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Psychosocial Predictors of Consistent Condom Use among Female Sex Workers in an Urban Setting of Cameroon

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Abstract

Background: The HIV/AIDS epidemic is largely linked to high-risk populations such as female sex workers (FSWs). Therefore, behavioural interventions targeting FSWs, need to address inconsistent condom use among them. The aim of this study was to assess the psychosocial predictors of consistent condom use among FSWs in an urban own of Cameroon.

Methods: A cross sectional study was conducted in December 2015 on a sample of 194 FSWs in Kumba, Cameroon, to assess the psychosocial predictors of consistent condom use, collecting data through self-administered pretested questionnaires. Data were analysed using SPSS version 20 software program. Binomial logistic regression analyses were conducted at the 0.05 level.

Results: Consistent condom use was low, 96 (49.5%), and only 104 (53.6%) perceived themselves to be at risk of contracting HIV. Majority, 147 (75.8%) perceived that a healthy looking man can be HIV positive (perceived susceptibility); 153 (78.9%) perceived that HIV/AIDS is deadly (perceived severity); 126 (64.9%) perceived that consistent condom use can prevent HIV (perceived benefit); majority, 129 (66.5%) and 134 (69.1%) perceived that condoms are not accessible and that they lack knowledge on correct condom usage, respectively (perceived barrier); 111 (57.2%) perceived that they have confidence to negotiate condom use with their partners (perceived self-efficacy). None of the components of the Health Belief Model (HBM) was statistically associated with consistent condom use. However, perception that AIDS is deadly was associated with increased likelihood of using condoms consistently, (OR=1.4, 95% CI: 0.7-2.9, p>0.05); perception that condoms are not accessible was associated with reduced likelihood of using them consistently, (OR=0.5, 95% CI: 0.3-1.0, p>0.05); perception of being at risk of contracting HIV was associated with an increased likelihood of using condoms consistently, (OR=1.2, 95% CI: 0.7-2.2, p>0.05); perception of having confidence to negotiate condom use was associated with an increased likelihood of using them consistently,(OR=1.1, 95% CI: 0.6-2.0, p>0.05); lack of knowledge on correct condom usage was associated with a reduced likelihood of using them consistently, (OR=0.8, 95% CI: 0.4-1.6, p>0.05).

Conclusions: Strategies to empower FSWs with condom negotiation skills and to overcome tangible and psychosocial barriers to condom use are recommended.

Keywords: Consistent condom use; Psychosocial predictors; Female sex workers; Health Belief Model; urban setting; Cameroon

Introduction

Human Immunodeficiency Virus (HIV) and other sexually transmitted infections (STIs) have a disproportionate impact on female sex workers (FSWs) [1]. FSWs have been identified to play a significant role in the transmission of HIV as they may spread the virus to other key population groups as partners or clients who subsequently transmit the disease to their spouses [2]. A recent study estimated that 17.8% of all HIV infections in the female population of reproductive age in Sub-Saharan Africa (SSA) were attributable to sex work as a risk factor for HIV transmission, resulting in 98,100 deaths each year [2]. The transmission may even be complicated with an increased number of sexual partners of FSWs and compounded by high mobility of the population and their clients [3].

Located at the crossroads of West and Central Africa, Cameroon is one of the most ethnically, linguistically, religiously, and geographically diverse countries in the world. Although this diversity has very likely limited the spread of HIV infection through the general population in the past, economic forces are now driving increased movement of people across borders and between

urban and rural areas. Girls are pressured to begin sexual activity at an earlier age in order to support themselves or to supplement household incomes; natural resource exploitation has fuelled the spread of infection among transport workers and truck stop communities; and lack of effective behaviour change interventions has allowed the prevalence to climb sharply among at-risk populations.

Cameroon, with an estimated population size of 22 million people, has an HIV prevalence of 4.3%. The HIV epidemic in Cameroon is classified as generalized and two-thirds of new infections occur among persons who are regarded as "low risk" (not engaging in high-risk sex) [4]. The HIV epidemic in Cameroon is principally driven by high-risk heterosexual practices such as low condom use, multiple concurrent or sequential partners and commercial sex activities [5]. With an HIV prevalence of 4.3% among adults of reproductive age and 5.6% among Cameroonian women of reproductive age, Cameroon is among the countries with the highest overall HIV prevalence in West and Central Africa [4,6].

Although FSWs represented only 1.9% of the Cameroonian female population sex work has been strongly driving the national HIV epidemic [1,7,8]. Previous studies indicated the potential role of FSWs in facilitating transmission of HIV [9,10]. HIV prevalence among most at risk populations (MARPs) in Cameroon is rising. HIV prevalence among female sex workers (FSWs), for example, increased from 26% in 2004 to 36% in 2009 [5].

Studies have shown that targeting most-at-risk groups such as FSWs is a more cost-effective strategy for reducing the population level HIV incidence and prevalence, irrespective of whether the type of HIV epidemic is concentrated or generalized [11,12]. Characterizing the HIV epidemic among FSWs at national and regional level is especially important because according to Talbott (2007), the number of HIV-positive FSWs is the best predictor of country-level HIV prevalence [13]. However, efforts to reduce HIV transmission related to sex work remain insufficient [14].

Female sex workers (FSWs) face a high risk of STIs and HIV infection. Considering the nature of female sex work, reduction in the number of concurrent partners is unlikely to be a practical option to reduce their risk of acquiring HIV. The condom has 80% or greater protective effect against HIV [15]. Therefore, program interventions targeting this population should focus on consistent condom use regardless of partner type.

The Health Belief Model (HBM) theorizes that people's beliefs about whether or not they are at risk for a disease or health problem (HIV/AIDS), and their perceptions of the benefits of taking action to avoid it (consistent condom use), influence their readiness to take action (use condoms consistently during sex to prevent HIV/AIDS) [16,17]. The HBM asserts that the motivation for people to take action to promote or prevent disease is based on how strongly they believe that they are susceptible to the disease in question; whether the disease would have serious effects on their lives if they should contract it; the suggested health intervention is of value; whether the effectiveness of the treatment is worth the cost; which barriers people must overcome to institute and maintain specific behaviours; influence by another person close by, who may have been susceptible to the same disease, signaling the need for action.

In this study it is hypothesized that FSWs would use condoms consistently during sexual intercourse to prevent HIV, if they perceive themselves to be susceptible to the infection, if the infection is serious in its consequences, if condom use is beneficial in preventing HIV infection, if the perceived barriers to condom use can be overcome, and if they have confidence in their abilities to successfully use condoms. This paper uses the main components of the HBM, as the theoretical framework to analyse the psychosocial predictors of consistent condom use among FSWs in an urban setting of Cameroon, in order to inform an HIV/AIDS prevention program among them.

Methods

Study Population and Sampling Design

A FSW is defined as any biological female aged 18 years and older who receives money or other gifts/incentives in exchange for sex, and who may sell sex formally, regularly or occasionally in areas such as brothels, bars, restaurants, nightclubs, hotels, or on the street [18]. The accessible population in this study comprised FSWs in the city of Kumba, Cameroon, who were aged 18 years and above. Respondents self-identified as FSWs at targeted hot spots and brothels. Furthermore, questions were asked about duration of sex work, reasons for being in sex work, and if sex work was full or part time to further ascertain that the respondents were FSWs, taking into account the venues where sexual transactions took place most frequently (brothels, bars, restaurants, nightclubs, hotels, on the street, or from a residence). Key informants, mainly FSWs, members of the community, and the HIV/AIDS Prevention Research Network, Cameroon (HIVPREC) working with sex workers were consulted before the commencement of the survey. FSWs were recruited using time location sampling technique. A list of streets, bars, nightclubs, brothels, lorry stations and other places where FSWs usually meet was generated in Kumba. The peak days and times were identified and used to define time location sampling clusters. FSWs were selected using probability proportional to size with a fixed number of sex workers recruited from each cluster. When the estimated number of FSWs in a cluster was less than the desired sample size, a "take-all" approach was used. The total sample size of the study was 194.

Data Collection

Data were collected using a structured pretested questionnaire that was administered by trained interviewers of HIVPREC in English and Pidgin English (local form of English). The questionnaire was pretested on a convenience sample of ten (10) FSWs, who did not participate in the actual study. The questionnaire captured data on socio-demographic characteristics (age, marital status and number of people in the household), components of the HBM (perceived susceptibility to HIV, perceived severity of HIV, perceived benefit of condom use, perceived barriers to condom use, perceived self-efficacy for condom use and perception of risk of contracting HIV), and condom use.

Ethical considerations

Respondents were given verbal and written information about the study and signed an informed consent form before participation in the study. No personal or identifying information was retained in the questionnaire. All respondents participated on a voluntary basis and no financial incentives were provided. Permission to conduct the current research was obtained from research and ethics committee of the HIV/AIDS Prevention Research Network, Cameroon (HIVPREC) and from the Ministry of Social Affairs, Cameroon.

Measures

Outcome (dependent) variable: consistent condom use

The outcome variable of interest for this study is consistent condom use during sexual intercourse as reported by the female sex workers. The question asked to FSWs who use condoms was: "How often do you use condom during sexual intercourse?" The response options were categorized into '1=always' and '0=others'.

Explanatory (independent) variables

• **Perceived susceptibility to HIV:** This was measured based on the level of agreement with the following item: 'A healthy looking person can be HIV positive'. The response options were categorized into '2=agree' and '1=disagree'. 'Disagree' was coded as the index category.

• **Perceived severity of HIV/AIDS:** This measure was based on the degree of agreement with the following statement: 'HIV/AIDS is a serious and deadly disease'. The response options were the same as for 'perceived susceptibility' and were coded in the same manner.

• **Perceived benefit of condom use:** This measure was based on the degree of agreement with the following statement: 'Correct and consistent use of condom during sexual intercourse could prevent transmission of HIV'. The response options were the same as for the previous variables and were coded in the same manner.

• **Perceived condom use self-efficacy:** This measure was based on the degree of agreement with the following statement: 'I feel myself free to negotiate condom use with my partners'. The response options were the same as for the previous variables and were coded in the same manner.

• **Perceived barriers to condom use:** This measure was based on the degree of agreement with the following two statements each considered separately: 'I lack knowledge on correct condom usage' and 'Distance to the nearest condom access point is far'. The response options were the same as for the previous variables and were coded in same manner.

• **Socio-Demographic Variables:** The following socio-demographic variables were included in the study: age, categorized into four groups (15-24, 25-35, 36-45 and 46-55 years), marital status, categorized into four groups (single, married, divorced and cohabiting), and number of people in the household.

• **Perception of risk of contracting HIV:** This was measured with the following question: 'How at risk of contracting HIV are you?' The response options were '1=not at risk (reference category)' and '2=at risk'.

Data analysis

Binomial logistic regression was performed using SPSS version 23 software program to examine the likelihood of using the condom consistently during sexual intercourse.

To estimate the odds ratios (OR), we built different models predicting consistent condom use during sexual intercourse, using the various components of the HBM. These variables were entered into the model in a forward stepwise fashion to identify the net contribution of specific sets of variables while adjusting for the simultaneous effects of other sets of variables in the model. To assess the predictive utility of each component of the HBM as a whole model, that is how individuals with various combinations of health beliefs are more or less likely to consistently use the condom during sexual intercourse, each component of the HBM was entered into the model one at a time. The significant level for all statistical tests was 5%.

Results

Demographic characteristics of the female sex workers

Most of the respondents, 109 (56.2%) were between the ages of 25 and 45 years, with the majority, 146 (75.3%) being single without a legally married partner. Only few of the respondents, 55 (28.4%) were living alone (Table 1).

Characteristics	Frequency	Percentage
Age group		
15-24	57	29.4
25-35	66	34.0
36-45	43	22.2
46-55	28	14.4
Marital status		
Single	146	75.3
Married	1	0.5
Divorced	23	11.9
Cohabiting	24	12.4
Number of people in the household		
1	55	28.4
2	20	10.3
3	38	19.6
4	38	19.6
5	16	8.2
6	15	7.7
7 and more	12	6.2

Table1: Socio-demographic characteristics of female sex workers in Cameroon (n=194)

Psychosocial factors (components of the Health Belief Model)

FSWs who reported consistent condom were, 96 (49.5%) (Table 2). Regarding the components of the HBM, 104 (53.6%) perceived themselves to be at risk of contracting HIV and 147 (75.8%) perceived that a healthy looking man can be HIV positive (perceived susceptibility); 153 (78.9%) perceived that HIV/AIDS is deadly (perceived severity); 126 (64.9%) perceived that consistent condom use can prevent HIV (perceived benefit); 129 (66.5%) and 134 (69.1%) perceived that condoms are not easily accessible and that they lack knowledge on correct condom usage, respectively (perceived barrier); 111 (57.2%) perceived that they have confidence to negotiate condom use with their partners (perceived self-efficacy).

Components of the Health Belief Model (HBM) and condom use	Frequency	Percentage
Perceived susceptibility to HIV/AIDS		
A healthy looking man can be HIV positive		
Agree	147	75.8
Disagree	47	24.2
Perceived severity of HIV/AIDS		
HIV/AIDS is a deadly disease		
Agree	153	78.9
Disagree	41	21.1
Perception of risk of contracting HIV		
How at risk of contracting HIV are you?		
Not at risk	90	46.4
At risk	104	53.6
Perceived benefit of condom use		
Correct and consistent condom use can prevent HIV/AIDS transmission		
Agree	126	64.9
Disagree	68	35.1

Components of the Health Belief Model (HBM) and condom use	Frequency	Percentage
Perceived barriers to condom use		
I lack knowledge on correct condom usage		
Agree	134	69.1
Disagree	60	30.9
Distance to nearest condom access point is far		
Agree	129	66.5
Disagree	65	33.5
Perceived condom use self-efficacy		
I feel myself free to negotiate condom use with my partners		
Agree	111	57.8
Disagree	84	42.8
How often do you use a condom during sex?		
Always	96	49.5
others	98	50.5

Table 2: Descriptive statistics

Psychosocial predictors of consistent condom use

None of the components of the Health Belief Model (HBM) was statistically associated with consistent condom use at the level 0.05. However, perception that AIDS is deadly (perceived severity) was associated with increased likelihood of using condoms consistently, (OR=1.4, 95% CI: 0.7-2.9, p>0.05); perception that condoms are not easily accessible (perceived barrier) was associated with reduced likelihood of using them consistently, (OR=0.5, 95% CI: 0.3-1.0, p>0.05); perception of being at risk of contracting HIV (perceived threat) was associated with an increased likelihood of using condoms consistently, (OR=1.2, 95% CI: 0.7-2.2, p>0.05); perception that a healthy looking person can be HIV positive (perceived susceptibility) was associated with an increased likelihood of using condoms consistently, (OR=1.1, 95% CI: 0.5-2.1, p>0.05); perception of having confidence to negotiate condom use (perceived self-efficacy) was associated with an increased likelihood of using them consistently, (OR=1.1, 95% CI: 0.6-2.0, p>0.05); and lack of knowledge on correct condom usage (perceived barrier) was associated with a reduced likelihood of using them consistently, (OR=0.8, 95% CI: 0.4-1.6, p>0.05).

Discussion

The HBM theorizes that people's beliefs about whether or not they are at risk for a disease or health problem (HIV/AIDS), and their perceptions of the benefits of taking action to avoid it (consistent condom use), influence their readiness to take action (use condoms consistently during sex to prevent HIV/AIDS) [16,17].

This study revealed that although FSWs exhibited high perceived susceptibility and severity of HIV/AIDS, their overall perception of the risk of contracting HIV/AIDS was not quite high. They manifested low perceived self-efficacy for condom use and perceived several barriers to condom use, which translated to inconsistent condom use during sexual intercourse (Table 2).

In this study, the more than 46% of the FSWs who did not perceive themselves to be at risk of contracting HIV/AIDS, might not be motivated to use condoms consistently during sex to prevent the disease. The reason for the low risk perception among the FSWs could be that since they use sex work as a mean of living, they might not see the risk involved in unprotected sexual intercourse. Insistence on condom use might also mean fewer clients and less money. Additionally, HIV/AIDS is a highly stigmatised disease. Acknowledging one's own risk implies putting oneself at risk of being stigmatised [19]. This finding is inconsistent with an earlier finding where all female commercial sex workers regardless of perceived susceptibility and severity, used condom consistently for sexual act with a client [20].

In this study, the 24.2% of the FSWs who denied that a healthy looking person can be HIV positive, might perceive themselves as not being at risk of HIV/AIDS and therefore might not use condoms consistently during sexual intercourse. When one recognises one's susceptibility to a certain problem or condition, it does not necessarily motivate one to take the necessary preventive actions against the problem or condition unless one realises that getting the condition would have serious physical and social implications. It is when one realises the magnitude of the negative consequences of a condition, that one could take the necessary actions to avoid these negative consequences [21]. In this study, the 21.1% of FSWs who did not perceive that HIV/AIDS is a deadly disease might not see the need of using condoms consistently during sex to prevent HIV transmission. These findings emphasise the necessity of strategies to increase the perception of risk of contracting HIV/AIDS among FSWs.

As could be seen from table 2,35.1% of the respondents did not believe in the effectiveness of condom use during sexual intercourse to prevent HIV/AIDS infection. This perception could deter these FSWs from using condoms consistently during sexual intercourse to prevent the transmission of HIV/AIDS. However, there is enough evidence that even though condoms are 100% effective, consistent use of condoms have been found to be statistically associated with protection of men and women against many sexually transmitted infections including HIV/AIDS [22].

Any obstacles in the use of condoms can interfere with their consistent employment as a means of preventing HIV/AIDS [23]. Perceived barriers refer to one's belief in the tangible and psychological costs of the advised behaviours against a condition or problem [24,25].

The data from this study revealed some barriers perceived by the FSWs to using condoms consistently. Of the respondents, 69.1% perceived that they lack knowledge on correct condom usage and 66.5% perceived that condoms are not easily accessible. These findings are in agreement with that of Nicholas in South Africa [26].

The sixth construct of the HBM is self-efficacy. It is only when persons realise that they have the capacity to deal with these barriers, that they would be able to take the necessary actions. This is the strength of an individual's belief in one's own ability to respond to novel or difficult situations and to deal with any associated obstacles or setbacks [25]. One should feel that one is capable of taking the necessary action correctly because it is that confidence that would motivate one to initiate and sustain the action. The data from this study revealed that 42.2% of FSWs did not have the confidence that they could negotiate condom use with their partners.

According to the HBM, FSWs who perceived themselves to be at risk of contracting HIV/AIDS, need to have the confidence that they can use condoms, before they could use condoms correctly and consistently to prevent HIV/AIDS. Female sex workers with low condom use self-efficacy might not use condoms consistently during sexual intercourse to prevent HIV/AIDS. This was reflected in this study where only 49.5% of the FSWs reported consistent condom usage during sex. The finding of low condom use in this study, is in accordance with other reports in Italy Vietnam and Kenya [27-29]. This shows that there is a continuous risk of HIV transmission between FSWs and their partners.

Although none of the psychosocial components of the Health Belief Model (HBM) was statistically associated with consistent condom use, the perceptions that a healthy looking person can be HIV positive (perceived susceptibility); that AIDS is deadly (perceived severity);of having confidence to negotiate condom use (perceived self-efficacy), and of being at risk of contracting HIV (perceived threat) were associated with an increased likelihood of using condoms consistently. On the contrary, the perception that condoms are not easily accessible and perceived lack of knowledge on correct condom usage (perceived barrier) were associated with reduced likelihood of using the condom consistently. Policy implementers should make condoms more easily accessible to everyone, maybe by placing condom dispensers in various neighbourhoods so that users can access them with little or no barriers. In Cameroon, condoms are being sold in various sales points, which make accessibility a bit difficult for potential users such as FSWs.

These findings suggest that perceived barriers to using condoms may overshadow the perceived benefits of condom use and perceived self-efficacy for condom use. Therefore strategies to increase the perception of risk of contracting HIV/AIDS, and to overcome barriers to condom use should be implemented in HIV/AIDS prevention programmes for FSWs in Cameroon. The programmes should also aim at increasing FSWs' self-efficacy that they can use condoms consistently and address strategies on how to overcome barriers in negotiating condom use.

Another important finding in this study is the young age of these FSWs. Almost 30% of FSWs were between the ages of 15 and 24 and such age groups are most vulnerable HIV/AIDS transmission [30]. This is of concern because some of these young girls were less than 18 years of age, and could be regarded as victims of commercial sex exploitation. Their young age makes them more vulnerable to HIV transmission because most of them may lack sufficient knowledge regarding transmission and prevention of HIV, and also skills to negotiate condom use with their clients. Engaging in commercial sex work does not only predispose them HIV risk but their education and social conditions are jeopardized. This calls for strategies to discourage adolescents and young adults from engaging in sex work and seek education or engage in less risky economic ventures.

This study contributes to the first evidence-based program for FSWs in Cameroon that addresses the psychosocial predictors of consistent condom use.

Study Limitations

The results of the study should be interpreted with the following limitations. Firstly, the study used a cross-sectional design and thus cause-effect relationships could not be ascertained. Secondly, the study relied on self-reported information. Therefore, reports on condom use with clients may be subject to social desirability bias. Thirdly, the study applied venue-based sampling, which may lead to selection bias. Fourthly, the sample size was small, and as such the results might not be generalised to FSWs in other parts of Cameroon. Despite these limitations, this study provides insight into the psychosocial predictors of consistent condom use among FSWs in Cameroon.

Conclusion

Despite the limitations, this study demonstrates a heightened risk for HIV among FSWs as a result of inconsistent condom use. These findings suggest that perceived barriers to using condoms may overshadow the perceived benefits of condom use and perceived self-efficacy for condom use. Therefore, strategies to increase the perception of risk of contracting HIV/AIDS, and to overcome barriers to condom use should be implemented in HIV/AIDS prevention programmes for FSWs in Cameroon. The programmes should also aim at increasing FSWs' self-efficacy that they can use condoms consistently and address strategies on how to overcome barriers in negotiating condom use.

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