

## Factors Related to Female Sex Workers' Willingness to Utilize VCT Service: A Qualitative Study in Jinan City, Northern China

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**Abstract** While national HIV prevalence remains low in China, female sex workers (FSWs) have become infected at high rates. Free voluntary HIV counseling and testing (VCT) has been offered in recent years; however, its utilization rate is low. This study explored factors related to FSWs' willingness to utilize a VCT clinic. Qualitative interviews informed by the Ecological Perspective were conducted to interview 17 FSWs and 12 managers from 23 selected entertainment establishments in Jinan, the capital of Shandong province in northern China. While the majority of FSWs professed willingness to use VCT services, they described barriers to actual utilization of services which included: misunderstandings about HIV; low perceived risk and HIV prevalence; mistrust of the free

VCT; and especially anxiety about the implications of possible test results. This research suggests that increasing FSWs' utilization of VCT will require increased knowledge of HIV and VCT, and acceptance of testing and on-site VCT services.

**Keywords** Qualitative · FSWs · VCT · Factors

### Introduction

China's HIV epidemic was first detected in 1989, and while HIV prevalence across China remains low (0.05% in 2005), prevalence among female sex workers (FSWs) exceeded 1% in some locations and was reported to be as high as 10% in one southwest province (Ministry of Health of China, UNAIDS, and WHO 2006; Shao 2006; Chen et al. 2005). FSWs in China typically work in entertainment establishments (EEs) such as saunas, beauty parlors, karaoke bars, nightclubs, teahouses, reflexology (foot massage) parlors, and hotels, where managers provide them with the opportunity to meet clients. Women who are not associated with EEs are low end FSWs working on the streets or in their rented residence (Huang et al. 2004). Commercial sex work is illegal in China and periodic public security crackdowns force FSWs underground, but ultimately seem to have little effect on their numbers which are estimated to be 4–6 million or even as high as 10 million (Pirkle et al. 2007).

Jinan is the capital of Shandong province, in northern China, with about 3 million inhabitants and an additional 1.5 million migrants, a population from which many FSWs are drawn. It is estimated that there are 300 saunas, 200 nightclubs, 500 karaoke bars, and thousands of beauty parlors and hotels, with approximately 50,000–100,000

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total service employees. About one-third of these employees are sex workers, with the highest proportion working in saunas and beauty parlors.

In Jinan, the first documented HIV infection in FSWs was reported by the National Sentinel Surveillance in 2005 (Zheng and Wang 2005). According to the latest estimates of HIV prevalence in China, the two highest prevalence provinces are Yunnan and Henan, with between 31,000 and 50,000 documented HIV-positive individuals. Shandong's prevalence falls in the middle range of provinces, with 500–1000 documented HIV-positive cases (Wu et al. 2007). The actual prevalence is much higher than the official report, as it has been estimated that between 75 and 95% of HIV-positive individuals in China are unaware of their serostatus (Wu et al. 2004).

Voluntary HIV counseling and testing (VCT) is a critical component of treatment, care, and prevention efforts (Obermeyer and Osborn 2007), and has been widely implemented in industrialized and developing countries (Family Health International 2001; The Voluntary HIV-1 Counseling and Testing Efficacy Study Group 2000; Sangiwa et al. 2000; UNAIDS 2000). The Chinese government is committed to this strategy, especially in high risk populations, such as with FSWs (Shen et al. 2006). Free VCT began being offered in China in 2003 as part of its comprehensive treatment program. By 2007, 4,293 VCT clinics had opened nationwide, yet the average number of attendees was less than two per day (Ministry of Health of China, UNAIDS, and WHO 2006; National Center for STD/AIDS Control in China 2006 State Council AIDS Working Committee Office UN Theme Group on AIDS in China 2007). Such low utilization rates are not unique to China (Obermeyer and Osborn 2007; Corbett et al. 2006 Fylkesnes and Siziya 2004), but suggest an urgent need for research on factors related to acceptability and increased utilization of VCT, particularly for high risk groups (Wang et al. 2004). A number of studies of FSWs in China have been conducted (Huang et al. 2004; Hong and Li 2007), however, few studies have explored the question of VCT utilization among FSWs. As the initial phase of a multi-stage research project on VCT utilization in Shandong province, we conducted in-depth, qualitative interviews with FSWs and their managers to better understand barriers to VCT utilization in a city with a mid-range HIV prevalence.

## Methods

### Sample

This study used a geographically diverse convenience sample of EEs representing each type in Jinan city.

Twenty-three EEs were approached by public health outreach workers, through acquaintances of EE managers. Of these EEs, 12 (52%) were successfully recruited. Those who declined cited confidentiality as their main concern. Managers from the participating 12 EEs identified 21 FSWs for possible recruitment. Our inclusion criteria for the FSWs included being age 18 or older, identified by managers as informative and able to provide rich and in-depth responses, and working as an FSW in an EE with a participating manager. Of the 21 FSWs, 15 (79%) agreed to participate in the interview. Since some FSWs in Jinan also work outside of EEs, we recruited two “call girls” through our public health outreach workers' contact network, increasing our sample size of FSWs to 17 (Table 1). At least two FSWs and managers from each EE category were interviewed. The criteria for the sample size was to achieve saturation in the qualitative data from all types of EE respondents interviewed, in order to verify that no new information was found (Ulin et al. 2005). In addition to achieving saturation, data from FSWs was also triangulated with that of managers.

### Data Collection

Qualitative data were collected using face-to-face, in-depth interviews by one female and one male interviewer. The interview guide was informed by the Ecological Perspective (Table 2), which emphasizes the interaction between, and interdependence of, factors within and across all levels of a health problem. It includes intrapersonal or individual, interpersonal, institutional, and community levels (Glanz and Rimer 2005; Sallis and Owen 2002). Intrapersonal factors in this research include the individual's knowledge, attitudes, beliefs regarding HIV and VCT, perceived risk of infection, HIV risk behavior, and their expected outcomes for VCT utilization. Interpersonal level includes manager and peer norms regarding FSW use of VCT and FSWs' motivations to comply with the views of their managers or peers. Institutional factors include accessibility of VCT

**Table 1** Sample information for managers and FSWs

Location	Managers		FSWs	
	Approached	Accepted	Approached	Accepted
Call girls	0	0	2	2
Karaoke bars	4	2	2	2
Reflexology	4	2	5	4
Night clubs	4	2	3	2
Hotels	4	2	3	2
Beauty parlors	3	2	3	2
Saunas	4	2	3	2
Total	23	12	21	17

**Table 2** Theoretical constructs and interview guide questions

Ecological Perspective constructs	Interview guide questions
<i>Intrapersonal level</i>	
Knowledge about VCT or HIV	Have you heard of HIV/AIDS? What have you heard about HIV/AIDS? How does someone know if they have HIV? Do you know what VCT is? If so, what have you heard?
Attitudes concerning HIV/AIDS and VCT	When you think of a person with HIV/AIDS, what characteristics (or qualities) come to mind? What are the advantages and disadvantages of having a VCT in your community? Do you worry about visiting a VCT clinic? If yes, why? If no, why?
Perceived risk of HIV infection and HIV risk behaviors	In your situation, do you think that you are at risk of getting HIV? Why?
Behavioral belief and expected outcomes	What do you think would happen if you get tested for HIV? What would happen if the outcome is positive or negative?
<i>Interpersonal level</i>	
Manager and peer (friends/other FSWs) norms	Who would most influence an FSW's decision to visit VCT clinic and get tested for HIV? Why? How important might it be that your manager supports your decision to get tested for HIV? Why?
<i>Institutional level</i>	
Facilitators or barriers to using VCT	What would make it easier for you to visit a VCT clinic and get tested? What would make it difficult for FSWs to use VCT?
<i>Community Level</i>	
Attitudes toward HIV-positive persons in the community	How are persons with HIV viewed by the community?

clinics. Community factors include social and cultural attitudes toward FSW and HIV.

Before each interview, oral informed consent was obtained, reviewing the study purpose and addressing any concerns participants had about confidentiality. Interviews lasted about 30 min and were carried out according to the protocol designed by outreach workers from Shandong Institute of Prevention and Treatment of Dermatology and STDs. At the end of each interview, the interviewer provided basic information about HIV, and asked if the participant would be willing to visit a VCT clinic. Each interview was audiotaped and interviewees received a small incentive for their participation. This project was approved by the IRB of Chinese Center for Disease Control and Prevention, Institute for Viral Disease Control and Prevention.

### Data Analysis

Audiotapes of the interviews were transcribed verbatim in Chinese, in Microsoft Word. The electronic transcripts were imported into the qualitative software program Nvivo 7. Qualitative data analysis involved two researchers reading the transcribed interviews separately to develop themes, and a codebook that captured the textual themes guided by the Ecological Perspective. Interviews were then

coded by two independent researchers to achieve an interrater reliability of 80%. All coding disagreements were reconciled successfully.

## Results

### Sample Sociodemographics

A total of 29 participants (17 FSWs and 12 managers) were interviewed between January and May 2006. FSWs were 20–33 years old, and all but one were single. The majority had completed junior high school. Their length of time working as an FSW varied from 6 months to 10 years, with a median of 33 months. Most were migrants from other provinces and all reported that they concealed their sex work activities from their families.

The 12 EE managers interviewed were 26–42 years old; 8 of the 12 were male; and all but one had at least a high school education. In contrast to the situation in some parts of China where managers control more aspects of sex work (Huang et al. 2004), these managers did not supply room, board, or salary to the FSWs, but instead provided a place for FSWs to meet clients, and in return, received a percentage of the FSWs' income.

## Willingness to Use VCT

At the end of the interviews, the majority of the FSWs (88%) voiced willingness to use VCT, however, they described a number of barriers to actual utilization of services. We categorize the key themes elicited from the theory-driven questions as follow.

### Factors Related to Willingness to Use VCT

#### *Intrapersonal Level*

**Knowledge of HIV, VCT and HIV Prevalence** We explored FSWs' knowledge of HIV and how that might be related to views of VCT. Most of the 17 FSWs claimed they knew nothing about AIDS at the beginning of the interview, yet all subsequently were able to identify two routes of HIV transmission. Fifteen (88%) did not know that HIV can be asymptomatic during the early stages of infection or that the asymptomatic period can extend over many years. Twelve (71%) believed that people without symptoms are not infected or infectious. In 10 of the FSW interviews and five of the manager interviews, this belief was offered as a prime reason for not visiting a VCT clinic. Only three FSWs had heard of VCT, and they did not know the location of the VCT clinic in Jinan or how it operated, suggesting that one reason for low utilization of VCT may be poor information dissemination.

The interviews also demonstrated that FSWs' perceptions of HIV prevalence may affect their own perception of risk, and potentially VCT utilization. Several noted that when television or a newspaper reported that the HIV infection rate was increasing, or if someone they knew were to become infected, this would heighten their own perceived risk, and they would be more likely to visit a VCT clinic. Likewise, if they believed that HIV prevalence was decreasing and/or their peers and friends were not infected, they would not be likely to seek VCT.

**Attitudes Toward VCT** FSWs expressed a range of attitudes toward VCT in these interviews, falling into three categories: positive, negative, and indifferent. Fourteen of 17 FSWs, including five who thought they were at risk for HIV infection, had a positive attitude and expressed willingness to attend a VCT clinic. These FSWs described a range of benefits. For example, those who suspected that they might be infected saw VCT as helpful for them to understand infection and learn about AIDS, especially its clinical symptoms, and to gain access to early treatment. Those who thought they were HIV negative said they might gain a sense of security by verifying their serostatus. Two managers noted, "The decision to visit a VCT clinic also depends on whether an FSW cares about her own

health." It was seen as a responsible decision that helps protect one's friends and family. In addition, two FSWs recommended on-site VCT service as preferable to visiting free-standing VCT clinics.

Three FSWs exhibited a fearful, negative attitude toward VCT. These FSWs did not know how to deal with a positive HIV test result. They worried about meeting an acquaintance at the testing site and being exposed as an FSW, being the target of gossip or looked down upon, and thought that all people who visit VCT clinics have AIDS symptoms. They also feared becoming infected through medical testing or treatment at the clinic. If they tested positive, they were afraid they would be quarantined. Finally, they had serious doubts about confidentiality, and feared being put under surveillance by CDC public health personnel and the police. The concept of revenge also surfaced in the interviews. One FSW who planned to quit after an HIV test told us, "If the test is positive, I will have more and more sex, even if I don't get money."

The last type of attitude was indifference, a view that some respondents attributed to others in their network. FSWs stated that their peers do not take HIV/AIDS seriously, and are not interested in learning about HIV or in visiting a VCT clinic. One manager and one FSW both cited the "low quality of FSWs" as a reason for their indifference toward HIV/AIDS. This phrase for FSWs in China refers to a person who is perceived as less educated, not behaving well or observing social norms (Hesketh et al. 2005), someone who wants to enjoy life without putting forth any effort. This personal characteristic was not part of the theoretical models, but our interviews identified it as a factor that may influence attitudes toward VCT (Lcek and Martin 1980).

**Perceived Risk and HIV Risk Behaviors** Among the 17 FSWs, five believed that they were at risk for HIV infection. Eight believed they were not. Two refused to answer, and two had no idea, saying that they had never considered their HIV risk before this interview.

Perceived risk was associated with stated willingness to use VCT in different ways. Five FSWs who believed that they were at risk for HIV said they were willing to utilize VCT. Among these five, one 30-year-old call girl stated that she had been engaged in commercial sex work so long that she felt she must at high risk. In contrast, three of the five said that other at-risk FSWs would not be willing to visit a VCT clinic because they would be afraid to receive an HIV-positive diagnosis and would not want to face the truth. Eight FSWs perceived that they had no risk for HIV, making statements such as, "I definitely don't have this kind of disease." Seven of these eight, however, indicated willingness to visit a VCT clinic, citing the following reasons: the service is free; they are young and should care

about their health; and they would like to confirm that they are HIV negative.

FSWs who reported using a condom in every sexual encounter thought they were careful enough not to need HIV testing. Indeed, managers believed that the percentage of FSWs who use condoms in their EEs is very high, over 90%. One FSW in a beauty parlor wanted to visit a VCT clinic because she had not always used condoms in the past.

*Behavioral Beliefs and Expected Outcomes* Worry about testing positive and unwillingness to face the consequences was a common reason cited by FSWs and managers for not utilizing a VCT clinic. One female manager commented on the underlying vulnerability of many FSWs: “A girl with a good background (that is, high level of education, good family background, not raised in poverty), will not do this kind of job. For any FSW, an HIV-positive diagnosis will lead to her breakdown entirely.” Another manager said, “A positive test result would be a big blow to FSWs.” In addition, three managers worried that a positive test result would affect their business, and so would not support VCT program outreach in their EEs.

#### *Interpersonal Level*

*Influence of Managers and Peers* Most managers thought that FSWs should visit VCT clinics but viewed the decision as an individual’s choice. As noted above, some worried about the impact on their business, so were less than enthusiastic about a VCT program and related outreach activities.

FSWs, however, stated that they made their own decision about whether to attend a VCT clinic. One FSW said, “Generally speaking, no one can change my mind if I have decided to go.” Some FSWs stated that the managers “are not very important” in their lives. One said, “As long as I want to do it, I will do it, even if my boss doesn’t agree.” Another stated, “This choice is an individual’s affair. Nowadays FSWs are not controlled by managers as in the past.”

While they may not be influenced by managers, FSWs do report being influenced by their peers. The data gathered in the interviews clearly indicate that FSWs with positive attitudes toward VCT could promote their peers’ utilization of VCT clinic. As one FSW said, “I am really affected by my peers, after all we do the same kind of job, so if they go to the clinic, I will also want to be checked.”

#### *Institutional Level*

*Barriers to VCT Use* No facilitators were elicited when asking FSWs about what would make it easy for them to use VCT. For barriers, interviews revealed that both time

and high medical care costs would make it difficult to use VCT. Furthermore, while the government’s treatment and testing programs are aimed at addressing cost and access to treatment as barriers to care, FSWs indicated low trust in the medical care system as another barrier. Free service was generally seen as a false promise. As evidence, two FSWs described visiting health care practitioners who diagnosed a gynecological illness for free, and then charged exorbitant fees for registration, examination, hospital services, and medicine.

#### *Community Level*

*Community Perceptions of Sex Work and People Living with HIV* Stigma associated with both sex work and having HIV, fear of discrimination, and lack of disclosure were key themes elicited from this question. Women engaged in commercial sex trade hide that fact from their families. Indeed, several FSWs noted that families finding out about their sex work would be more serious than finding out that they were HIV infected. Furthermore, regardless of the outcome, FSWs worried that just testing for HIV might expose them as FSWs to families, physicians, and acquaintances. Community perceptions about sex work as well as about those who might be at risk of HIV result in a double stigma and key barrier to VCT utilization.

FSWs reported that an infected person would not want to disclose their HIV status to anyone, including family members, for fear of discrimination and social isolation. While six FSWs indicated that the decision to visit a VCT clinic would be determined by personal motives, rather than fear of discrimination as FSWs, they also said they would not tell others when they went.

## **Discussion**

National sentinel surveillance and studies have demonstrated high rates of both STDs and HIV in FSWs in China (State Council AIDS Working Committee Office and UN Theme Group on HIV/AIDS in China 2004 Feng et al. 2006). Unrecognized infection compromises the health of individuals and leads to further spread of HIV. Despite government sponsored free VCT in China, actual use of the service has been low, seriously limiting the overall effectiveness of VCT in China’s fight against the AIDS epidemic. This is the first study to explore barriers to VCT in FSWs in Jinan, the capital of a Chinese province that is moderately affected by the epidemic. While HIV has been documented among FSWs in Jinan, it is still early in the epidemic for the general population. The results suggest a number of opportunities for intervention in this and other similar locations in China.

FSWs interviewed in this study had limited knowledge of their actual risk for HIV infection and limited understanding of the disease. Given high reported rates of condom use, it is not surprising that they did not perceive HIV to be a threat and have only modest motivation for testing. These findings, particularly that FSWs associate physical appearance with health status, have been described in other studies of FSWs in China (Huang et al. 2004; Lau et al. 2002), and reinforce the need for education that focuses on the nature of HIV risk from non-symptomatic individuals.

Utilization of public health services is affected by actual need. A theme that emerged in this research is that the inclination of FSWs to utilize a VCT clinic is affected by the perceived HIV infection rate in their environment. This is similar to the findings in Uganda (Irwin et al. 1996; De Graft-Johnson et al. 2005; UNAIDS 1994). Reports from other countries suggest that the acceptability of VCT by the general population of low prevalence areas is lower than in high prevalence areas (Irwin et al. 1996; Vermund and Wilson 2002; Fylkesnes et al. 1999). However, increasing utilization of VCT by high risk individuals in low prevalence areas is a crucial component of the strategy to reduce HIV transmission.

“Worry about testing positive and unwillingness to face the truth” was another common reason cited by FSWs and managers for not utilizing a VCT clinic. This concern has been observed in other countries as well (Irwin et al. 1996; De Graft-Johnson et al. 2005; UNAIDS 1994). It is clear that a successful VCT clinic must address anxiety in its target population. This issue has additional importance for FSWs whose employment is dependent on their HIV negative status. Our interviews also revealed that FSWs are wary of health care service providers, mistrust promises of free service, and are fearful of discrimination related to both HIV and sex work.

Free consultation and testing, and even free treatment, clearly cannot entirely resolve the problem of denial of infection risk or relieve the anxiety of a positive result. The precarious social and economic situation of FSWs reflects some of the underlying causes of the HIV epidemic in China, such as few work opportunities for less educated young women, the increasing gap between rich and poor, and a large and growing migrant population. Only through more comprehensive prevention and treatment measures, that also attempt to create a less discriminatory environment for people with HIV/AIDS and for FSWs and empower FSWs with job training and knowledge of VCT, can we effectively control the transmission of AIDS.

This study contributes to the literature in a number of ways. First, while some findings replicate those from other studies of FSWs, our results demonstrate the importance of understanding local context to increase acceptability of VCT. In Jinan, the managers’ response to VCT and influence over FSW activities were not cited as major impediments to

utilization, in contrast to reports from other settings in China and elsewhere. Both FSWs and managers expressed concern over the time and travel required to obtain testing and results, but managers did not seem likely to block HIV testing, and FSWs did not express particular fear of these managers. These factors may enhance the importance of peer networks for HIV education and promotion of VCT services—within the context of discrimination and the fact that all those interviewed reported hiding their sex work activities from their families. The suggestion by our respondents for on-site services is an example of a local solution to some of these dilemmas. Lastly, the fact that awareness of VCT services was so limited points to the need for more appropriate information dissemination.

Our study has several important limitations. While we recruited managers and FSWs from the all categories of EEs known to sponsor FSWs and from the street, this study is qualitative and exploratory, with limited generalizability. Furthermore, given FSWs’ lack of knowledge of VCT, and the inevitable influence of social desirability during the interviews, statements about intentions to utilize VCT must be considered hypothetical at best. VCT research conducted in other countries has found inconsistencies between stated willingness to visit a VCT clinic and actually visiting one (Fylkesnes and Siziya 2004; Irwin et al. 1996). More important than the number of FSWs who expressed willingness to attend a VCT clinic at the end of the interview are the findings about barriers, negative views, and indifferent attitudes attributed to peers. Our study was not designed to test predictors of VCT utilization; rather, our results will be used to design and evaluate an appropriate intervention to increase VCT utilization by FSWs in Jinan.

China’s HIV epidemic is growing in a context of rapidly changing social norms and government policies. The results of this study are highly relevant to truly urgent interventions needed to prevent the HIV epidemic from spreading among FSWs and their clients in locations such as Jinan. Increasing FSWs’ utilization of VCT will require dramatically increased knowledge of HIV and VCT and acceptance of VCT services. It is clear that education about the nature of HIV risk and VCT information dissemination are critically needed. Such outreach should be combined with the use of peer support networks and flexible on-site testing at locations that will minimize stigma.

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