levels of male circumcision, and inconsistent condom use as major factors influencing the spread of HIV infection in the Southern African region (Southern African Development Community, 2006).

While multiple partnerships contribute to the risk of HIV infection across various stages of the disease, CP can heighten this risk by increasing the number of HIV transmission opportunities during the vulnerable period of *acute HIV infection* (also known as primary HIV infection). The first of three phases in the natural history of HIV infection, this period consists of the interval immediately after HIV infection occurs, but before the point when the immune system is activated and antibodies are formed. It is characterized by free replication of HIV in the body, high levels of HIV viremia in the blood, and viral shedding in cervical secretions (Pilcher et al., 2004; Morrison et al., 2010). Individuals with acute HIV infection are thus highly infectious, but are often unaware that they are infected.

CP and acute HIV infection facilitate the spread of HIV through *sexual networks*—systems of individuals connected to each other through sexual partnerships over a given period of time (Morris, 2010; Morris, 2001; Mah & Halperin, 2010). Each individual in a sexual network is linked primarily to their own sexual partners, but also indirectly to other individuals through their partners’ sexual partners. The more concurrent partnerships that occur in a given population, the greater the number of links exist between individuals in sexual networks. Conversely, the more monogamous or serial monogamous partnerships that occur in a population, the fewer the number of links exist between these individuals. If both members of a couple have no other sexual partners during their relationship, then they are no longer integrated into a sexual network, and their risk for infection is reduced.

Concurrent partnerships, acute HIV infection, and sexual networks in Botswana and Tanzania

An estimated 34 million people are currently living with HIV, the majority of whom live in sub-Saharan Africa (UNAIDS, 2012). With a prevalence of 23.4% among adults aged 15-49 years, Botswana ranks second only to Swaziland for the highest HIV prevalence (UNAIDS, 2012). The country has an estimated 300,000 individuals living with HIV (UNAIDS, 2012). In Tanzania, where the national HIV prevalence is 5.7% (TACAIDS, 2008), approximately 1.6 million people are currently living with HIV (UNAIDS, 2012).

Concurrent partnerships have been identified as an important driver of the HIV epidemic in Botswana (NACA, 2009). The Botswana National AIDS Coordinating Agency (NACA) reports that as many as one in five sexually active women and one in three sexually active men practice CP (NACA, 2009). Several surveys have identified high rates of multiple partnerships in the past year—ranging from 30-45% of

men and 14-28% of women (Pappas-Deluca et al., 2005; Physicians for Human Rights, 2007)— but they did not determine whether these partnerships were concurrent or monogamous. A study on CP among a stratified random sample of households showed that at the end of 2007, a third of male participants (32%) and a quarter of female participants (26%) were engaged in CP (Population Services International [PSI], 2008). This study also found that people in Botswana practice CP for four primary reasons: (1) to avoid circumstantial sexual abstinence; (2) to enjoy sexual variety; (3) to experience material gain; and (4) to find a serious or stable partner (PSI, 2008).

In Tanzania, the *National Multi-Sectoral Prevention Strategy 2009-2012* identified a reduction in CP as one of its key objectives (TACAIDS, 2007). A recent national survey reported that 2.7% of married women and 25% of married men had multiple partners in the past year (the survey did not measure concurrent partnerships) (TACAIDS, 2008). However, it is possible that social desirability bias influenced responses, and these extramarital partnerships may be underreported. A longitudinal social network study in rural Tanzania found evidence of underreporting by women in the census sample: 40% of married men reported extramarital partners compared with only 3% of married women (Nnko et al., 2004). In northern Tanzania, multiple sexual partnerships were associated with increased prevalence of HIV infection in a study of HIV testing clients (Landman et al., 2008).

Previous qualitative research conducted in Tanzania by R2P suggests that environmental-structural factors, social norms, relationship dynamics, and parental influence all shape behavior around CP (Research to Prevention, 2010). Among the many findings, environmental-structural factors—such as poverty and economic vulnerability, labor migration, and the social and structural context surrounding alcohol—were found to create an enabling context for sexual concurrency. Social norms that support gender inequality also created a gendered double standard whereby CP were deemed acceptable for men but not for women—a social belief that may help to explain the underreporting of CP by women in the studies cited above. In the R2P study, cultural support of polygamy also appeared to facilitate social acceptance of non-marital CP for men; such partnerships were often legitimized as “wives in waiting.” In terms of relationship dynamics, emotional, sexual, and financial dissatisfaction with a primary partner were cited as reasons participants practiced CP, particularly for married couples (Muntifering et al., 2013). Finally, parental influences on adolescent sexual behavior were shown to encourage or discourage concurrency, either tacitly or openly (Fehringer et al., 2012).

HIV prevention communication campaigns

The UNAIDS Global Report has argued that “positive behavior change can alter the course of the [HIV] epidemic” (2010, p. 8). Communication campaigns have become a cornerstone of global HIV prevention efforts. Typically, these campaigns disseminate health messages that are designed to increase public knowledge about HIV and challenge social norms that legitimize HIV risk behaviors such as CP. They utilize a variety of strategies and channels to disseminate these messages, generally combining mass media, community-level activities, and individual-level activities to reinforce messages under a unified platform.

A model of how communication is initiated, how it shapes behavior through various causal pathways, and how behavior change ultimately affects the health status of individuals, communities, and entire populations has been proposed by Kinkaid et al. (2013). Messages operate at different levels to facilitate directive (i.e., instructional communication), non-directive (i.e., community discussion and problem-solving), and public communication (e.g., debate regarding policy decisions). These modes of communication facilitate changes in skills and knowledge, ideational factors, and environmental factors that in turn influence health-related behavior change.

Mass media campaigns have shown mixed effectiveness in changing HIV-related knowledge, attitudes, and behaviors (Bertrand et al., 2006). However, evaluations of communication campaigns generally measure process indicators such as campaign coverage, HIV-related knowledge, and reported sexual risk behaviors. Little is known about how people understand and interpret the terms and constructs related to HIV transmission, risk, and prevention that are promoted through such campaigns.

Specific aims

The goal of this study was to explore how individuals in Botswana and Tanzania understand and interpret communication campaign messages about CP, acute HIV infection, and sexual networks, and how these understandings fit within the larger social context surrounding individual decision-making related to HIV prevention. To achieve this goal, the specific aims of the study were

1. To explore how individuals in Botswana and Tanzania interpret communication campaign messages about CP, acute HIV infection, and sexual networks.
2. To understand how local understandings and interpretations of CP, acute HIV infection, and sexual networks fit within the larger social context surrounding sexual behavior and HIV prevention decision-making in Botswana and Tanzania.

STUDY SITES AND CAMPAIGNS

The study was conducted in urban areas of Botswana and Tanzania. These locations were selected to represent two sub-Saharan African countries where CP is highly prevalent and where ongoing communication campaigns on CP were in place. Although communication campaign messages also reach rural areas in both countries, this study focused on both larger and smaller urban areas for comparability across countries, since the Tanzania communication campaigns specifically targeted urban areas.

Botswana

A key strategy in the Botswana National Operation Plan for scaling up HIV prevention activities is a multi-year behavior change communication (BCC) campaign with an initial focus on reducing the practice of CP in the country (NACA, 2009). This communication campaign was launched in 2009 by the Government of Botswana through NACA and targeted different forms of CP and the associated risk of HIV infection. As of the date of this report, it was still being implemented. The campaign uses the national mass media to stimulate public discussion about CP coupled with behavioral interventions at the district level to encourage communities to change norms and individuals to change behavior. The campaign messages address the key factors influencing CP in Botswana as revealed in a baseline study (PSI, 2008). These factors include (1) lack of knowledge about the association between concurrency and HIV risk, (2) individual perceptions about the costs and benefits of having concurrent partners, (3) consumerism and materialism, (4) gender inequality and norms, and (5) promoting dignity, self-efficacy and self-worth. An additional priority of the campaign is limiting inter-generational sexual partnerships (NACA, 2009). Specific campaign activities operate through a variety of channels, including community discussion, local debates, and messaging through posters, banners, radio, television, newspapers, mobile technology, and email. At the time of data collection for this study, all national campaign components had been launched and all 30 districts in the country had begun local campaign activities (Lillie, 2010).

The study was conducted in two urban settings in Botswana: Gaborone and Francistown. Gaborone, Botswana's capital city and economic center, has a population of 231,592 people – about ten percent of the country's total population (Central Statistics Office [CSO], 2011). The HIV prevalence in Gaborone is 17.1%, which is comparable to the national prevalence of 17.6% (CSO, 2009). Francistown is the second largest urban center in Botswana, with a 2011 population of 98,961 people (CSO, 2011). The HIV prevalence for Francistown remains higher than the national average at 23.1% (Central Statistics Office, 2009). Though the population in Francistown is only one-quarter the size of Gaborone, the cities share similar environmental factors thought to be conducive to CP, including high economic disparity, consumerism, and migration (NACA, 2009). For example, Francistown is a major transport hub, strategically situated on Botswana's main air, rail, and road transport routes. This prime location coupled with a growing and bustling nightlife allow for many opportunities for brief and longer-term sexual partnerships.

Tanzania

The Tanzanian component of the study was also conducted in conjunction with the roll-out of a large-scale communications campaign aiming to address HIV through the reduction of CP. This specific campaign was developed by the Johns Hopkins University Center for Communication Programs (JHUCCP) and PSI (JHUCCP, 2011a). Campaign activities started in 2012 in a variety of urban settings across Tanzania and were still being conducted at the time this report was written. The campaign targets urban men and women aged 25-39 of moderate to high socio-economic status (as HIV prevalence is highest among adults of a higher socio-economic status in urban settings [TACAIDS, 2008]) who are already part of a sexual network through either their own practice of CP or their partners', or who are considering or intending to engage in CP. Data collection for this study was conducted during the first phase of the campaign. The goal of this phase was to introduce the audience to the concept of a sexual network and the health risks associated with being part of that network. The campaign also introduced the concepts of acute HIV infection and CP. The campaign intends to increase the proportion of the target audience who understand why having CP increases risk of HIV infection and who acknowledge their own risk of HIV infection by way of their own or their partner's CP. Later phases are designed to encourage the audience to talk with their sexual partner(s) about CP and to seek satisfaction in their relationship with their main partner across a variety of domains, including emotionally, sexually, and financially.

Additional CP campaigns in Tanzania have been conducted using various media sources. Some campaigns, such as the *OneLove* campaign and the *Club Risky Business* television mini-series, have been adapted from successful campaigns used in other sub-Saharan African countries such as South Africa and Zambia. Others, such as the *Ishi* campaign, were developed specifically for Tanzania (*ishi* means "live" in Swahili). These campaigns have featured a variety of media and health communication techniques including TV and radio spots, billboards, banners, murals, SMS messages, magazines, t-shirts, youth conferences, health talks, and school curricula. Messages around CP generally focus on clarifying CP behavior and HIV risk and encouraging recipients to question their own CP behaviors. There has also been a related campaign called the *Fataki* campaign addressing intergenerational sex, which often coincides with CP (Kaufman et al., 2013). In the campaign, *Fataki* is an older man who lures younger women into sexual relationships with money and gifts.

In Tanzania, data collection for this study was conducted in two sites: Dar es Salaam and Iringa. Dar es Salaam, with an estimated population of over 3 million people in 2011 (National Bureau of Statistics [NBS], 2006a), is the largest city in the country and the center of commerce and government activity. Iringa is a small regional capital in the largely rural Iringa region. In 2011, the population estimate for the greater metropolitan area of Iringa was 385,144 people (NBS, 2006b), nearly ten times smaller than Dar es Salaam. At 16% HIV prevalence, the Iringa region has the highest HIV prevalence of any region in Tanzania—almost three times the national average (6%) and significantly higher than the prevalence in Dar es Salaam region (9%), which is tied with Mbeya region for the second-highest regional HIV prevalence in the country (TACAIDS, 2008). As such, Iringa and Dar es Salaam thus represent two of the most important sites for HIV prevention activities in Tanzania.

METHODS

A qualitative approach was used to answer both study aims. Research methods were designed to be the same for both countries and included in-depth interviews (up to 2 interviews per participant) and focus group discussions using campaign materials and vignettes.

In-depth interviews

In both countries, primary data collection began with semi-structured, in-depth interviews (IDIs) with men and women between the ages of 18 and 39 (the general target age for CP communication campaigns in each country). To ensure diversity in the sample by gender and city, potential participants were recruited through stratified purposeful sampling. In this method of sampling, a research team groups a given sample by relevant characteristics – here, gender and city – and then purposively samples from within those groups. This allows researchers to recruit a more representative sample and to illustrate differences between subgroups (Patton, 2002). Individuals from each of these groups were identified by local community organizations and then asked to recruit others from their social networks who met the criteria in a snowball sampling approach.

Eligible participants were invited to participate in two interviews at times and locations of their convenience. This longitudinal design was selected to try to build rapport with participants in order to gain a more in-depth understanding of the research topics and to better capture each individual's experience and the dynamic nature of decision making and risk. In Tanzania, this design also allowed for data collection before and after the JHUCCP communication campaign; in Botswana, the CP campaign was already established and was ongoing at the time of this study. Before the first interview began, interviewers explained the purpose of the study and obtained verbal informed consent. All interviews were conducted in a private setting of the participant's choice in his or her preferred language (English or Setswana in Botswana, English or Swahili in Tanzania) and lasted approximately one hour. Interviewers followed field guides that were developed before the start of the study to guide the discussion and facilitate probing on topics of interest.

The first interview focused on if and how participants understood three key concepts: (1) CP, (2) acute HIV infection, and (3) sexual networks. For each of these concepts, participants were asked to describe what the concept meant to them and how they would explain it to someone else. The rest of the interview focused on the ongoing communication campaign in the participants' country. Participants were shown messages from the current campaign and were asked to describe the messages being conveyed by these materials as well as the concepts underlying these messages. They were also asked to describe their response to the messages—including any feelings or opinions and the level of response and lasting impressions. Participants who reported having seen or heard these particular campaign messages were asked to describe the settings in which they first encountered these messages, their first impressions of the campaigns, and any changes in their reactions to the campaigns over time. They were also asked to recall any conversations they may have had with family and friends about these messages or their underlying concepts.

The second interview focused on how the key concepts (CP, acute HIV infection, and sexual networks) fit into participants' larger worldviews and understandings of sexual behavior and HIV risk. Building off of the content provided by participants in the first interviews, the second interview addressed the context within which sexual behavior and HIV prevention decisions are made, with a focus on the structural factors shaping individual decisions. It examined how the key concepts are experienced by individuals in the greater context of their life chances and choices. Finally, it revisited the campaign messages and explored how those messages fit into participants' complex reality.

In Botswana, 11 men and 12 women participated in IDIs: six men and six women in Gaborone and five men and six women in Francistown. Of these, 21 were interviewed a second time for a total of 44 interviews (Table 1). In Tanzania, 12 men and 12 women participated in IDIs: six men and six women in Dar es Salaam and six men and six women in Iringa. Of these, 15 were interviewed a second time for a total of 39 interviews.

Focus group discussions

Focus group discussions (FGDs) were conducted in each country to complement information from IDIs. Each FGD utilized communication campaign materials to examine group discourse about campaign messages as well as socially normative understandings of the concepts included in those campaigns. Questions posed by moderators centered on a series of short vignettes or scenarios that appeared in the communication campaign. Vignettes have been successfully used to guide qualitative research about other health-related topics globally (Sivaram et al., 2004; Atre et al., 2004), and were considered an ideal means of stimulating group discussion on the communication campaigns for several reasons. First, researchers were interested in exploring *general perceptions* of the key concepts' roles in people's daily lives, rather than personal experiences with these concepts. Second, the study sought participants' perspectives on a variety of different potential situations, and few participants would have had personal experience with some of these topics (such as acute HIV infection). Third, vignettes are thought to depersonalize the topic under discussion while stimulating responses based on personal experience and beliefs (Sivaram et al., 2004). We therefore expected that participants would feel more comfortable talking about sensitive topics when discussing the behavior and decisions of others instead of themselves. Finally, we hoped that participants would be interested in the characters presented in the stories and thus be more engaged in the interviews.

In total, 246 individuals participated in FGDs across both countries. FGDs were conducted with individuals in the same age range (18-39) and with the same gender and city stratifications as the IDIs. FGDs were further stratified into younger (18-24) and older (25-39) age groups. FGD participants were recruited through community organizations and were conducted in the local language in each country (Setswana in Botswana, Swahili in Tanzania). Two FGDs were conducted with each age group for each gender and city stratification for a total of 32 FGDs (16 in each country). Each FGD generally had between six and nine participants.

Table 1: Distribution of in-depth interviews and focus group discussions across sites and participant categories

Country	In-depth Interview Participants [†]					Focus Group Discussions [‡]				
	Larger City (Gaborone or Dar es Salaam)		Smaller City (Francistown or Iringa)		Total Participants	Larger City (Gaborone or Dar es Salaam)		Smaller City (Francistown or Iringa)		Total FGDs
	Males	Females	Males	Females		Males	Females	Males	Females	
Botswana	6	6	5	6	21	4*	4*	4*	4*	16
Tanzania	6	6	6	6	24	4*	4*	4*	4*	16
Total	12	12	11	12	45	8	8	8	8	32

[†]Most participants were interviewed twice for a total of 44 interviews in Botswana and 39 in Tanzania, or 83 interviews total across both countries.

[‡]Focus groups generally had between six and nine participants. In Botswana, 120 individuals participated in focus groups in Botswana, while 126 participated in Tanzania for a total of 246 FGD participants.

*Two with younger individuals aged 18-24; two with older individuals aged 25-39.

Data analysis

Qualitative data analysis involves the search for patterns in data and for ideas that help to explain the presence of those patterns (Bernard, 1995). Qualitative data from the IDIs and FGDs were transcribed in the local language and subsequently translated into English. ATLAS.ti and NVivo were used to code the data and reduce it to manageable units of information that covered broad and general categories. *A priori* codes were developed based on the concepts of interest and the two study aims. These *a priori* codes were complemented by additional codes that reflected themes and concepts that emerged from the data. A codebook was developed for the different concepts to facilitate consistency in the coding process. Coding was conducted separately for each country, though the study team shared and discussed codebooks as they were being developed and applied. Study team members discussed themes and emerging findings and summarized codes for each country before comparing across countries. Because there were significant similarities in key themes and insights across countries, we present findings from both countries together by theme here, and indicate when there were differences.

Ethical considerations

All study participants provided informed consent prior to participation. IRB review and approval was received from the Health Research Development Committee (HRDC) in Botswana, Muhimbili University of Health and Allied Sciences and the National Institute for Medical Research in Tanzania, and the Johns Hopkins Bloomberg School of Public Health in the United States.

RESULTS

Understandings of the concepts of acute HIV infection, concurrent partnerships and sexual networks

Acute HIV infection

In Tanzania, most participants expressed a narrow understanding of acute HIV infection, correctly noting that this was an early phase of infection but not describing the associated increase in viremia. The Swahili term used to describe acute HIV infection in our study literally translates in English as “early HIV infection.” Following this prompt, many participants described acute HIV infection as the period immediately following HIV infection. Some participants identified this early period of HIV infection as the time before an individual experiences symptoms or before an individual tests positive for HIV. Participants also framed acute HIV infection within the context of HIV testing, recognizing the three-month window period from the time of infection to the time in which an HIV test would be able to detect antibodies to HIV. Participants often described the “early HIV infection” period as a time of high HIV infectiousness, not due to increased viral load, but because the infected individual is not aware of their infection and is thus more likely to spread the virus to sexual partners through unprotected sex.

In Botswana, the majority of participants stated that they had neither heard of nor seen campaign messages or materials on acute HIV infection, and most had little to say about this topic. When shown campaign materials on acute HIV infection, most participants did not understand the concept; some interpreted it as HIV prevalence, impending death, re-infection, effects of a strong virus, or a virus that is multiplying. Among the few who had knowledge of acute HIV infection, most defined the concept as the period immediately following infection with the HIV virus when a person became “a carrier” who had no symptoms of illness, yet was highly infectious. These select participants also demonstrated understanding of the relationship between acute HIV infection and symptoms of illness, viral load, HIV testing results, and risk of transmission of infection:

Acute infection stage is whereby a person at that point is recently infected with the HIV virus and at that level the virus is high. Sometimes when that person goes for an HIV test, the results will show that he is negative whereas he has the virus. So at that point you will find that, that person engages in unprotected sex thinking that he is HIV negative but that’s the stage which the virus is highly infectious in his body, so it’s easily passed to other people. (Older female FGD participant, Gaborone, Botswana)

Concurrent partnerships and sexual networks

Tanzanian participants generally understood the meanings of concurrent partnerships and sexual networks. Again, comprehension of the concept of CP was likely shaped by the Swahili translation, which strongly suggested its meaning. For this study, CP was presented in Swahili as “*kuwa na wapenzi zaidi ya mmoja kwa wakati mmoja*,” which literally translates to “to have more than one partner at the same time.” Some definitions of CP offered by participants in Tanzania included:

[CP] is being with more than one sexual partner. It is the act when a person has a sexual partner but he also has other sexual partners, meaning that he has two, three, and more sexual partners. (Younger female IDI participant, Iringa, Tanzania)

[CP] is that situation when a person who is in relationship with a single person adds another person. This can be on a woman's side but can also be on a man's side. In short, we can say it is being with more than one sexual partner. (Older male IDI participant, Dar es Salaam, Tanzania)

Similarly, the majority of Botswana understood the meaning of CP, and defined it as a situation where a person had "different partners," "multiple partners at the same time," "many relationships at a time" or "sex with many people at the same time." Some participants often provided illustrative definitions of CP such as these:

There is Monday, Friday and Tuesday, you can change these girls on each day. Let me give an example; let us consider the cab or a bus driver. This person visits different places. He has a woman in every place, where he services himself and these are different people at different places at the exact time. (Older male FGD participant, Gaborone, Botswana)

If I, as a man, I have a girlfriend— more than one partner, you see. I am with one tomorrow, the other day I sleep with another and some other time I return to the first one. Sleeping with them at the same time, as opposed to dumping this one and moving onto the next. (Younger male FGD participant, Francistown, Botswana)

Some participants in Botswana defined CP in terms of negative character traits rather than an isolated behavior and stated that CP is common among "irresponsible people," "those who lack control" (of desire, feelings, and behavior), and "cheaters," and is indicative of "promiscuity." Other participants defined the concept in terms of its potential consequences, such as health risks, lack of peace of mind, and financial instability. A few participants said they had difficulty understanding the word "concurrent" and thus said that they did not understand the concept of CP.

In Botswana, participants' understanding of sexual networks was heavily influenced by a popular communication campaign, and almost all participants defined the network as a linear "chain" of sexual partners and relationships. Participants understood that in a sexual network, a person could be linked sexually to other partners he or she did not know directly, "because if you sleep with somebody, you are in fact sleeping with everybody who has slept with that person." The illustrations below show that participants also understood that a person could be faithful to their partner and still be a part of a sexual network if their partner was not faithful.

It means that Modiri has got many networks, one with Tumi, he mixes them along. Maybe Tumi has had sex with 36 people so it means that Modiri has had sex with 36 people plus those that he is involved with. (Younger female FGD participant, Gaborone, Botswana)

The network will have fifteen or more people. Maybe there is someone in the network who thinks they are being faithful not knowing that in actual fact they are sleeping with ten people. You know, that when you have sex with that one person, it means you have slept with all those ten partners. (Younger female FGD participant, Gaborone, Botswana)

In both countries, participants generally understood the relationship between the concepts of CP and sexual networks. They understood that even if one person is faithful in a relationship, his or her partner might have other sexual partners outside of that relationship, which would place the faithful partner in a sexual network. As one participant explained,

Sexual network is more or less the same as the way we have said about having more than one partner. However, for example a woman is having a relationship and confidently you believe that you only have one partner while that man is having another woman and probably another woman is also having another kind of sexual relationship. So this goes like a cycle. (Younger female FGD participant, Iringa, Tanzania)

Other participants, particularly in Botswana, had difficulty distinguishing between CP and sexual networks and provided definitions that didn't always clearly distinguish between the two concepts.

The difference is that sexual networks is when you have different multiple partners but concurrent is when you're having sex with different partners at the same time. (Younger female IDI participant, Gaborone, Botswana)

Sexual network is when let's say maybe I have three lovers and I am able to have sex with all of them on separate days. Concurrency is when I have sex with multiple people perhaps in a single day. (Younger male IDI participant, Gaborone, Botswana)

There was a broad understanding among participants across all four sites that being in a concurrent sexual partnership or knowingly or unknowingly being part of a sexual network increases the risk of HIV infection:

About having many partners at the same time, it is also a factor that can put a person at risk of HIV transmission. For example, if you have more than one sexual partner you have already created the network, so that the network becomes large and expands and if one or two people in the network are infected that means that all people [in the sexual network] are at risk of getting HIV. (Older female IDI participant, Iringa, Tanzania)

It can show how quickly people can get infected through a sexual network because if Tumi is infected by HIV and she has sex with Modiri, Modiri can also pass it on to his girlfriend. The girlfriend maybe has someone on the side: she would pass it on to him as well. (Younger female FGD participant, Gaborone, Botswana)

The major thing is having more than one sexual partner. This exposes people to be at a greater risk of HIV infection. Sexual network is another factor. You may be faithful to your partner while your [partner] is having other lovers and his other partner may have other lovers. So this puts people in danger, as you are at the risk of HIV infection.

(Female IDI participant, Dar es Salaam, Tanzania)

The last quote above illustrates a common theme found among many of the responses: even if you are faithful to your partner, you cannot be sure that your partner is also faithful, which puts you at risk for sexually transmitted infections (STIs), including HIV. Many participants described the increased risk of acquiring HIV or other STIs resulting from CP and sexual networks as not being able to truly trust one's partner. This theme was particularly prominent during discussions of current communication campaigns on CP and sexual networks in Tanzania. As one focus group participant stated:

Personally, the way I have understood the advertisement is that we need to be confident and yet we should not trust someone by looking using the eyes. . . . The message teaches us not to have more than one sex partner and we should not trust anyone. (Younger female FGD participant, Iringa, Tanzania)

Local terminology for CP and related behaviors

In both countries, additional local terms were used to describe CP and related behaviors. In Tanzania, some participants referred to men with multiple and concurrent partners as *Fataki*, after the character in the communication campaign. Tanzanian participants also referenced several local metaphors for concurrent partnerships. The first, *mafiga mawili hayainjiki chungu*, means two cooking stones cannot hold a pot. The second, *mbeba maji kwa ndoo hubeba kidumu pia*, states that a woman or man needs a spare container, lest s/he spills the water in the bucket. Both metaphors indicate that CP are seen as necessary for stability and security, which a primary relationship alone cannot provide.

In Botswana, participants commonly referred to extramarital relationships and multiple (non-marital) relationships as “small houses,” a side-dish, “fried chicken,” or a “snack”; whereas married individuals, usually men, who had concubines or paramours were called “di-big house.” Of note, these terminologies portray men in multiple relationships in a positive elevated manner (i.e., big), and perhaps as having increased social status, while terms used to describe women in multiple relationships were less flattering (i.e., small, snack, on the side or supplemental). The study suggested that new terminology was beginning to emerge that did not portray concurrency in a positive light; a few participants described individuals in concurrent relationships (i.e., the small house) as “weevils,” because the small house destroys families/marriages/relationships just like weevils destroy sorghum, and as *tsitsiri*, which means “bed bugs,” which denotes an undesirable companion in the marital bed.

The specific terminologies used to describe concurrency behaviors in Botswana also appear to reference material possessions and acquisitions that are valued in daily life (i.e., good meals, homes), implying that maintaining multiple relationships might be perceived as satisfying or perhaps a desirable goal in life. To elaborate, men explain their concurrency behaviors by *Ga a kake a jela paleche ruri* which means “I would not have the same meal everyday” (i.e., thus, I will not have sex with the same woman everyday),

a behavior perceived locally to be a symbol of wealth and self-sufficiency, and females inviting a male for a casual sex would ask '*Ke o utluse nyana*,' meaning have "a bit of salad," a dish usually eaten by those of higher economic standing. In addition, promiscuous women were referred to as *chopara*, which means "a chopper," referencing behavior that cuts down men like an axe cutting down trees. This lexicon appears to be a play on the popular cultural idiom in Botswana that seems to defend concurrency behavior among men, specifically *Monna ke selepe ao hapaanelwa*, meaning, "A man is an axe, he should be shared," and appears to give some power to women.

Experience with communication campaigns

In Tanzania, the first round of data collection occurred before the major communication campaign was implemented. During the first round of interviews, only a few participants reported having been exposed to HIV campaigns on CP and sexual networks. However, by the second round of interviews, many participants reported that they had been exposed to campaign messages on these concepts through a variety of channels. In Botswana, participants were exposed to campaign messages through billboards, radio, television, newspapers, flyers, drama/theaters and house-to-house education campaigns. Others had overheard conversations about campaigns at public transportation terminals and in popular songs, and some had seen messages on t-shirts, *combis* (public transport buses), and pamphlets at hospitals and clinics.

To reach a broad audience, participants in both settings recommended using a mix of media channels to reach those who may not have access to television or radio, including billboards, flyers, and home visits. One participant even suggested using mobile technology to disseminate both text and audio messages on the risks of CP and sexual networks to reach the wide and increasing segment of the population that has access to mobile phones. Discussion groups were also recommended as an approach to message dissemination, particularly to reach youth in school settings as well as illiterate and under-literate populations in rural areas. Some participants viewed small group discussions of issues related to HIV, including CP and sexual networks, as being more effective than mass media messages in reaching and engaging the community.

You know if someone sees a billboard, just seeing he may ignore it. But if you find a group of people and talk to them, I think they will understand more than just seeing a written billboard. (Older female IDI participant, Dar es Salaam, Tanzania)

Abstract campaign messages

In Tanzania, some participants perceived certain TV and radio spots of campaigns on CP and sexual networks as too abstract for someone not familiar with the concepts to understand. As one focus group participant in Dar es Salaam stated, "The announcement has come in a state of a riddle, that's why few will uncover the riddle . . . few people understand." This participant was specifically referring to a television spot in which a couple is sitting in a car at a stop light. A woman walks up to the car, kisses the man and gets in the back passenger seat, followed by a man who walks up to the car, kisses the woman and also gets in the back passenger seat. This continues until the car is completely full with the couple's other sexual partners and ultimately breaks down. The television spot ends with the tagline, "How many

are we?” The video does not explicitly state that the additional people who come up to the car are the sexual partners of the couple, which forces the viewer to decipher the intended message, according to the participant. Like this particular spot, many of the other campaign ads on CP used implicit visuals and images to get their messages across. Another participant described one campaign message as a “puzzle”:

The messages in the adverts are somehow in puzzles. They are in puzzles because they use actions instead of words. So maybe something must be done here. At least there should be some words in the adverts in order that people might understand easily.

(Female participant, Dar es Salaam, Tanzania)

In Tanzania, some of the TV and radio spots on CP and sexual networks aimed to increase awareness of unfaithfulness within sexual relationships. They did not necessarily make an explicit link between CP and adverse health outcomes. However, like the participant quoted earlier, many participants in Tanzania believed campaign messages should be more explicit in presenting the adverse health risks of CP and sexual networks.

In Botswana, many participants stated they had difficulty understanding some campaign messages. For example, one image portrayed HIV as a flood, which prompted a participant to react this way:

One may wonder why flood when we are talking about HIV/AIDS. What exactly are we saying? Where is the relevance here? Maybe because during heavy floods almost everything is destroyed. . . Perhaps it means that a savior in the form of Noah might be sent to rescue us just as he did then. (Older male FGD participant, Francistown, Botswana)

In Botswana, many participants were familiar with HIV prevention campaigns that targeted specific cultural practices believed to increase risk of HIV infection. These cultural practices were articulated in the form of proverbs or idioms that support CP – for example, “Small houses strengthen relationships”. Campaigns were developed around these proverbs with the intention of discouraging CP and encouraging couples to discuss relationships and HIV prevention. Although participants understood the HIV prevention messages in these campaigns, the majority perceived that many of these messages were confusing, especially to the illiterate population. Some also felt that these messages could be seen as contradictory, as they simultaneously stated and tried to challenge a proverb. Consequently, a number of participants felt campaign messages using cultural idioms did not successfully promote behavior change. In addition, many participants stated that the images used for these campaigns frequently described and supported the proverb, leading people to interpret the cultural practice as being acceptable. As one man said,

Yes, it is that I’m still trying to figure out what it [tagline] is saying. In this case, this translates to “a man can do as he pleases.” He can have as many concurrent partners as he wants to have. (Younger male IDI participant, Francistown, Botswana)

The misinterpretation of the campaign's use of cultural idioms led some to believe that certain messages gave men freedom to pursue multiple sexual partners and extra marital relationships, while taking away the voices of female spouses and partners. One woman said:

When a man reads this he will celebrate knowing that he has been given opportunity to do whatever he wants. But when a woman reads [tagline], she will give up. She can't even ask her husband his whereabouts and why he is doing this because it's something that is written and it is known by everyone. (Young female IDI participant, Gaborone, Botswana)

Credibility of the messenger

In Botswana, prominent public figures were often used in campaigns. Participants in Botswana had opposing views regarding the use of these celebrities. While some believed that target audiences, especially youth, would value what famous people had to say, others believed that messages may be better accepted if delivered by a more appropriate role model, i.e., a known advocate for HIV prevention.

Now what is it that these people could have done for them to be smiling on this message? There should be something showing what they did to deserve to be here, not just because they are celebrities. (Younger female FGD participant, Francistown, Botswana)

I had a problem why these people are used because I don't see them advocating for this. If they were ambassadors of things like these, then I could say oh, it is so and so. (Older male IDI participant, Francistown, Botswana)

Some participants also felt that the public reputation of some of the campaign figures contradicted the messages they relayed. They felt it was important to use people in campaign materials who were trusted and respected by the public.

They are celebrities who we don't know how they live and sometimes they mislead the youth, so they can't pass on the message to the youth that they are committed. (Older male FGD participant, Gaborone, Botswana)

These people are hypocrites, very promiscuous people, the guys they put on the poster. (Older male FGD participant, Francistown, Botswana)

Though Tanzanian campaigns on CP and sexual networks have not used public figures to promote campaign messages, some participants did comment on the credibility of campaign messengers. Similar to the views of participants in Botswana, some Tanzanian participants felt that spokespersons or those responsible for promoting campaign messages should adhere to the principles and behaviors that they are promoting to be a model example to others. As one participant in Tanzania asserted:

When you are educating the people not to be evil, you should be at the frontline to resemble what you preach, because people will not respond to what you say but what you do. Even in churches, the reverend should be the example of what he preaches to the people. If you tell people not to engage in adultery, you should be the first to honor it through action, if not it's the same to insist them to do it. This then, applies the same to these who are called facilitators, not all of them honor what they educate. Even though all people are not perfect but when you are a leader to people, you should try as much as you can to be an example, even if you are doing the different it should be in secret not openly where people can easily see you, don't be a good teacher with bad behavior. (FGD participant, Iringa, Tanzania)

Effect of campaigns on individuals

In both countries, some participants stated that the campaigns had made them more aware of risk of HIV infection and they had taken steps to protect themselves. Some stated that some campaign messages had resonated deeply with them, particularly dramas and discussions which helped them to identify with the experiences of others. One participant in Botswana described the personal effect such an experience had on him:

I first learned of the [campaign message] over the radio. It was a woman who was narrating it. She sounded very sad. She said she had contracted HIV and attributed this to her past behavior. She had many relationships. At the time I conducted myself in similar manner. I started thinking that what has happened to her could well happen to me. (Older male IDI participant, Gaborone, Botswana)

However, others reported that the campaigns had had little effect on their behavior. In both countries, participants admitted to ignoring many campaign messages about HIV:

P2: You just read and ignore

Interviewer: Do you mean [the campaign] is silent?

P1: [Nods head in disagreement]. The thing is at times we ignore things. When you see, you will say, this is a daily thing; they weary us with their billboards.

P6: I don't want to lie. I just look at it and ignore.

(Younger female FGD participants, Gaborone, Botswana)

Frankly speaking, what I know is that even if people hear it they will ignore it. (Younger male FGD participant, Dar es Salaam, Tanzania)

Participants in Botswana in particular felt that communication campaigns had limited effectiveness for some viewers as HIV prevention messaging was ubiquitous in the country and some people were "fatigued" by messages:

These days there is so much talk about AIDS to the extent that people are saturated. Every day it is AIDS this, AIDS that. People are tired of AIDS you see. People have been

bombarded with sexual networks. (Younger male FGD participant, Francistown, Botswana)

Participants in Botswana also said that people lacked the time to fully process campaign messages. Some noted that campaign messages placed on billboards allowed people to just “drive through it” without the opportunity to “wait and absorb the message.” They felt that people could miss the opportunity to carefully scrutinize the message, especially the small print, and engage in reflection or discussion.

Other participants felt that campaign messages might have a short-term impact, but that individuals had deeply embedded patterns of behavior that had become “a habit” and were not easily changed by campaign messages.

If we are to be realistic about messages, they provide temporary restraint. They can catch our attention for two minutes and after that we go back to our ways. (Younger female IDI participant, Gaborone, Botswana)

People are complex. There is nothing that can be done. They can be told, they are given examples, they see people who are sick, and they may become afraid for a while, but when they go out, they forget. (Older male IDI participant, Gaborone, Botswana)

Many participants felt that there was a lack of community discussion about campaign messages, which limited any lasting effects of the campaigns. As a young female participant in Gaborone put it, “When it comes to AIDS messages, I just read and keep to myself.” Participants pointed out that without discussion, messages may be misinterpreted.

I mean, when you are there watching television, everyone is following. You do not discuss things as they unfold. Everyone interprets things based on their own understanding without discussion with others. (Older female IDI participant, Francistown, Botswana)

Some participants traced this lack of discussion about relationships, sex and HIV among family, friends or partners back to cultural norms. This was especially true among older participants in Botswana.

It boils down to our cultural set-up. Most of our parents find it difficult to discuss issues of relationships and sex with us and rather prefer to keep quiet about them. (Older male FGD participant, Francistown, Botswana)

In the community, I really do not think that people talk because nowadays we are brought up by our grandparents. Our grandparents do not know anything about these things. (Older female IDI participant, Francistown, Botswana)

These cultural norms that perpetuate the reluctance to discuss relationships are not only a barrier to interpreting messages, but also to changing partner dynamics necessary for the reduction of CP and sexual networks.

Another thing is that our culture is not on our side. Like when I am given a traditional marital advice I will be told that a man is an axe, he is shared—so that if I find him gone somewhere, I shouldn't ask. (Younger female FGD participant, Francistown, Botswana)

Despite these traditional ideas, the advent of HIV and other illness have driven many to believe that these cultural ideas should be challenged. However, a few participants believed that a meaningful discussion of cultural norms should precede the HIV messaging campaigns if there is to be any real effect on behavior.

I think these things should happen after holding discussions or outreach programs to teach people about these things. Then that is when they can have the message which will mean something to the public. (Younger female FGD participant, Gaborone, Botswana)

DISCUSSION

This study sought to explore local understandings of communication campaign messages about acute HIV infection, CP, and sexual networks in Tanzania and Botswana, and to understand how these interpretations fit within the larger cultural environment. In both countries, participants generally understood key concepts of the communications campaigns, though knowledge and understanding was lacking in some areas. Many participants equated acute HIV infection with the asymptomatic “window period,” but rarely mentioned the increased risk of transmission due to higher viral load during this phase. When increased risk of transmission was mentioned, it was because of a presumed lack of awareness of HIV status during the acute phase. Descriptions of CP by participants tended to correctly denote overlapping sexual pairings. However, understandings of sexual networks tended to be less specific and were often conflated with the concept of CP. In both countries, participants described local terms and metaphors for CP. The existence of a local lexicon for CP indicates that it has a place in the local culture and lives of community members in both countries.

These results must be considered in the context of existing research. Although our study focused on adults, research in East Africa has demonstrated how adolescents have a varied understanding of key concepts in HIV prevention campaigns. A recent study on a CP communication campaign in Uganda suggested acceptable levels of understanding of CP among adolescents (Panos Eastern Africa, 2011). In Tanzania, a qualitative study found that adolescents acknowledged the risks of multiple partners, although only a few recognized that concurrent partnerships are riskier than serial partnerships (Baumgartner et al., 2010). In a study in Kenya, over half of adolescents demonstrated a lack of comprehension of what “being faithful” meant in the context of HIV prevention (Lillie et al., 2009).

Our results suggest multiple explanations for varied levels of understanding. In both Tanzania and Botswana, participants indicated that campaign messages were not always clearly understood by viewers. This has been demonstrated previously by a study in Kenya, which also found general lack of understanding of many HIV prevention communication campaign messages (Muturi, 2005). Previous qualitative research among Tanzanian adolescents has recommended clear, straightforward messages about CP (Baumgartner et al., 2010), and our findings too suggest that more straightforward messages might be better understood.

Participants in our study suggested that campaigns should employ a mix of media to increase reach and acceptance of campaign messages. Many participants — particularly those in Botswana— voiced the opinion that campaign messaging should be accompanied by community discussion to facilitate acceptance. Although HIV prevention campaigns in Botswana have included discussions in community forums and radio programs, participants felt that people generally listened quietly to these discussions rather than participated in them. This echoes findings from previous studies, such a 2001 study examining a campaign to promote sexual responsibility among young people in Zimbabwe (Kim et al., 2001). The authors concluded that while a multi-media approach may increase the reach of the campaign, community support and opportunities for discussion were essential for behavior change. Such community discussions also have the potential to encourage individuals to critically reflect on the messages about sexuality they receive from a variety of sources in order to more consciously make

decisions about their own values, priorities, and sexual behavior. Group-based approaches could also consider linking with social media to promote this ongoing critical dialogue. Researchers have found that a characteristic of successful campaigns is to “go small in a big way” by personalizing campaigns while still bringing them to scale (JHUCCP, 2011b).

Cultural factors were cited as one of the reasons why discussions about the information in campaign messages were not occurring. In many sub-Saharan African societies, discussions related to sex are uncomfortable or forbidden by traditional cultural norms (Leclerc-Madlala, 2004; Olasode, 2004). This may contribute to lack of communication within couples about sexual satisfaction, leading some individuals to seek satisfaction outside the relationship rather than discuss how their sexual relationship could be improved (Mah & Maughan-Brown, 2013). The culture of silence in many traditional African communities on issues related to sexual behavior, sexual anatomy, and sexuality and its detrimental influence on health promotion is well recognized, especially in the context of HIV prevention. The Global HIV Prevention Working Group (2008), a panel of over 50 leading public health experts, reported that “HIV must become a natural and central topic of discussion and new societal norms must be forged regarding gender relations and sexual behavior” (GHPWG, 2008, p11). Encouraging free and open discussion of HIV and sexuality has been the focal point of best practice HIV prevention programs in Botswana and Zambia (Mapara, 2009) as well as Brazil and Thailand (GHPWG, 2008). Local-level strategies that first address the individual and community perceptions about topics that are acceptable for discussion between partners could provide a platform for more open discussion of the sensitive information related to sexual partnerships and HIV infection that are an integral part of HIV prevention campaign messages.

Interestingly, participants in this study felt that CP campaigns encouraged viewers to be less trustful of their sexual partners. The issue of trust within partnerships and its relationship to HIV risk is a complicated one. In general, partnerships in which there are high levels of love and trust are less likely to use condoms (Sayles et al. 2006). Therefore, encouraging a lack of trust in relationships could increase condom use. However, encouraging a lack of trust might also inadvertently increase concurrency behavior. In Tanzania, dissatisfaction with one’s primary relationship has been reported to be a contributing factor for engaging in CP among both men and women (Muntiferi et al., 2013). Similarly, both qualitative (Nunn et al., 2011; Nunn et al., 2012) and quantitative (Adimora et al., 2004; Mah, 2008; Senn et al., 2009; Xu et al., 2010) studies from multiple settings, including Kenya, South Africa, and the United States, have suggested that engaging in concurrency is related to the knowledge or suspicion that a primary partner also has concurrent partners. Intentional or not, campaigns that are perceived as encouraging distrust within relationships may have complicated and potentially unintended consequences on not only concurrency, but also other HIV-related behaviors, as trust within partnerships is necessary for couples to get tested together, feel comfortable disclosing HIV test results, and engage in often difficult conversations about sexuality and fidelity.

Decisions about sexual partnerships and concurrency are influenced by a multitude of factors at the individual, relational, socio-cultural, and economic levels (Research to Prevention, 2010). As one participant from Botswana noted, “People are complex.” Several participants in our study felt that

although campaign messages might make people think or pause briefly, they were generally unsuccessful in persuading people to change their actual behaviors. In this way, participants were perhaps accurately noting that communication campaigns are only one of many factors that shape sexual behavior, and that, in many cases, relational and structural factors have much stronger influences on individual behavior. Numerous studies have described the social and cultural context of concurrency in sub-Saharan Africa and factors that may shape individual decisions around CP such as poverty and gender norms (Research to Prevention, 2010; Mah & Maughan-Brown, 2013). In turn, campaigns may be most effective if integrated into broader community-based prevention efforts and initiatives to address socio-cultural and structural factors linked to CP.

However, communication campaigns do play an important role in shaping the cultural context in which individual decisions about sexual behavior are made. Leclerc-Madlala (2009) noted the presence of “cultural scripts” for sexuality in South Africa that have been echoed in research from other sub-Saharan African settings, including Tanzania (Research to Prevention, 2010). Cultural scripts, also known as cultural repertoires, have been defined as “a set of knowledge, skills, and symbols, which provide the materials from which individuals and groups construct strategies of action” (Swidler, 1986, p. 280-284). Cultural scripts are representations of social norms. They do not prescribe behavior, but are rather “publically available symbolic forms through which people experience and express meaning” (Swidler, 1986, p. 273), and are thus available to individuals as they make daily behavioral decisions. As Leclerc-Madlala (2009) has noted, in southern Africa, several common scripts serve to affirm and lend cultural legitimacy to concurrent partnerships. Examples include, “Male sexuality is by nature un-restrainable,” “A woman should be prepared for, endure and forgive a partner’s infidelity,” and “Pleasurable sex is to be found outside of marriage.” Participants in our study described cultural norms that supported similar scripts that gave license to men to engage in multiple relationships and took power from women to insist otherwise. These scripts may be used as a post-hoc justification for behavior, but may also help shape the “performance of sexuality” — in other words, how individuals choose to enact sexual behavior (Leclerc-Madlala, 2009). These cultural scripts outline normative behavior, shaping the options individuals perceive in their own lives as well as their understandings of how injunctive norms support or disapprove of their actions. Opportunities to discuss these underlying norms and expectations may positively influence the acceptance of HIV prevention communication campaigns that address cultural norms.

Communication campaigns play a complex role in both reproducing and challenging these cultural scripts. Many communication campaigns, such as those in Botswana, employ these cultural scripts as part of the campaign, trying to call in to question the legitimacy of these scripts or show how following these scripts may lead to negative outcomes such as HIV. Our findings, however, suggest that campaigns featuring cultural scripts may result in mixed messages for some viewers, as they may be uncertain whether the campaign is intending to promote or critique the cultural idiom. As suggested by participants in this study, messages that focus on the desired positive behavior change, instead of the undesired risk-promoting cultural script, may increase understanding of messages and adoption of preventive behaviors. For instance, to counteract normative behavior that increases HIV risk, campaign messages may focus on generating new positive norms such as “a man is in control of himself” or “a

healthy family talks together.” Campaigns could also promote positive messages around satisfaction in primary relationships. Fortunately, in Tanzania, the second phase of the campaign will specifically address emotional and sexual satisfaction and financial implications of engaging in CP. In addition, ensuring that campaigns featuring mass media messages are complemented by opportunities for small group discussions around the intended messages may help to address these issues. Such community-level engagement could also offer opportunities for critical engagement with cultural idioms and scripts. However, it is much more expensive and challenging for campaigns to ensure high coverage with these more individualized strategies.

At a minimum, communication campaigns should remain attentive to how they employ cultural scripts and should take steps to ensure that mass media and other messages do not inadvertently reify scripts that may promote HIV transmission. At best, innovative campaigns may be able to stimulate new cultural scripts which can facilitate individual protective behavior. Culture is dynamic, and the processes of globalization and market development mean that cultural scripts are continuously re-enacted in the process of individual decisions around sexual behavior. Campaigns could potentially harness changing social norms and work within structural limitations to provide new scripts that may be less likely to facilitate HIV transmission. However, cultural scripts are also embedded within a larger socioeconomic context. Campaigns should not only consider how they might influence social norms, but also how they can encourage critical thinking and conscious decision-making that could have lasting effects across rapidly evolving social and economic contexts.

Strengths and limitations

This study has a number of strengths and limitations. The longitudinal nature of the study provided the opportunity to explore these issues in greater depth and helped to facilitate rapport with participants to encourage discussion of sensitive topics. This study was conducted in four sites across two countries with different HIV epidemic patterns, cultural norms, and socioeconomic contexts, enabling us to compare interpretations and findings across these settings. Finally, in examining communication campaigns currently in use, we believe the findings are programmatically useful for future HIV prevention campaigns.

However, there were also several limitations to this study. Issues related to HIV can touch on personal and sensitive topics about participants’ lives and relationships, and participants may not have felt comfortable sharing certain personal information with interviewers. Further, with only two interviews per participant, we were not able to obtain a full and complete picture of participants’ lives. In Tanzania, the retention of participants for the second interview was relatively low, as the time between interviews was extended to allow for the local launch of the communication campaign. Additionally, this research was conducted in urban areas of both countries, which are target areas for campaign messages. Though some of our participants provided insight into the possible reach of campaign messages into rural areas, our findings may not be as transferrable to rural communities. In both countries, our research participants matched the campaign target populations in terms of gender, general age range, and urban residence. However, the campaigns specifically targeted individuals who were already engaged in CP or who were considering or intending to engage in CP. Our participants, however, may not have shared

these characteristics, and thus may or may not have reflected the view of the campaigns' target audiences. Finally, recall of campaign messages may have been different, as the campaign in Tanzania had recently been initiated at the time of the second interviews, while the campaign in Botswana had been ongoing for several years.

Conclusions

Individual decisions about sexual partnerships and concurrency are complex and situated within widespread social norms and economic structures. HIV prevention communication campaigns around the concepts of CP, sexual networks and acute HIV infection should be attentive to how they are understood by viewers and how they employ cultural scripts. They should avoid inadvertently promoting cultural scripts that support CP and consider how they might facilitate protective behavior through promoting new or positive cultural scripts. Programs should continue to use best practices in health communications—such as pretesting messages, employing a media mix, and including small group discussions where feasible—to reach as wide an audience as possible with messages that resonate. Further, campaigns should encourage discussion about sexual behavior within communities or between couples and consider not only how they can influence current social norms, but also how they can encourage critical thinking and conscious decision-making to help individuals make positive life choices.

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