

Predictive factors of unprotected sex for female sex workers: first study in French Guiana, the French territory with the highest HIV prevalence.

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Abstract

French Guiana is the French territory that is most affected by HIV. AIDS incidence is much higher than in mainland France and sex work seems to be an important driver of the epidemic. The objective of this study was to describe consistent condom use among female sex workers (FSW) with their clients and their intimate partners and to identify determinants of non-use of condoms. An HIV/AIDS Knowledge, Attitudes, Behaviours and Practices survey was conducted in 2009-2010 among sex workers in French Guiana. A total of 477 sex workers were interviewed. FSW were more likely to use condoms with their clients (97%) than with their intimate partners (45%). The factors associated with non consistent condom use with the intimate partner were having had an abortion, feeling at risk for HIV, not evaluating one's own risk for HIV, living as a couple, being Dominican, not feeling comfortable asking intimate partners to use condoms. Although, a high proportion of FSW declared using condoms with commercial partners, there is still room for improvement in the prevention of transmission with both commercial and intimate partners.

Keywords: Female sex worker; French Guiana; HIV; condom use; intimate partner;

Introduction

French Guiana is the French territory that is most affected by HIV. With a prevalence in pregnant women exceeding 1% for over a decade (1), the territory fulfils the UNAIDS criteria for generalized epidemics. Things are however more nuanced and the epidemic seems to be much worse in certain vulnerable groups (2). Thus sex work is considered an important driver of the epidemic in French Guiana. The large number of sex partners and the economic and social vulnerability that affects a majority of sex workers put them at greater risk for HIV acquisition and transmission (3). Among HIV women followed in Cayenne, impact measures suggested that for 10.7% of women and for 45% of men the HIV infection was attributable to the exchange (selling or buying, respectively) of sex for money or goods (2).

Despite the illegal nature of sex work (brothels, pimping) for French law, transactional sex is quite common in French Guiana with, in 2004, 7,1% of men indicating that they had sex for money at least once during the past five years (in 1992 this proportion was 23% (4)). The suspected key role of sex work in the dynamics of the epidemic in French Guiana has hencetoforth never led to the formal study of the behavioural aspects of sex workers in French Guiana. The repressive aspects of French law towards prostitution have led an increasing number of sex workers to exert their trade in a concealed manner isolating them and putting them at greater risk (5).

A study was conducted in 2009-2010 in French Guiana in order to describe the knowledge, attitudes, behaviours and practices of sex workers towards HIV and Sexually transmitted infections (STI) and to determine the predictive factors of risky sex. In the present paper, the results of the study are used to describe the sex workers' behaviours regarding unprotected sex.

Material and methods

The study population consisted of sex workers working in French Guiana, aged 18 years or more having had at least one paid intercourse in the past six months. The sample size was 477 persons interrogated in Cayenne and its surroundings, Kourou, Saint Laurent du Maroni, Saint Georges de l'Oyapock, and Maripasoula, these sites representing the main towns of French Guiana. Saint-Laurent (40 462 residents in 2011 according to the Institut National de la Statistique et des Etudes Économiques) and Saint-Georges (3946 residents in 2011) are the two main border cities, the first adjacent to Suriname, the second to Brazil. Cayenne and its surroundings (106 358 residents in 2011) and Kourou (25 260 residents in 2011) are the main towns on the coast. Maripasoula (9487 residents in 2011) is the biggest town in the interior, which can only be reached by plane or boat. In all these cities, prostitution is mainly street-based and home-based, except for Maripasoula where there is a brothel.

In order to avoid selection biases(6), the HIV status was not part of the questions asked.

An anonymous structured questionnaire of 150 questions was used. The questionnaire was translated into six languages (French, Spanish, English, Portuguese, Haitian Creole and Nengue Tongo, a local language) and the investigators spoke at least one of these languages. It notably explored, sociodemographic characteristics, sex work, intercourse with clients and non clients, condom use, knowledge, attitudes, behaviours and practices regarding HIV and STIs and stigma and discrimination towards HIV-infected persons. This questionnaire was constructed with non government associations (NGO) working in the field, adapting

behavioural surveillance survey questionnaires (6). Eleven questions specifically dealt with male condoms

The persons accepting to participate in the survey were interrogated face to face by trained interviewers. Individual interviews were conducted confidentially. The surveyors were all close to the field, originating from NGOs or from the community of sex workers.

The study was conducted in partnership with the regional coordination for the fight against HIV and the following NGOs: ADER, Entr'Aides, DAAC, AIDES and Kikiwi network. The project was jointly funded by ANRS and the European Union (FEDER).

Given that sex workers are a hidden population, snowball sampling, a non probabilistic method, was used. Investigators were trained for snowball sampling. They knew the female sex workers population and had to recruit "seeds" with different characteristics to minimize bias. The recruitment was mostly street-based. Appointments were made in order to administer the questionnaire in the best possible conditions. At the end of the interview, documentation on HIV prevention, NGO contacts, male and female condoms, and two food tickets were given to the persons interviewed in order to compensate for the time spent answering the questionnaire.

The project was approved by the regulatory authorities. Comité Consultatif sur le Traitement de l'Information en matière de Recherche dans le domaine de la Santé (CCTIRS, n°09.106) at the ministry of research and the Commission Nationale Informatique et Liberté (CNIL, n° DR-2011-464).

Data analysis consisted in a descriptive analysis of the variables: mean and standard deviation for normally distributed variables, and frequencies and percentages for qualitative variables.

The use of condoms with clients and non clients (clients are defined as those with whom there

has been exchange of money) was compared using Pearson's Chi². Condom use at last sex, at last anal sex, at last oral sex, the frequency of condom use and being comfortable about asking intimate partner or client to use condom were used to assess condom use. The significance level was set at alpha =5%. Univariate and multivariate logistic regression was performed to identify risk factors for not using condoms with intimate partner at last sex. For intimate partners sexual intercourse without condom was the dependent variable.

Variables with a $p < 0.10$ (Pearson's Chi²) were included in the multivariate model as independent variables. Given the large number of variables and the potential spurious associations the selections of variables for the multivariate model retained bibliographically pertinent variables and variables with a p of 0.1. To obtain the most parsimonious model we used the the Hosmer-Lemeshow test. Data was analyzed using STATA® 10 (College Station, Texas, USA).

Only the results concerning female sex workers are presented here. The results concerning male and transgender sex workers will be presented elsewhere.

The level of exact knowledge of female sex workers was evaluated with 20 questions concerning knowledge of HIV/AIDS and STIs, modes of transmission and prevention. Each correct answer was scored 1 point ("do not know", "no answer" and a wrong answer was 0). The highest score was 20 points, the worst was 0.

The level of social vulnerability was calculated using five factors, 5 was the highest score. The 5 factors were "does not read or write in french", "didn't go to school or reach a primary level", "lives in substandard housing", "has more than 3 dependent persons", "doesn't have a resident permit" and "doesn't have valid health insurance".

Various topics were discussed in this work, including access to health care and rights. In France, the possession of a residence permit and health insurance provides access to a number of rights. Indeed, a residence permit allows to stay in the country legally and gives access to legal work contracts and a number of social benefits, including health insurance that supports medical expenses. In some cases, it is possible to obtain health insurance without a residence permit, but this requires documents proving 3 months of residence on the French territory, which can be difficult when one's presence on the territory is illegal.

Results

Sociodemographic characteristics

During 10 months of data collection, 483 questionnaires were administered to sex workers in French Guiana, 477 were analyzed. Among these, 61% were administered in Cayenne and its surroundings, 15% in Kourou, 10% in Saint-Laurent-du-Maroni, 8% in Saint-Georges de l'Oyapock and 6% in Maripasoula. The sample mostly consisted of females (89%, n=426), the results focus on this group. The mean age was 32.4 years (+/- 8.19 years). Among the surveyed sex workers, 73% lived alone and the rest lived in a couple. There were 61% of respondents who had had sex without exchange of money during the previous month. Table I shows the principal sociodemographic characteristics of the surveyed population.

Table I: Sociodemographic characteristics of the surveyed sex workers: French Guiana 2009-2010

Sexuality and sexual risks

Three quarters of the surveyed sex workers declared being heterosexual (75%, n=317), 12% bisexual, 2% homosexual and 11% didn't want answer.

Nearly a quarter of sex workers had been submitted to forced intercourse by a client, and 1/6th by their intimate partner.

Over a quarter of the respondents (25.6%) declared that their intimate partner had sex with other persons, and 2/3rds did not know or did not wish to respond (65.5%).

Sixty one percent declared having had an abortion at least once during their life, 8.7% did not wish to answer this question. Most sex workers used male condoms as contraception (88%).

Thirty eight percent considered themselves at low risk for contracting HIV, 46% considered having a high risk, and 16% did not know or did not wish to respond.

Eighty nine percent of sex workers interrogated had already done an HIV test and among them, 29% would not have wished to reveal the result of their test had it been positive, 10% did not know or did not wish to respond.

Condom use

Condom use with clients and non clients is shown in table II.

Table II: Condom use in sex workers in French Guiana with clients or non clients.

Nearly half of sex workers who had not used condoms during the last sexual relation with the non commercial partner declared that they did not use it because they trusted their partner

(47%, n=72). This trust resulted from “being together for a long time” (47/72) or having done at least one HIV test (29/72). Fifteen percent of the population of non users did not use condoms because the partner did not want to.

Female sex workers were asked to show a condom if they had one with them, 88% had one, 11% didn't have any at the time of interview, 1% didn't answer.

Among the persons interrogated, nearly a quarter (24%) had used 2 condoms on top of each other, and 61% had experienced condom rupture during sexual intercourse.

Table III shows the association of having had an abortion, thinking oneself to be at risk for HIV, being comfortable about asking one's intimate partner to use a condom, wanting to reveal result of an HIV test to partner, being dominican, living as a couple and condom use with a non client partner during the last sexual intercourse.

Given the low number of occurrences, exploration of condoms non-use with clients was not contributive.

Table III: Multivariate unconditional logistic regression predicting non-use of condoms during the last intercourse with a non client (n=303).

Discussion

Although great attention was paid to minimize the risks of non representativity of the sample, this remains non probabilistic sampling and declarative data with potential biases (7).

Despite these limitations, these results are the first in French Guiana to describe this population and its risky behaviours.

Social vulnerability

The surveyed population was particularly vulnerable. The women were exposed to the risk of deportation, and had to avoid the police and could not have access to legal jobs. They were also often excluded from social benefits and access to care. Not being able to read and write in French also contributed to isolating 2/3 of them from the rest of society and made them dependent on others to know and access to their rights.

Widespread condom use ...

Despite this vulnerability, the sex workers surveyed had a very high rate of condom use with their paying customers. The declarative data was matched by similar proportions of sex workers actually having condoms with them at the time of interview. The proportion of 97% reaches levels reported in the 100% condom programme, in Thailand, a common example of a success story in prevention. This high proportion of condom use is higher than in numerous literature reports (8-16). This is partly due to the good access to condoms and to a prevention effort. Although most used condoms with customers, a high risk minority could still have great epidemiological importance in driving the epidemic.

But risky behaviours with intimate partners

Male condom use was studied in two different areas of the sex workers' life: with clients and non clients. As shown elsewhere, condom use was much more consistent with clients (97%) than with non clients (45%). Risk taking thus seemed more important in the personal sphere than in the work sphere, as elsewhere (8-11, 13, 15, 17). In French Guiana the risk seems even higher because of the prevalence of multiple sexual partnerships (7), which, according to the surveyed population and others studies (14), seemed to be the case for a proportion the intimate partners (15). Different studies showed that intimate partners were particularly at risk and had a higher prevalence than clients (14, 18, 19). It is thus important to understand why sex workers do not consistently use condoms with their intimate partners. For many, not using a condom with an intimate partner reflected the trust sex workers projected on the partner. Frequently, the relationship was prolonged and both had done an HIV test at some point. The relationship was serious and they did not feel at risk towards HIV (15). Other factors influencing risk taking with the intimate partner were similar, notably living together with the partner which increased the risk of not having used a condom at last sex with the intimate partner.

Inappropriate use of condoms

Nearly half of persons that had not used a condom during the last sexual intercourse had previously had an abortion. Although it seems logical that sexual risk taking regarding HIV and abortion are statistically linked the observation raises 2 points. The first is the absence of use of other contraception methods (88% used male condoms as a contraceptive method) and the second is the inappropriate use of male condoms. Indeed, overlapping 2 condoms, frequent condom rupture and the absence of lubricant use were commonly reported. Although condoms seem to be a first line contraceptive method in these exposed women, proper

condom use should be widely emphasized. The frequency of abortions implies that efficient and adapted complementary contraceptive methods may need to be proposed.

Dominican nationals were significantly more likely to not have used a condom at last sex with their intimate partner. The underlying explanation is not clear, because the nationality variable covered numerous potential determinants (age, residence location, socioeconomic conditions, culture) further studies are required to disentangle these potential confounders (20, 21).

Risk perception

Feeling at high risk for HIV or not evaluating one's risk towards HIV was associated with not using condoms at last sex, and with the intention to reveal one's HIV status if a hypothetical HIV test came back positive. Sex workers thus seemed aware of the risks they take and expose to when they do not use a condom with their intimate partner. There was a clear gap between the awareness of risk and the implementation of protective measures, notably condom use. It was noteworthy that not feeling comfortable to request the intimate partner to use condoms, or not being able or willing to answer the question, was related to not using condoms. Therefore, in this case, the association with the covariable no longer seemed a consequence but an explanatory factor suggesting that empowerment of sex workers towards their intimate partner is a problem (9, 11). However, the study being cross-sectional, it is impossible to prove causality links. Sex workers often declare that to ask one's partner to use a condom exposes them to refusal, sometimes violence, from their intimate partner who would thus feel treated like a client (11). This problem should be the focus of prevention work for sex workers. Sex with an intimate partner is more complex to apprehend than just giving information on HIV transmission, women feeling at risk of sentimental rupture, or violence. There are feelings involved but also dependency relations that compromise the negotiation of

condoms (11, 22). It was not possible to use the same logistic model for clients than for intimate partners because most sex workers used condoms with them. But a difference between both types of partners is often reported in the literature. Studies show that for clients emotional factors do not seem to operate, whereas, unsurprisingly, that is the case for intimate partners. Pragmatic factors explain the non-use of condoms with clients such as financial constraints, drug and/or alcohol use, clients' violence (8, 23, 24). While the non-use of condom with intimate partners was explained rather more by emotional factors in which are involved feelings, fear to negotiate condoms, fear of losing the partner (9-11, 13-16, 23-25).

Prevention strategies

This duality should be integrated in the strategies of prevention actors in order to inform sex workers about protective measures during their work and to empower them and alleviate their dependency by increasing access to rights. Large prevention programmes have shown their efficiency on other continents on the professional and personal levels (26, 27). They could be also used in French Guiana.

The present data are encouraging for the NGOs on the field, but there is still room for improvement in prevention of transmission with both commercial and intimate partners. More specifically, it would be important to implement some new targeted actions for sex workers. Quarterly workshops and monthly follow-up meetings to support the empowerment of women, particularly regarding their intimate partners, have already shown their effectiveness in other countries. Training of peer educators could also help women feel less isolated and encourage them to use condoms more consistently (25).

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