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Unprotected sex with their clients among low-paying female sex workers in southwest China

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Abstract

Background—China has been experiencing a rapid increase in the HIV epidemic for decades. Commercial sex plays a critical role in heterosexual transmission of HIV. Limited studies suggested that low-paying female sex workers (FSWs) faced a higher risk of HIV infection. Low-paying FSWs are women who usually encounter their clients on the street or small establishments in rural or less-developed areas, or who charge low fees for each sexual service.

Methods—A total of 720 low-paying FSWs from 130 commercial sex venues/locations in southwest China were included in the data analysis. Multivariate regression models were employed to examine the associations of unprotected sex with a number of exploratory variables among the study sample.

Results—About 33.9% and 61.5% of low-paying FSWs reported unprotected sex with clients in the last sex act and in the last month, respectively. After controlling for confounders, women's HIV knowledge, risk perception, experience of police arrest, and venue types were significantly associated with unprotected sex among low-paying FSWs.

Discussion—Low-paying FSWs are at an alarmingly high risk of HIV infection. HIV prevention programs are urgently needed to address risk factors present in both individual and contextual levels among this most-at-risk population in order to curb the HIV epidemic in China.

Keywords

Low-paying FSWs; HIV risks; Unprotected sex; China

Introduction

In the past three decades, China has witnessed a rapid increase in heterosexual transmission of HIV (Li, Hong, & Poston, 2011). Commercial sex plays a critical role in such an increase (Hong & Li, 2008; Wang, 2007). An estimate of four to ten million women are engaged in a complex hierarchy of the sex industry in mainland China (Hong & Li, 2008; Yang et al., 2005; Huang, Henderson, Pan, Cohen, 2004). Along the hierarchy, the “high-paying” FSWs

refer to women who work in high-tier venues (e.g., night club and dance hall), who are able to charge higher prices for their services (e.g., typically from 200 to 1,000 yuan or approximately 30 to 140 US dollars for each trade); while the low-paying FSWs usually work on the street or lower-tier commercial sex venues (e.g., roadside restaurants and mini-hotels) and charge much less (e.g., 50 yuan or approximately US\$7) for each sex trade (Hong & Li, 2008; Huang et al., 2004; Xia & Yang, 2005).

Low-paying FSWs may have higher rates of unprotected sex than their high-paying counterparts (Fang et al., 2007; Fang et al., 2008). A couple of recent studies indicated a higher rate of syphilis (Tucker, Yin, Wang, Chen, & Cohen, 2011) and the HIV infection (Wang et al., 2009a) among low-paying FSWs in China. Although substantial evidence indicates the higher risk among low-paying FSWs, data regarding their sexual risk behaviors in China are generally lacking. Therefore, the current study was designed to explore individual (e.g., demographics, personal attributes) and contextual (e.g., working locations) correlates of unprotected sex with clients among low-paying FSWs in China.

Methods

Participants and survey procedure

Data in the current study were collected in 2011 from a tourist city in Guangxi Zhuang Autonomous Region (Guangxi). Guangxi has experienced a rapid increase of HIV prevalence since the last decade. The study site is a famous tourist spot attracting as many as 10 million tourists each year. There was a burgeoning market for commercial sex in the city with an estimate of at least 150 commercial sex establishments and more than 2,000 FSWs engaged in the commercial sex service at the time of the study.

The research team and local health workers conducted an ethnographic mapping for all low-tier commercial sex venues and identified six types of venues/locations, including roadside restaurants, mini-hotels, hair salons, feet-massage salons, streets (e.g., parks, squares, and road-sides), and other small entertainment establishments (e.g., karaokes and night clubs). Owners/managers or other gatekeepers of these venues (with the exception of the streets) were contacted for their permission to conduct research in their premises. Once we received permission, trained local health workers from the local Center for Disease Control and Prevention (CDC) approached eligible women working in these venues/locations and asked for their participation. An estimate of 25% of the venue owners and 30% of the women who were approached refused to participate.

The self-administered paper survey was conducted in separate rooms or private spaces to protect the confidentiality of the participants. No one was allowed to stay with participants during the survey except the interviewer who provided assistance when necessary. The survey took about 15 minutes to complete. A final sample of 720 FSWs from 130 venues/locations were included in the data analysis. The study protocol was approved by the Institutional Review Board at Guangxi CDC in China.

Measures

Participants were asked to provide information on their age, ethnicity (Han vs. non-Han ethnic minority), home residence (places of household registration), educational attainment, marital status, number of people in the household and annual income of their household (in Chinese currency yuan, approximately 6.5 yuan=1 USD at the time of this study). Perceived HIV risk was assessed by asking participants to rate their risk of HIV infection (very likely, likely, unlikely, and very unlikely). HIV awareness was assessed by asking participants how much they knew about HIV/AIDS (don't know at all, only a little bit, some, and very knowledgeable). HIV knowledge was measured by a validated scale (Wang, Li, Stanton,

Zhang, & Fang, 2010) of eight questions regarding transmission routes and possible preventive measures. Participants were asked if they ever used illicit drugs (yes/no). Work related factors included number of clients per week, fees charged for each trade, experience of police arrest, length of working in sex industry, monthly income, types of work venues and participation in HIV prevention activities (e.g., condom distribution, voluntary counseling and testing [VCT], community-based methadone maintenance treatment program, needle exchange program, and peer education). Participants were asked if they had unprotected sex (e.g., sex without a condom) with their clients during the last month and in the last sex act.

Analytic procedure

We employed multivariate logistic regression analyses to examine the associations of unprotected sex with individual and contextual correlates. To control for potential intra-class correlation by venue due to cluster-sampling, we used random effect modeling. Adjusted odds ratios (aORs) from the logistic regression models and their 95% confidence intervals (95% CIs) were used to depict the relationships between unprotected sex and measures of individual and contextual correlates. All statistical analyses were performed using SAS 9.0.

Result

Participants had a mean age of 30.91 years (SD=8.96) and 85.30% were of Han ethnicity. Two-third of the women were ever married, 60% had at least a middle school education and 64% of them had an annual household income of less than 10,000 yuan (approximately 1428.57 USD) with an average of four members in each household. On average, they charged 39.90 (SD=18.07) yuan for each sexual service and had 17 clients per week. More than half of the women (63%) knew some or a lot about HIV, but nearly 80% of them had a perception of low HIV risk. Among all respondents, 33.9% reported unprotected sex with clients in the last sex act and 61.9% during the last month.

In the multivariate logistic regression with “unprotected sex in the last sex act” as the dependent variable, older age (aOR=1.04, 95% CI=1.01, 1.06), and experience of police arrest (aOR=2.55, 95% CI=1.40, 4.65) were risk factors for unprotected sex. Women with better HIV knowledge (aOR=0.85, 95% CI=0.78, 0.93) and having lower perceived HIV risk (aOR=0.71, 95% CI=0.53, 0.94) were less likely to report unprotected sex in the last sex act. In the analysis with “unprotected sex in the last month” as the dependent variable, the odds of unprotected sex in the last month were slightly higher for older women (aOR=1.06, 95% CI=1.02, 1.09), and for women who had ever participated in condom provision and VCT (aOR=1.49, 95% CI=1.02, 2.18) compared to their peers. The odds of unprotected sex in the last month were 18% less than for women with better HIV knowledge compared to those who had poorer knowledge (aOR=0.82, 95% CI=0.75, 0.90). Similarly, working in establishments (vs. on street) was negatively associated with unprotected sex in the current study (aOR=0.30, 95% CI=0.11, 0.85 [feet massage salons]; aOR=0.36, 95% CI=0.16, 0.81 [hair salons]; aOR=0.23, 95% CI=0.07, 0.73 [other small entertainment establishments]).

Discussion

The current study revealed an alarmingly high rate of unprotected sex among the low-paying FSWs in China. Consistent with existing studies, our data suggested that working locations of sex work may shape FSWs' condom use behaviors (Morisky et al., 1998). In addition to work locations, having experience of police arrest was found to increase FSWs' risky sex practice by three-fold in the current study. Perhaps women who were arrested had the tendency to make up for lost income due to arrest and/or fines and hence, made them more likely to engage in riskier sexual activities. It was also possible that FSWs who had been

arrested might learn lessons from their past experience and therefore kept no or fewer condoms with them at workplace (as condoms at workplace were often taken by police in China as material evidence of commercial sex). Although the number of FSWs who had experience with law enforcement might be small (Tucker, Ren, & Sapio, 2010), this finding has some important policy implications. Health professionals should make efforts to convince law enforcement agencies and policy makers that promoting safe sex practice is an effort to reduce HIV/STD risks but not an endorsement for prostitution (Xia & Yang, 2005).

Our study did not find significant associations between participation in most of the HIV prevention activities and unprotected sex among FSWs, except for access to condom provision and VCT, which were positively associated with unprotected sex in the last month. The reason for such non-significant findings is not clear in the current study as we did not have information on when and how these various preventive activities were designed and implemented. As most of the existing HIV prevention interventions in China lacked rigorous study designs and theoretical frameworks (Hong & Li, 2009), HIV prevention activities surveyed in the current study might not exert their intended effectiveness even though some of the FSWs were exposed to. Future studies need to identify efficacious intervention efforts and to examine the implementation factors that can maximize the efficacy or effectiveness of such intervention activities among low-paying FSWs and other at-risk populations in the real world settings. In addition, future intervention activities targeting low-paying FSWs may need to be tailored so they can be responsive to these women's high HIV risk status and their unique individual and contextual characteristics.

Our findings should be interpreted in light of several limitations. First, we may not be able to generalize the findings to low-paying FSWs in other areas of China as the current study was conducted in a multi-ethnic region in China. Second, because of the cross-sectional nature of the data, we cannot establish any causal relationships between the condom use behavior and various correlates. Third, due to the illegal and highly stigmatized and marginalized status of sex work in China, our data were subject to biases of self-selection and socially desirable reporting. Fourth, the brief survey didn't include some key measures that had been shown to be related to condom use among FSWs (e.g., self-efficacy, partner violence, mental health status, alcohol use, venue-based condom use policy, and support from gatekeepers/managers of venues).

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