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Relationship between female sex workers and gatekeeper: the impact on female sex worker's mental health in China

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Abstract

Global literature suggests that gatekeepers exert enormous influences on lives of female sex workers (FSW). However, virtually no available studies have examined the FSW-gatekeeper relationship ("F-G relationship") and its impact on FSW's mental health. The current study was conducted in 2008–2009 in two cities of southwest China. A total of 1,022 FSW were recruited through community outreach from nine different types of commercial sex establishments. Both bivariate and multivariate analyses were employed to depict the association between F-G relationship and measures of FSW's mental health. Findings of the current study revealed that FSW with a close relationship with their gatekeepers reported a better mental health status. After adjusting for demographics and potential confounders of mental health, F-G relationship was positively associated with hopefulness ($\beta = 0.09$, 95%CI=0.01, 0.16), but negatively associated with perceived stigma ($\beta = -0.25$, 95%CI=-0.44, -0.07), suicidal intention or attempt (aOR=0.90, 95%CI=0.83, 0.99), and loneliness ($\beta = -0.29$, 95%CI=-0.47, -0.12). F-G relationship is an independent predictor of mental health of FSW over and above potential confounders including partner violence and substance use. Future health promotion programs targeting FSW need to recognize the role of gatekeepers in the life of FSW and engage them in a socially and legally acceptable way in safeguarding or improving mental health status of FSW in China.

Keywords

mental health; gatekeeper; commercial sex; China; female sex worker

Introduction

Commercial sex work is considered as one of the oldest occupations in the world (Rekart, 2005; Ross, Crisp, Mansson, & Hawkes, 2012). However, due to the long-standing and prevailing social norms on sex work, commercial sex workers have been devalued and condemned for centuries (Ross et al., 2012). Studies of female sex workers (FSW) who are

the most common population in the sex industry, found that their mental health problems were prevalent and beyond the country-bound (Farley et al., 2003; Ross et al., 2012). For instance, Farley et al. (2003) found that among a sample from nine countries more than two-thirds of sex workers had psychological pathology. In addition to the prevalent problems of psychological pathology, scholars identified sex-work environment where sex transactions occurred was the major contributor to their mental health problems (Ross et al., 2012; Vanwesenbeeck, 2005). In the context of sex work, FSW are exposed to a continuum of work-related physical and psychological harms including partner violence, substance abuse, unprotected sex, stigma, and deprivation of social support (Farley et al., 2003; Rekart, 2005; Ross et al., 2012; Yi et al., 2012). As the work-related harms significantly impact the wellbeing of FSW, a better understanding of FSW's working environment is therefore important. However, few studies examined the impact of working environment on FSW's mental health with an even scarcer of studies being conducted in China, where commercial sex flourishes in recent decades.

Similar to other Asian countries, commercial sex in China is primarily establishment-based. An estimated four to six million FSW work in a complex hierarchy of commercial sex in China (AIDSDataHub, 2010). Although sex work is illegal in China, the Chinese government has gradually shifted its attitude from a denial to a more positive and pragmatic one by initiating preventive interventions among this at-risk population in the past two decades.

Due to the illegal status, FSW are condemned as one of "social evils" who are usually subject to "fiercely cracked down" by law enforcement authorities even though the government has progressively changeover its strategy toward sex work. In addition, sex work is highly stigmatized. In traditional Chinese culture, women are supposed to be gentle, passive, and sexually innocent, which is dissonant with the image of FSW who are typically portrayed as lazy women selling their bodies for quick money (UNPFA, 2003; Zheng, 2009). Due to the deep-rooted stigmatization, most of FSW hide the nature of their work from friends and families, and they are worried about the disclosure of their occupation (Hong, Li, Fang, & Zhao, 2007b). Recent studies documented the highly prevalent mental health problems among FSW in China. For instance, Hong et al. (2010) documented as high as 30% of FSW had elevated depressive symptoms and nearly 20% reported suicidal intention or attempt.

Within the commercial sex industry in China, gatekeepers, referred as individuals who manage the establishments and/or sex workers, play an important role in FSW's working environment (Hong, Fang, Li, Liu, & Li, 2008; Yang et al., 2005; Yi et al., 2012). Gatekeepers do not only ensure the financial revenues and manage business of establishments (HorizonMarketResearch & FuturesGroupsEurope, 2002; Pan, 1999), but also play a role of protector and supervisor for FSW (Yi et al., 2012), even though the protection from gatekeepers mainly aims to keep the profitability of the business or themselves (Yi et al., 2012; Zhang, Li, Hong, et al., 2012; Zhang et al., in press).

Although a reciprocal relationship between FSW and their gatekeepers in the context of sex work has been documented by existing studies, majority of the studies only examined the

role of gatekeepers in HIV prevention behaviors (e.g., condom use, HIV testing) (Hong et al., 2008; Yang et al., 2005). Existing studies documented a positive association between gatekeeper's support and pro-condom use norms in sex venues (Hong et al., 2008; Yang et al., 2005). In the current study, we aim to qualitatively measure the impact of F-G relationship on FSW's mental health when controlling possible risk factors of mental health problems among FSW, such as demographics (e.g., older age, less educational attainment), experience of violence victimization, and substance use (Campbell, 2002; Zhang et al., 2013; Hong, Li, Fang, & Zhao, 2007a; Shahmanesh et al., 2009).

Methods

Study site

The current study was conducted in two tourist cities (City A and City B) of Guangxi Zhuang Autonomous Region (Guangxi). Guangxi is located in the south of China, facing the Beibu Gulf and bordered with Vietnam. City A is situated in the northeast of Guangxi with a population of 1.34 million including an urban population of 620,000. City B is located in the southern coast of Guangxi with a population of 1.36 million including 550,000 urban residents. Both cities are famous tourist spots, attracting millions of tourists to each city every year. Because of the booming economy and significant tourism, commercial sex flourishes in both cities. An estimated 2,000 FSW work in more than 150 commercial sex venues in each city (GuangxiCDC, 2011).

Participants and Survey Procedure

The data collection procedure has been described elsewhere (Zhang, Li, Stanton, et al., 2012). Briefly, participants in the current study were recruited from 60 establishments that represent nine different kinds of commercial sex venues, including night clubs, saunas, karaoke (KTV), bars, hair salons, massage parlors, mini-hotels, restaurants, and streets. Ethnographic mapping was employed by the research team and local health workers to identify commercial sex venues in both cities. The owners/managers or other gatekeepers of these establishments were contacted for their permission to conduct research in their premises. Once we obtained permission from the gatekeepers, trained outreach health workers from the local anti-epidemic stations approached the women in these establishments to ask for their participation. Approximately 25% of the venues and 30% of FSW refused to participate. A total of 1,022 women agreed to participate, provided a written informed consent, and completed a self-administered questionnaire. Complete data regarding the F-G relationship were available from 968 (94.72%) participants.

The survey was conducted in separate rooms or private spaces in the establishments where participants were recruited. No one was allowed to stay with the participant during the survey except the interviewer who provided the participant with necessary assistance. For those women with low literacy (less than 5%), interviewers read questions to participants. The questionnaire took about 45 minutes to complete. Each participant received a small gift (e.g., umbrella, soap, and laundry detergents) with cash value equivalent to US\$4.50. The study protocol was approved by the Institutional Review Boards at Wayne State University in the U.S. and Beijing Normal University in China.

Measures

F-G Relationship: This scale was developed by the research team based on existing literature and our qualitative interviews in the formative phase of the study. The scale includes seven items measuring three aspects (e.g., trust, communication, and support) of the relationship between FSW and gatekeepers in the context of commercial sex. The sample questions included “I have a good relationship with my manager/mammy”, “It is easy to communicate with my manager/mammy”, and “my manager/mammy helps me to deal with difficult clients”. All the items were assessed using a 4-point scale: 3=very true, 2=true, 1=not true and 0=not true at all. A composite score was calculated by summing up the responses to the seven items. The composite score ranged from 0 to 21 with a higher score indicating better F-G relationship. For the purpose of data analysis, we categorized the F-G relationship into four levels based upon the distribution: poor (scale score=1 to 13), ordinary (scale score=14 to 15), good (scale score=16 to 19) and close (scale score=20 to 21). The Cronbach alpha was 0.90 for the current sample.

Demographic information: Participants were asked to provide information on their age, ethnicity, type of original residency (i.e., rural or urban), education, marital status, length of working in the current city (in months), and monthly income (in Chinese currency *yuan*). For the purpose of data analysis in the current study, we categorized ethnicity into Han and non-Han, educational attainment into no more than middle school versus at least middle school. Because the distribution of monthly income was highly skewed, we divided FSW’s monthly income into four categories: level 1 (3000 yuan or more), level 2 (2000–2999 yuan), level 3 (1000–1999 yuan), and level 4 (less than 1000 yuan).

Mental Health Status: Participants’ mental health status was measured using depression, social isolation, hopefulness, suicidal intention or attempt, and perceived stigma.

Depression was measured using Center for Epidemiologic Studies Depression Scale (CES-D) (Radloff, 1977) which was validated in Chinese culture (Lin, 1989). The Cronbach alpha for the current study sample was 0.89.

Social isolation was measured using UCLA Loneliness scale (Russell, et al., 1996). The loneliness scale comprised eleven negative items and nine positive items. This scale has been validated among Chinese populations (Zhang et al., 2013). The Cronbach alpha for the current study sample was 0.74.

Hopefulness was measured using a 7-item scale with the Cronbach alpha 0.65. The scale was adapted from Beck Hopefulness Scale (Beck, Weissman, Lester, & Trexler, 1974), which measured loss of motivation and expectations for future among FSW.

Suicidal intention and attempt was measured using two items related to suicidal ideation (e.g., had seriously considered killing yourself) and suicidal attempt (e.g., had tried to kill yourself). Respondents who answered “yes” to one or both of these two questions were categorized into “ever” having suicidal intention or attempt and the rest were categorized into the “never” group.

Perceived stigma was developed based on existing literature on FSW (el-Bassel et al., 1997; Hong et al., 2010; Inciardi, Surratt, Kurtz, & Weaver, 2005) as well as our qualitative interviews in the formative phase of the study. The scale includes 15 items measuring perception of public attitudes towards FSW. The Cronbach alpha for the scale was 0.89. The responses to the 15 items were summed up to create a continuous variable with higher value indicating a higher degree of perceived stigma.

Other risk factors—*Alcohol use* is measured using frequencies of alcohol intoxication (e.g. every day, once 2–3 days, once a week, once 2–3 weeks, never). Respondents were categorized into the “never” or “ever” group based upon their responses.

Drug use was measured using a single item: “Have you ever used illegal drugs, including club drugs?” Women were considered to have drug use if they answered “yes” to this question.

Partner violence was measured using two scales on violence from clients and stable partners which were adapted from the WHO’s Women’s Health and Life Experience Questionnaire (WHO, 2003). The Cronbach alpha was 0.85 for the partner violence perpetrated by stable partner and was 0.84 for the partner violence perpetrated by clients in the current study. If participants ever experienced any types of violence perpetrated by their clients or stable partners, we assigned them into the “ever” group; otherwise, they were assigned into the “never” group.

Data Analysis

First of all, Chi-square (for categorical variables) and ANOVA (for continuous variables) were employed to assess associations between levels of the F-G relationship and FSW’s demographic information, mental health measures, and other risk factors. Second, we used a two-step multivariate regression analysis to examine the association between the F-G relationship and FSW’s mental health status which served as dependent variables in both steps. The first step is to examine the association between the F-G relationship and their mental health problems while controlling for demographics that were significant ($p < 0.05$) in the bivariate analyses. The second step is to examine the F-G relationship and mental health measures by controlling key demographic characteristics as well as other risk factors. To control for potential intra-class correlation (ICC) due to venue-based cluster-sampling, random effect modeling was employed to control for venue-level ICC. Regression coefficient (β) for linear regression model and adjusted odd ratios (aOR) for logistic regression as well as their 95% confidence intervals (95% CI) were used to depict the independent relationship between dependent and independent variables. All statistical analyses were performed using SPSS 18.0 for Windows.

Results

Demographic characteristics and other risks by F-G relationship

As shown in table 1, the mean age of the 968 participants was 24.20 (SD=5.88). Most of them were of Han-ethnicity; more than half of them were from rural areas; and 75% were never married. They had worked in the cities on an average of 44 months. About 62% of

FSW had middle school or lower educational attainment. The income varied considerably among individuals: about one third FSW had a mean income higher than 3,000 yuan per month, half of them had a mean monthly income between 2,000 to 3,000 yuan, and the rest had monthly income less than 2,000 yuan. Nearly 70% of FSW ever experienced alcohol intoxication, and 19% ever used illicit drugs. For violence against FSW, 45% reported at least one action perpetrated by clients and 58% reported at least one violent action perpetrated by stable partners. FSW's perceived F-G relationship was associated with their age, marital status, income level, length of working, and violence victimization. Specifically, older, married FSW who worked in the city longer usually had a better relationship with their gatekeepers. Women who had closer relationships with gatekeepers have least experienced violence from their clients or stable partners ($p<0.05$).

Mental health and F-G relationship

Table 2 showed the indicators of FSW's mental health status. The bivariate analyses indicated that F-G relationship was significantly associated with most mental health measures. FSW who had reported better F-G relationship had less depression, loneliness, and perceived stigma, but better hopefulness for future ($p<0.05$).

Table 3 reported the results of multivariate regression models that examined the effect of the F-G relationship on FSW's mental health status. F-G relationship was a significant predictor for measures of mental health problems after controlling key demographics (Model I). Compared with women had a worse relationship with gatekeepers, FSW who had better F-G relationship had less depression ($\beta=-0.28$, 95%CI=-0.46, -0.10), loneliness ($\beta=-0.27$, 95%CI=-0.41, -0.13), and perceived stigma ($\beta=-0.33$, 95%CI=-0.44, -0.07), but better hopefulness for future ($\beta=0.10$, 95%CI=0.04, 0.16). By adding "alcohol use", "drug use" and "partner violence" in the regression (Model II), F-G relationship still remained negatively statistically significant in the relationships to loneliness ($\beta=-0.29$, 95%CI=-0.47, -0.12), perceived stigma ($\beta=-0.25$, 95%CI=-0.44, -0.07), and suicidal intention or attempt (aOR=0.90, 95%CI=0.83, 0.99) and positively associated with hopefulness ($\beta=0.09$, 95%CI=0.01, 0.16). In addition, women who had alcohol and drug use problems, ever experienced partner violence and worked longer in the city were at a higher risk of depression problems ($p<0.05$).

Discussion

The current study represents one of the first empirical studies to examine the relationship between FSW and their gatekeepers as well as its impact on FSW's mental health in China. Our findings confirm the importance of gatekeeper's role in FSW's mental health. With a close relationship with gatekeepers, FSW can get emotional or tangible support from their gatekeepers when they need, which may help FSW to cope more strategically with psychological stressors (Zhang et al., in press). In the sex industry of China, the power dynamics between gatekeeper and FSW are imbalanced (Choi & Holroyd, 2007). As the result of institutional factors (e.g., illegality, stigmatization), gatekeepers exert more control and influence on FSW in China. Due to the imbalanced power dynamics, health promotion interventions targeting FSW should engage their gatekeepers to fully exert the effectiveness

of implemented programs. In addition, FSW are more receptive to the information provided by their gatekeepers who are closely involved in FSW's daily lives and it is important for researchers and public health workers to understand the "language" between FSW and their gatekeepers (Yi et al., 2012). Several successful structural interventions engaging gatekeepers have shed light on future direction. For instance, the success of the 100% condom use program in Thailand (Rojanapithayakorn & Hanenberg, 1996) and the comprehensive Sanagochi project in India (Jana et al. 2004), both acknowledged the importance of gatekeepers.

In the current study, we did not find a significant association between F-G relationship and depression after controlling substance use problems and violence victimization experience. It is possible that depression is more likely to be associated with personal traumatic experience and is more closely related to problems of alcohol use or drug use (Pandiyani, Chandrasekhar, & Madhusudhan, 2012; Surratt, Kurtz, Chen, & Mooss, 2012; Zhang et al., 2013), but is less impacted by external factors, such as the relationship between gatekeepers and FSW. More research is needed to better understand the mechanisms through which F-G relationship, substance use, and victimization history may influence FSW's depression problems.

There are several limitations in the current study. First, the study employed cross-sectional data that limit our ability to establish causal associations between the F-G relationship and FSW's mental health. Second, participants were recruited from Guangxi, a multiethnic region of China. The sample might not be representative of FSW in other areas of China, which limited the generalizability of findings in the current study. Third, due to the illegal and highly stigmatized status of sex work in China, our data were subject to socially desirable reporting. Fourth, the scale of F-G relationship measured FSW's perception of the closeness between FSW and gatekeepers, but data from gatekeepers in this regard were not available. Fifth, as we can only recruit FSW from venues in which we obtained permission from their gatekeepers, it may introduce selection bias in the current sample.

This study extends existing literature by quantifying F-G relationship and examines its association with FSW's mental health while controlling potential confounders. Our data reveal that gatekeepers posit as a core in the context of sex work. They do not only ensure financial revenue and arrange the business, but also affect FSW's mental health status. Local governments and health sectors could mobilize community resources (e.g., local CDC, non-government organizations, community health care centers) to provide training for gatekeepers so they can help with the early detection of signs of psychological distress among FSW. In addition, It is critical to involve gatekeepers and other stakeholders (e.g., health care providers, policy makers, and law enforcement agencies) to openly address the existence of and harm reduction among this population. Recognizing the role of gatekeepers in this effort and also engage them in a socially and legally acceptable way will help FSW in reducing work-related harms in the context of commercial sex in China and other resource-limited countries.

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Table 1:

Demographic information and other risk factors by F-G relationship

	F-G relationship				
	Total (N=968)	Level 1 (poor) (n=247)	Level 2 (ordinary) (n=382)	Level 3 (good) (n=165)	Level 4 (close) (n=174)
Demographic information					
<i>Age (Mean, SD, range)</i>	24.20 (5.88,15–50)	24.15 (6.19,15–48)	23.80 (5.38,15–47)	23.08 (4.66,16–42)	26.18 (6.97,16–50) ****
<i>Ethnicity</i>					
Han	84.30%	85.80%	84.80%	79.40%	85.60%
Non-Han	15.70%	14.20%	15.20%	20.60%	14.40%
<i>Residency</i>					
Urban	45.50%	44.80%	43.50%	47.90%	49.10%
Rural	54.50%	55.20%	56.50%	52.10%	50.90%
<i>Marital status</i>					
Never	74.90%	74.80%	77.20%	79.40%	65.50% *
Ever	25.10%	25.20%	22.80%	20.60%	34.50%
<i>Education</i>					
<=MS	62.40%	60.60%	65.20%	62.40%	59.20%
>MS	37.60%	39.40%	34.80%	37.60%	40.80%
<i>Income level</i>					
Level 1 (more than 3000 yuan)	30.2% %	25.60%	28.80%	31.50%	28.70% ***
Level 2 (2000 to 3000 yuan)	59.60%	62.20%	60.20%	60.00%	54.00%
Level 3 (1000 to 2000 yuan)	7.10%	6.90%	8.10%	6.70%	5.70%
Level 4 (less than 1000 yuan)	4.90%	5.30%	2.90%	1.80%	11.50%
<i>Length of working (Mean, SD)</i>	44.10 (36.09)	44.72 (34.44)	41.36 (34.21)	42.31 (33.84)	50.95 (43.19) *
<i>Alcohol-serving environment</i>	54.10%	54.90%	55.20%	51.50%	52.90%
<i>Risk Factors</i>					
Alcohol intoxication	64.80%	68.10%	67.30%	70.30%	67.90%
Drug use	19.00%	22.40%	18.80%	19.40%	14.40%
PV from Clients	45.20%	50.90%	41.80%	51.90%	37.90% *
PV from SP	58.00%	68.50%	54.00%	64.30%	46.90% ****

Notes:

1. F-G relationship categorized into four group: poor relationship (scale score=0–13), ordinary (scale score=14–15), good (scale score=16–19) and intimate (scale score=20–21) relationship;

* p<.05,

** p<.01,

*** p<.005,

**** <.0001

Table 2:

Relationship of mental health and Level of F-G relationship: Bivariate Analyses

Items	F-G relationship [/]					F-statistics
	Total (N=967)	Level 1 (poor) (n=246)	Level 2 (ordinary) (n=382)	Level 3 (good) (n=165)	Level 4 (close) (n=174)	
Suicidal Intention or Attempt (%)	9.8%	12.2%	8.9%	10.9%	7.5%	3.180
Depression (mean,sd)	17.33(9.66)	19.85(11.14)	16.32(8.77)	17.35(9.20)	15.96(9.08)	8.301 ****
Loneliness(mean,sd)	43.32(7.72)	44.54(8.00)	43.31(7.46)	43.07(7.47)	41.82(7.87)	4.374 ***
Hopefulness(mean,sd)	20.99(3.28)	20.53(3.01)	20.91(3.27)	21.6(3.28)	21.24(3.59)	3.865 ***
Social stigma (mean,sd)	33.37(8.00)	33.94(7.41)	33.95(8.07)	33.66(8.06)	31.03(8.22)	6.074 ****

Notes:

[/] F-G relationship categorized into four group: poor relationship (scale score=0–13), ordinary (scale score=14–15), good (scale score=16–19) and intimate (scale score=20–21) relationship;

* p<.05,

** p<.01,

*** p<.005,

**** <.0001

Table 3: Multivariate regression model of mental health problems and F-G relationship by controlling confounding variables among FSW

	Depression (β , 95%CI)		Loneliness (β , 95%CI)		Hopefulness (β , 95%CI)		Suicidal behaviors (aOR, 95%CI)		Perceived Social Stigma (β , 95%CI)	
	Model 1 ^a	Model 2 ^b	Model 1	Model 2	Model 1	Model 2	Model 1	Model 2	Model 1	Model 2
<i>Age</i>	-0.06(-0.21,0.09)	-0.10 (-0.30,0.11)	-0.19(-0.31,-0.07)	****	0.01 (-0.04,0.07)	-0.01 (-0.08,0.06)	0.94 (0.88,0.99)	****	0.09(-0.04,0.22)	0.09(-0.10,0.27)
<i>Marital status</i>	-1.15(-2.99,0.68)	-0.04 (-2.06,2.15)	-0.73(-2.18,0.72)		0.08 (-0.55,0.71)	-0.19(-0.94,0.57)	1.01(0.51,2.00)	1.43(0.61,3.32)	-0.03(-1.57,1.51)	0.76(-1.12,2.63)
<i>Income levels¹</i>	1.65 (0.73,2.56)	0.98 (-0.14,2.09)	1.39(0.67,2.11)	****	****	-0.28(-0.68,0.12)	1.22(0.87,1.72)	1.36(0.81,2.29)	0.98(0.21,1.75)	****
<i>Length of working</i>	0.01(-0.01,0.03)	0.03(0.00,0.05)	0.01(0.00,0.03)	****	0.00(-0.01,0.00)	0.00(-0.01,0.01)	1.00(1.00,1.01)	1.01(1.00,1.02)	-0.01(-0.02,0.01)	0.00(-0.02,0.02)
<i>F-G relationship²</i>	-0.28(-0.46,-0.10)	****	-0.27(-0.41,-0.13)	****	0.10(0.04,0.16)	****	0.94(0.88,1.00)	****	-0.33(-0.48,-0.18)	****
<i>Alcohol use</i>	---	3.49(1.88,5.11)	---	****	---	-0.31(-0.89,0.26)	---	2.70(1.16,6.31)	---	0.44(-1.00,1.87)
<i>Drug use</i>	---	2.03(0.17,3.88)	---	****	---	-0.72(-1.39,-0.05)	---	2.99(1.60,5.59)	---	2.11(0.56,3.85)
<i>PV from SP</i>	---	2.44(0.89,4.00)	---	****	---	0.05(-0.51,0.61)	---	1.87(0.95,3.69)	---	0.67(-0.71,2.05)
<i>PV from Clients</i>	---	1.08(-0.46,2.63)	---		---	0.00(-0.57,0.56)	---	1.22(0.68,2.20)	---	1.58(0.21,2.95)

Note:

¹ Venue types were divided by average monthly incomes of FSW who work in the venue: level 1 (more than 3000yuan), level2 (2000–3000yuan), level3 (1000–2000yuan), and level4 (less than 1000yuan);

² F-G relationship is a continuous variable in the regression models;

^a Model 1 only controls demographics;

^b Model 2 controls both demographics and other risk factors;

* p<.05,

** p<.01,

*** p<.005,

**** <.0001