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Risky Business: Condom failures as experienced by female sex workers in Mombasa, Kenya

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Abstract

Limited research exists about condom failure as experienced by female sex workers. We conducted a qualitative study to examine how female sex workers in Mombasa, Kenya contextualise and explain the occurrence of condom failure. In-depth, semi-structured interviews were conducted with thirty female sex workers to ascertain their condom failure experiences. We qualitatively analysed interview transcripts to determine how the women mitigate risk and cope with condom failure. Condom failure was not uncommon, but women mitigated the risk by learning about correct use, and by supplying and applying condoms themselves. Many female sex workers felt that men intentionally rupture condoms. Few women were aware or felt empowered to prevent HIV, STIs, and pregnancy after condom failure. Interventions to equip sex workers with strategies for minimising the risk of HIV, STIs, and pregnancy in the aftermath of a condom failure should be investigated.

Keywords

HIV; women; condom failure; sex workers; Kenya

Introduction

Mombasa, Kenya, a coastal port city, is an important economic centre for Kenya and the region. Depending on the season, between 2,000 and 18,000 female sex workers serve clients in bars, hotels, clubs, and private homes (Luchters et al. 2010; Luchters et al. 2013; Thomsen, Stalker, and Toroitich-Ruto 2006). Female sex workers in Mombasa, as elsewhere, face an occupational risk of acquiring HIV and other sexually transmitted infections (STIs). Estimates of HIV prevalence among Kenyan female sex workers range between 24% and

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47%, which is considerably higher than the 5.6% estimate of the national adult prevalence (De Cock et al, 2014; McClelland et al. 2010; Okal et al. 2011). Sex workers and their clients account for 14% of new HIV infections in Kenya (KNBS and ICF Macro 2010).

Correct and consistent condom use reduces sexual transmission of HIV and other STIs, and condom promotion has been a key element in HIV and STI prevention efforts (Davis and Weller 1999). A 2015 meta-analysis of 10,676 HIV discordant heterosexual couples featured in 25 studies indicated that consistent condom use reduced HIV transmission by more than 70% (Giannou et al. 2015). Condoms must be used correctly and consistently to be effective. Yet, in the recent Kenya AIDS Indicator Survey, 20% of respondents reported incorrect condom use in the last three months (De Cock et al, 2014). A host of factors can lead to inconsistent condom use including relationship status, social status, educational levels, violence within the relationship, and the desire to have children, among others (Chialepeh and Susuman 2015; Mooney et al. 2013; Yam et al. 2013).

Condom failure is common across populations worldwide, and permits transmission of HIV, STIs, and unplanned pregnancies (Sanders et al. 2012). Combined condom failure rates, including breakage and slippage, range from 1.3-3.6% during a single, typical use (Potter and de Villemeur 2003; NIAID, NIH and DHHS 2001). Condom failure rates drop with proper education and user experience. Female sex workers often experience lower rates of condom failure than other users (Sznitman et al. 2009; Steiner et al. 2014; Steiner et al. 2007; NIAID, NIH and DHHS 2001). Closing the gap between ‘typical’ and ‘perfect’ condom use is of the utmost importance for HIV and STI control, particularly in female sex worker populations.

Understanding the experiences of female sex workers with condom failure, and the context in which failures occur, could facilitate interventions to increase successful condom use and mitigate undesirable consequences. Condom failure, in this context, includes breakage and slippage due to mechanical error, user error, and intentional disruption by sexual partners. Because limited data exists on the experience of condom failure among female sex workers in Kenya. We conducted a qualitative study to examine how female sex workers in Mombasa contextualise and explain the occurrence of condom failure. We conducted a secondary analysis of 30 one-on-one qualitative interviews conducted with female sex workers in Mombasa, Kenya, about their experiences of condom use.

Methods

A Kenyan social scientist (GW) conducted thirty in-depth, semi-structured interviews between June and August 2006 (McClelland et al. 2011). Participants were recruited from an ongoing cohort study of female sex workers that was established in 1993 to study risk factors for HIV acquisition (Martin et al. 1998). Most of the women in the cohort had completed at least some primary education. More than 40% ‘used a contraceptive method other than condoms alone’ and most used condoms for purposes of STI and HIV protection (McClelland et al. 2010; McClelland et al. 2006). The women reported a median of one sex partner and two sexual encounters per week for which most women reported condom use (R. S. McClelland et al. 2010). For this qualitative study, participants were purposively recruited

from among approximately 900 women in active follow-up in 2006. Cohort participants who presented to the clinic were provided with information about the study and invited to participate. Enrollment was stratified to include 10 HIV-positive women on antiretroviral therapy, 10 HIV-positive women who were antiretroviral therapy-naïve, and 10 HIV-negative women. Recruitment continued until each stratum was complete. Stratified probability sampling was used to attain the number of participants in the rapid assessment for the parent study, in numbers sufficient to achieve a sample that is representative of the cohort. We felt we could reach overall saturation of themes with the group of 30 subjects while also incorporating variations in ART eligibility and use. All participants provided written informed consent in English or Kiswahili according to their preference, prior to taking part in the study.

The 30 women reported exchanging sex for cash or in-kind payment. Women in the cohort had monthly medical visits that included HIV and STI testing. Treatment for STIs was provided when they were identified. At each monthly visit, cohort participants were interviewed about their risk behaviour and were provided with risk-reduction education and free male condoms. Women infected with HIV received comprehensive care following guidelines established by the Kenyan Ministry of Health.

The one-on-one interviews in Kiswahili were audio recorded, then transcribed and simultaneously translated into English by a bi-lingual transcriber and translator. The goal of the parent study was to “explore perceptions of HIV following ART introduction and to identify possible changes in risk behaviours, attitudes, and beliefs among HIV-positive and negative female sex workers” (McClelland et al. 2011). Interviewees were therefore asked open-ended questions about their attitudes, beliefs, and knowledge regarding HIV, antiretroviral therapy, sexual risk behaviours, prevention strategies, gender relations, and health education sources. Of particular interest for the secondary analysis, the participants also responded to questions specifically about their experiences with condoms and were probed for more information about the occurrence of condom failure. They were asked questions such as ‘how can you protect yourself from getting HIV?’, ‘have you ever asked a man to use condoms?’, and ‘what do them men do when you ask them to use a condom?’ The present study re-visited the transcripts to conduct a critical and in-depth examination of the women’s experiences of condom failure.

This study was approved by the ethical review committees at the Kenya Medical Research Institute and the University of Washington.

The social cognitive models guiding the analysis include those of Bandura (1986) and of Ajzen and Fishbein (1980). These models focus on intention as a determinant of a particular behaviour, in this case the prevention and management of condom failure (Ajzen and Fishbein 1980; Morris, Morris, and Ferguson 2009; Godin et al. 2008; Bauman, Karasz, and Hamilton 2007). Our analysis examined the ways in which women describe their condom education and the instances where condom failure occurred. A series of factors including behavioural, normative, and control beliefs may contribute to successful condom use. As such, the social cognitive theories were appropriate theories to guide the secondary data analysis (Glanz, Rimer, and Marcus Lewis 2002).

Through a standard iterative, *in vivo* process, the primary reader (CB) developed an initial codebook during the second reading of the thirty transcripts (Corbin and Strauss 2008). In vivo coding was appropriate, as this research was exploratory and asked new questions of data collected for another study. A Kenyan social scientist and co-author (GW) familiar with these data reviewed the coding applied to six transcripts. As the transcripts were read, the codebook and application were revised to include standard code definitions and inclusion/exclusion criteria. The codebook was updated as new themes emerged during the coding process. A third reading assured the standardised application of the codes. The codebook included codes that address the attitudes of women towards condom use, their condom education, as well as facilitators and barriers to condom use. ATLAS.ti was used to thematically code the transcripts (Scientific Software Developments, Berlin, Germany, 1997). Data were analysed using a content analysis approach based on the social cognitive theory and findings from the initial study (Graneheim and Lundman 2004).

Results

The median age of study participants was 30 years and women reported a median of two years of sex work (McClelland et al. 2011). Most of the women engaged in small commercial ventures including sales of clothing or food, and twenty (67%) reported that they worked in a bar or lodge (McClelland et al. 2011). Many of the employed women said that they exchange sex for money to supplement their incomes from other paid work. Most of the women were single and lived with their children, though many also reported that they had a regular partner. Their experiences with condom failure were conceptualised according to an analytical framework consisting of three segments: before condom failure, during episodes of condom failure, and after condom failure. In what follows, pseudonyms have been assigned to women participating in the study to ensure anonymity.

Before condom failure

The social cognitive framework asserts that individual attitudes, subjective norms, and beliefs about one's control over a situation are immediate predictors of the intention to behave in a certain way. In line with this framework, women generally viewed condom use favourably despite experiences with condom failures. One equated the use of condoms to being 'enlightened' (Elizabeth, 29 years old, HIV-positive). Another woman stated,

> 'I personally feel nice when I use a condom because my mind is relaxed. I don't think at the back of my mind, this man could be sick. So then, all of my mind is in that. But if I do it without a condom, for me, I don't enjoy because in my heart I am thinking, "Ah, maybe this man is sick, and he has only given me 200 [Kenyan Shillings] what is it for?"' (Mercy, 36 years old, HIV-positive).

A key theme that emerged was that women equated condom use with protection against HIV and STIs. According to the model, their condom use behaviour was cyclically reinforced, with women's positive attitudes and mostly positive experiences reinforcing future use.

Another theme that emerged was that women tried to reduce the possibility of condom failure in a variety of ways. Many women described gaining the skills to successfully use condoms, reducing the chance of failure. They described learning on their own, from the

directions on condom packages, from observation or from clinic staff. Women generally brought their own condoms to the encounter, as they did not trust the condoms provided by male partners. Many women believed that men intentionally punctured condoms in order to transmit HIV and STIs, as exemplified by the statement,

'I don't trust a condom from a man. Maybe he has already pierced through it. When you ask for a condom, he already has his and yet he has already pierced through it' (Jane, 26 years old, HIV-positive). Another woman said,

'I have heard people talk of such cases, that there are people who pierce them at the tip. So someone like that knows he is not well because if you were normal and sane would you really puncture a condom knowing you are ok?' (Caroline, 28 years old, HIV-negative). Many women indicated that they put the condoms on to assure that this was done correctly and to limit the opportunity for men to pierce a hole in them. Women also taught each other to use condoms, reinforcing community norms for condom use. Women who have sex without a condom were characterised as careless with their lives, irresponsible, or greedy. One women stated, 'And you might find a man saying "here is the money and I am not using a condom", so a greedy woman will take the money and agree' (Mary, 33 years old, HIV-positive).

For the most part, the women trusted their ability to avoid having sex without a condom despite many challenging scenarios. For example, women described situations in which a client would agree to condom use during negotiation in a bar, only to refuse later when the couple were in a private setting. Other challenging situations were described in which men assumed intimacy or trust, using these as reasons for asking for sex without a condom. In these situations, if negotiation failed, some women described ending the transaction to avoid having sex without a condom.

During episodes of condom failure

The majority of women reported that they had experienced episodes when the condom broke or burst. This event signifies a loss of the ability to control condom use in their sexual encounters despite their preparations. One woman indicated,

> 'You know, condoms burst in many ways…I wondered, there are people who are cunning or young men who are cunning. Someone doesn't want (condom use) but he wants you. So you force him and he will say he will use it. Others use it. I don't know how he burst it. Even if you say you will put it on him yourself, he will make sure it bursts. Then you will wonder what happened. So you don't know if he punctured it so it burst. And for some, their blood is too hot. So he is so strong that when he gets in there he goes in with force so its bursts because of the heat. So it's true sometimes they burst. Because some you can see it wasn't his fault he even looks sad but it has burst' (Maureen', 30 years old, HIV-positive).

One woman suspected that men refuse to wear condoms in the first place because 'they want to… whatever to infect and spread it [HIV] they know themselves and don't want to die alone'. ('Caroline', 28 years old, HIV-negative).

In addition, several of the women avoid certain sexual positions, ‘doggy style’ in particular, they deemed ‘hot’ or riskier for condom rupture. In a similar way, some women said that they avoided turning off the lights or avoided positions that might offer the man the opportunity, out of their eyesight, to puncture a condom. One woman said, for example,

> ‘I don’t want him putting it on by himself. I will be the one. Or if he wears it himself the lights should be on… You know there are some that puncture the front then you feel he has it but he has already cut the front. Men have that behaviour, I don’t like them switching off the lights’ (Ann, 35 years old, HIV-positive).

Many women describe the loss of control in situations where a client forced the condom to break despite her efforts to properly manage the encounter. One woman said,

‘I go with him and I will use a condom, but some drunkards are so rough he will mistreat you and… some will even burst the condom… it’s a life full of problems and this job we do has many tribulations’ (Mercy, 36 years old, HIV-positive).

A few women said that they were able to tell when the condom broke during sex. One reported that if this happened she replaced the condom while another said that she discontinued sex. However, not all women employed these approaches, illustrated by the comment: ‘Some [men] don’t care. Even if it’s burst they still go on and will be forced to ejaculate inside’ (Maureen, 30 years old, HIV-positive). For the majority of those who had experienced condom failure, they had noticed this at some point after withdrawal.

After condom failure

Most women believed that preventing HIV, STIs, and pregnancy was impossible in the aftermath of sex where a condom failed. They used phrases such as, ‘I had nothing to do’ (Elizabeth 35 years old, HIV-positive) and ‘what can you do?... there is nothing you can do’ (Esther, 30 years old, HIV-positive). One woman said, ‘So what can I do when such a thing happens? I will get pregnant. I never used to do anything’ (Lillian, 28 years old, HIV-negative). Other women indicated that ‘It’s God who protects. You can go with that man and it bursts and he is infected and you will not be infected’ (Faith, 24 years old, HIV-negative).

A less common alternative perspective also emerged, with some women believing that HIV, STIs and pregnancy could be prevented by urination or a medical intervention. Several women indicated that urinating or cleaning the ‘dirt’ immediately after condom failure prevented pregnancy and STIs. As (Winnie, 31 years old, HIV-negative) put it, ‘I really cried and went immediately to wash myself with soap, but I really cried and said that God should forgive me because now what will I do’. Another woman felt both ‘stranded’ and ‘scared’ and feared ‘the disease’ more than pregnancy because ‘you can care for the baby; you can do whatever you want’ (Grace, 22 years old, HIV-negative).

A few respondents indicated that a physical examination and testing for HIV and STIs were appropriate; they did not mention post-exposure prophylaxis for HIV. Three respondents knew about emergency contraception. One said, ‘If you don’t want to get pregnant, you remove it with that [emergency contraceptive].’ She also indicated ‘that one doesn’t protect completely but you try at least and pass urine. It helps,’ and that the emergency

contraceptive does not remove ‘the dirt of AIDS’ (Faith, 24 years old, HIV-negative). Another HIV-positive woman knew that emergency contraceptive was available at the emergency room but said, ‘There, they don’t want someone who was with a man, then the condom burst. They want raped people. So you cannot do anything. You just sit’ (Janet, 35 years old, HIV-positive). Three women indicated that after a condom break that they or their partners suggested multiple condoms at a time to prevent subsequent breakage.

The final theme that emerged was a sense of communal responsibility. Specifically, some women said that they would inform colleagues when men are particularly rough or puncture a condom to discourage them from taking those men as clients in the future. ‘It’s when, like, in the bar the customers are many. So, when we see someone behaving funny and then we see that he wants a certain girl. And, then, later, we tell the girl this man’s behaviour isn’t good’ (Sophie, 31 years old, HIV-negative).

Discussion

This population of female sex workers clearly intend to use condoms, prepare themselves as such, and mitigate the possibility of failure as best as they can. They feel in control of condom use within their relationships, as evidenced by the fact that they are skillful and negotiators who supply and apply the condoms, similar to women reported in other research (Wojcicki and Malala 2001). They also described learning how to use condoms from health educators, from staff at the clinic, and from their fellow sex workers. Women largely conceptualise condom failure as the fault of their partners, in that he either punctures the condom or engages in sex that would intentionally break it. In the aftermath of a condom failure, most of the women feel that there was little they can do to prevent HIV, STIs or pregnancy.

The theoretical framework that guided this analysis assumed that certain behaviours fall outside the complete control of the individual. For example, some aspects of control over condom use may reside with the male partner due to his physical insistence, which is consistent with findings from other research (Schulkind et al. 2016). We hypothesise that if women themselves felt responsible in any way for the failure, they may have expressed greater interest in revisiting their condom education or may have abandoned condom use entirely because of presumed future failure. However, neither of these themes emerged in our 30 interviews.

In addition, and in line with the framework, the women established and reinforced a community norm in which condom use was expected. Women informed their colleagues about men who they thought pierced the condoms or engaged in sex that they believed was aggressive enough to puncture the condom. As a whole, they maintained a sense of personal responsibility for their own wellbeing and for that of other women sex workers, exert decision making power and agency in doing so, as has been reported elsewhere (Wojcicki and Malala 2001).

Consistent with other studies, we found that harsh treatment from clients and the exchange of money, which commoditises a sexual encounter, pose obstacles to successful condom use.

These situations represent women's loss of situational control (Sanders 2004; Pauw and Brener 2003; Heise and Elias 1995; Okal et al. 2011; Voeten et al. 2002; Okal et al. 2008; Schulkind et al. 2016).

The assertion that some men purposefully cause condoms to fail is echoed in the wider literature. A South African study cited female sex workers' claims that men break, remove, or apply oil to condoms to cause them to slip (Pauw and Brener 2003). Condom programme activities for the male partners of female sex workers which include one-on-one condom use coaching and address negative attitudes about gender norms have been shown to reduce condom breakage and HIV prevalence in some female sex worker populations (Pauw and Brener 2003; Luchters et al. 2013; Rutakumwa et al. 2015; WHO et al. 2013; Steiner et al. 2007).

In this study, most women expressed a sense of helplessness in the aftermath of a condom failure. Several had contracted STIs and several more sought medical care in the aftermath of a condom failure. Few women mentioned emergency contraception as an option. Two methods of emergency contraception, Postinor-2 and Pregnon, were available at the time of this study (National Coordinating Agency for Population and Development 2011). However, there was provider bias against the use of emergency contraception (Muia et al. 1999; Keesbury, Wanuiru, and Maina 2010; Keesbury, Owino, and Bradford 2010). Since 2006, the Kenyan Ministry of Health has made efforts to mainstream emergency contraception, which may have increased access and decreased provider misinformation (Keesbury, Wanuiru, and Maina 2010).

There is evidence from this study that female sex workers could build on their sense of community and agency to educate each other about condom use and reproductive health, eventually establishing a community norm around health-seeking behaviours in the aftermath of condom failure. Increased demand for health services requires clinicians to provide stigma-free emergency contraception and HIV and STI post-exposure prophylaxis in the aftermath of a condom failure (WHO et al. 2013; Wojcicki and Malala 2001). Condom education, including practice using a penile model, correcting errors in condom application and the discussion of other usage errors during clinical encounters may reinforce positive behaviours and reestablish the expectation for condom success.

Chief among the strengths of this study is that it sheds light on an aspect of the experience of female sex workers that has not been previously studied in depth. The study design and semi-structured interviews provided an opportunity for women to share their experiences in detail. This study also had a number of limitations however. The interviewees were recruited from a pool of women from a research cohort in which they received frequent HIV testing and risk-reduction counseling. As such, they may have received more intensive HIV and condom education than their peers who were not a part of the cohort. On the other hand, as HIV prevention programees for key populations, including female sex workers, become more wide-spread, the broad population of women engaging in a range of transactional sex practices is more likely to have access to the same basic condom-related services that our research cohort received in 2006.

The interviews were also conducted during a relatively brief time period in 2006. As such, this paper is unable to address recent changes in HIV prevention, including the enhanced availability of pre- and post-exposure prophylaxis for HIV. Interviewees' responses may also have been influenced by cultural or political factors unique to that time period. However, we have worked with female sex workers in Mombasa since 1993, and have not observed major shifts in culture, such as substantial changes in levels of stigma surrounding sex work or the elimination of laws that prohibit sex work (though it is widely tolerated). Likewise, educational messaging, particularly the 'ABC' approach in the form of Abstinence, Be Faithful, Use a Condom, and the promotion of HIV testing, have remained largely consistent since data were collected.

Conclusion

These results point to the need to explore more fully female sex workers potential use of emergency contraception, pre- and post-exposure prophylaxis for HIV, and STI treatment in the aftermath of condom failure especially given the changing nature of available interventions for prevention.

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