

TRENDS IN HIV/STI AND SEXUAL RISK BEHAVIOR AMONG FEMALE SEX WORKERS IN NANNING, CHINA, 2007-2008



Yongfang Xu, MD, MPH¹; Joanne E. Mantell, MSPH, PhD²;
Elizabeth A. Kelvin, PhD^{2,3}; Cheng-Shiun Leu, PhD²; Xinqin Lin, MD, MPH¹

¹Nanning Center for Disease Control and Prevention, Guangxi 530011, PR China;
²HIV Center for Clinical and Behavioral Studies, NY State Psychiatric Institute
and Columbia University; ³CUNY School of Public Health at Hunter College

INTRODUCTION

China's HIV Epidemic

- In recent years, China's HIV epidemic has escalated.
- The China Ministry of Health (MOH), UNAIDS, and WHO estimated that approximately 740,000 people were infected with HIV as of the end of December 2009.
- As of the end of 2009, the China MOH reported 326,000 cumulative cases of HIV/AIDS and 48,000 new cases.
- Heterosexual transmission increased from 30.6% in 2006 to 38.9% in 2007. In 2008, it reached 40.3%, and 47.1% in 2009.

The Role of Female Sex Workers (FSWs)

- Although illegal, commercial sex has become a thriving industry since the 1980s, with an estimated 4-10 million female sex workers.
- FSWs are believed to play a major role in the transmission of STIs, "bridging" HIV/STI transmission from high-risk groups to the general population.
- In response to a government call for interventions among this group, the Nanning CDC began annual behavioral surveillance surveys and voluntary counseling and testing of FSWs from 2007.
- We present the data from this surveillance of FSWs in 2007 and 2008 to assess trends in HIV knowledge levels, condom use practices with clients and main partners, and rates of HIV and syphilis.



METHODS

- Entertainment centers in Xi Xiang Tang (one of Nanning's six urban districts) were invited to participate in the survey.
- On an on-going basis, the CDC delivered on-site AIDS prevention education sessions and distributed free condoms to FSWs in participating entertainment centers.
- After providing written consent, study participants completed a confidential, 20-30 minute face-to-face interview; blood samples were taken to test for HIV and syphilis.
- For the 2007 survey, 201 entertainment centers (59.4% of those identified and active in sex work) and 379 FSWs (46.3%) agreed to participate in the study.
- In the 2008 survey, 195 entertainment centers (71.2%) and 400 FSWs (52.2%) agreed to study participation.

RESULTS

HIV/AIDS and STIs

- HIV prevalence was steady (0.53% in 2007 and 0.50% in 2008, $p=0.667$), but syphilis prevalence increased (3.17% vs. 6.25%, $p=0.043$).
- Odds of being infected with HIV and/or syphilis were significantly higher in 2008 compared to 2007 and among married participants (OR=2.30, $p=0.018$; OR=3.28, $p<0.001$, respectively).
- The proportion of participants who answered at least six of the eight HIV knowledge items correctly was significantly higher in 2008 (79.5%) than in 2007 (73.1%) ($p=0.035$).

Condom Use

- There was no difference in condom use with clients at last sex between 2008 and 2007 (80.8% vs. 79.4%, $p=0.637$), but participants reported greater consistency in condom use with clients in the last month in 2008 than in 2007 (57.8% vs. 36.8%, $p<0.001$).
- Older participants and those with higher knowledge score had higher odds of consistent condom use with clients (OR=1.06, $p<0.001$; OR=2.03, $p<0.001$, respectively).

Drug Use

- Few participants reported ever having injected drugs – 1.3% ($n=5$) in 2007 and 1% ($n=4$) in 2008.

Table 1. Comparison of Socio-Demographic Characteristics and Condom Use among FSWs in 2007 and 2008

Characteristics % (n)	2007 (n=379)	2008 (n=400)	P-value
Sample Source			0.015
Foot massage	93.7 (355)	88.7 (354)	
Other (sauna, hotel, etc.)	6.3 (24)	11.3 (45)	
Age (Mean)	26.38	27.56	0.037
≤20	20.1 (76)	20.5 (82)	
21-30	55.2 (209)	46.0 (184)	
31-40	22.2 (84)	29.3 (117)	
≥41	2.6 (10)	4.3 (17)	
Ethnicity			<0.001
Han	61.5 (233)	74.7 (295)	
Zhuang	33.2 (126)	21.0 (84)	
Other minority	5.3 (20)	4.3 (16)	
Marital Status			<0.001
Unmarried	30.6 (116)	38.1 (151)	
Married	37.5 (142)	33.8 (134)	
Cohabitate	30.1 (114)	21.5 (85)	
Divorced or Widowed	1.8 (7)	6.6 (26)	
Education Level			<0.001
Illiterate	1.6 (6)	1.3 (5)	
Elementary school	13.4 (51)	25.5 (101)	
Junior high school	58.0 (220)	53.8 (213)	
Senior high/Technical school	21.6 (82)	17.0 (68)	
Junior college or above	5.3 (20)	2.3 (9)	
Condom used with clients in last month			<0.001
Sometimes	53.4 (190)	34.4 (137)	
Consistent	36.8 (131)	57.8 (230)	
Never	9.8 (35)	7.8 (31)	



CONCLUSIONS

- Knowledge of HIV/AIDS significantly improved between 2007 and 2008, and the FSWs in this sample had a high level of knowledge about HIV transmission.
- Consistent condom use with clients and main partners increased significantly between 2007 and 2008.
- The association between higher HIV knowledge and condom use with clients in the last month suggests that educating FSWs about HIV may increase their use of condoms with clients.
- Although consistent condom use with both clients and main partners seems to have increased, the prevalence of syphilis also increased.
- Condom use rates need to rise even faster to keep up with the increased probability of exposure to some STIs, such as syphilis, due to their higher prevalence, highlighting the need for interventions promoting condom use.
- Overall, HIV/AIDS knowledge, condom use, and health-seeking behaviors increased between 2007 and 2008, suggesting that the CDC's outreach efforts may be having a positive impact.

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