

**HIV antibody testing among the Hong Kong mainland Chinese
cross-border sex networking population in Hong Kong**

Joseph T. F. Lau, PhD

Wing S. Wong, PhD

Centre for Clinical Trials & Epidemiological Research

Faculty of Medicine

The Chinese University of Hong Kong

Address for correspondence:

Dr. Joseph T. F. Lau, Director

Community Research Programme on AIDS

Centre for Clinical Trials and Epidemiological Research

Prince of Wales Hospital, Shatin

The Chinese University of Hong Kong

Tel: (852) 2632-3650

Fax: (852) 2645-3095

e-mail: jlau@cuhk.edu.hk

Acknowledgement

The authors would like to extend their thanks to Dr Siah, P. C., Miss Chan Mei Wah, Mr. Albert Chan, the Kowloon Canton Railway Corporation for their valuable advice and assistance in data collection. The study is funded by the Council of Hong Kong AIDS Trust Fund.

Abstract

The present study reports the results of 2 surveys examining the likelihood of performing HIV antibody test among the Hong Kong-mainland China traveler population. The two studies interviewed 1,325 and 2,074 male adult Hong Kong residents. Among those who had had sexual intercourse with a FSW in the past 6 months, there were 31.1% in the first sample indicated they intended to take a HIV antibody test in the future whereas 16.4% in the second sample reported they had actually taken a blood test for HIV antibody. In both samples, demographic variables and attitudinal/knowledge-related variables were found no association with intention of a blood test for HIV or actual testing behavior. Moreover, in both samples, those who had more female sexual partners in the past 6 months were more likely to report an intention for HIV test or to have taken an HIV test.

Background

The prevalence of HIV testing varies considerably in different countries and in different populations. In the United States, it was estimated that 34 to 64 million HIV antibody testing were performed by the Centers for Disease Control in 1997 (Piliero & Libman, 1996). It was estimated that 60% of the homosexual population and 55% of intravenous drug abusers had been tested. In a sample of 7,832 people drawn from 22 high-risk cities, Berrios, Hearst & Coates, et al. (1993) reported that 60% of men who have had same-sex sexual activity in the past 5 years indicated that they had been tested for HIV antibody in the United States. 46% of male and 75% of female drug users reported that they have been tested. For respondents with one or more risk factors, 37% had been tested. Compared with those with no identifiable risk factors, gay or bisexual men and multiple-partnered heterosexuals practicing unsafe sex were more likely to have been tested.

Compared with the United States, the testing rate in Switzerland has been very high. In Dubois-Arber's (1998) study, 47% of the general population of age 17 to 45, 72% of homosexuals and 87.9% of injection drug users reported having undergone an HIV antibody test in Switzerland in 1992. Another study reported that while the percentage of accepting a voluntary confidential HIV test offered by the Swiss Network of Dermatovenereology Policlinics (SNDP) was 82.5% among heterosexuals and 84% among homo/bisexual men, the refusal rates for SNDP's offer were much higher: 17.5% among heterosexuals and 16% among homo/bisexual men (Paget, Zwahlen & Eichmann, 1997). In 1993, 87.9% of injection drug users in Switzerland had been tested (Dubois, Konings & Koffi-Blanchard et al., 1995).

Mixed findings have been obtained regarding the power of using HIV-related knowledge to predict the likelihood of HIV testing. In the Povinelli, Remafedi & Tao's (1996) study, respondents who had discussed about sexual feelings with counselors and physicians were more likely to have been tested. Goodman, Chesney and Tipton (1995) however reported that HIV-related knowledge, attitudes and beliefs were not associated with testing among a group of teenage girls.

There are some limitations in the literature studying HIV testing. First, the study populations have been more focused on drug users, homosexual and bisexual men. Other populations, such as commercial sex clients and travelers have not been examined. Second, no data pertaining to the rates of testing in Asian countries or in the Chinese population has been documented.

The study on HIV antibody testing practised by the cross-border sex networkers is highly relevant. Sexually transmitted disease (STD) is becoming more prevalent in Hong

Kong (ACA, 1997). This might be associated with the sharp increase in the STD incidence of the neighboring Guangdong province in mainland China (UNDP-MOH, 1996). It has been observed that almost 70% of the new STD cases in the territory originated in China (Hong Kong Government, 1998). 10% to 60% of the CSWs detained in some education centers in mainland China have been infected with STD (UNDP-MOH, 1996). It is also estimated that there were about 500,000 HIV positive cases in China by the end of 1999 (UNDP-MOH, 1999), most of whom were distributed along the coastal cities (UNDP-MOH, 1996). Some studies have reported frequent high-risk behaviors in certain groups of Hong Kong cross-border travelers (ASSR, 1995; Ho & Choi, 1996; Lau, Thomas & Liu, in press; Lau & Wong, in press).

Objective

The primary objective of the study is to understand the likelihood of performing HIV antibody testing among the Hong Kong-mainland China sex-networking population. The likelihood of testing was measured both in attitudinal and behavioral terms. The secondary objective is to understand factors that are associated with the likelihood of HIV testing for this particular cohort of cross-border sex networkers.

Subjects and methods

The results are obtained from two independent surveys of Hong Kong China cross-border commercial sex networkers. The first survey asked about the intention of performing HIV antibody testing (whether the respondents want to perform blood test for HIV status). The second survey asked about whether its respondents had actually performed a HIV antibody test in the past 6 months.

Data of the first survey were obtained from a risk assessment study which interviewed 1,325 male adults Hong Kong – mainland China travelers, out of which a cohort of 453 (88.5% of all surveyed respondents) cross-border commercial sex-networkers (defined as having had sexual intercourse with female sex workers (FSWs) in mainland China in the past 6 months) was identified (Lau & Wong, in press). They were asked the question “whether you would want to perform a blood test for HIV status?”. Other questions asked included demographic background (age, education and marital status), knowledge about the asymptomatic property of HIV infection, condom use with FSW and non-regular sex partner, perceived efficacy of condom use to prevent the spread of HIV, attitudes for whether using condom with spouse and girlfriend, self-reported STD history, whether fear of AIDS, the

perceived chance of HIV infection via commercial sex in China, self-assessed chance of contracting HIV in the future.

The less sensitive questions on socio-demographic information, travel characteristics, and general attitudes and perceptions on AIDS-related matters were administered using a face-to-face interview. Personal and sensitive questions such as whether the subject had sexual intercourse with a FSW during that trip and during the past six months etc., were administered using a specially designed data collection method. Subjects were provided with a mobile telephone. They responded to pre-recorded questions by keying in their responses. Built-in internal consistency checks were made. The subjects returned the mobile phone and moved on without leaving any traces of identity. This method was adopted to maximize anonymity, and response rate and to minimize reporting bias due to social desirability (Lau & Thomas, in press).

The second study was carried out using telephone interview. After a respondent was being recruited, interviewers firstly asked five non-sensitive questions (three related to general knowledge of AIDS and two about age and education) to establish trust, which is important to facilitate the asking of sensitive questions. The respondents were then briefed that the second part of the questionnaire would cover questions related to AIDS. They were told that the questions had been recorded by the Hong Kong Telecom's 'Wui Ying Tung Service', and that they only needed to key in the appropriate responses. They were fully guaranteed that their telephone numbers would not be recorded.

For those who agreed to enter the second part of the interview, they were connected to the 'Wui Ying Tung Service' via the 'Conference Line Service' (that allows one of the two parties to call a third one without hanging up and allows all 3 parties to make simultaneous phone conversations). The interviewer left the line after connection was being made. The respondents then keyed in their responses after listening to the pre-recorded questions. The Wui Ying Tung telephone number was not released to the respondents. The Service has often been used by TV stations for public opinion polling and is commonly known to the public. Anonymity and confidentiality were therefore enhanced. Unanswered telephone calls were given at least two attempts per night for a two-week period before classifying it as an invalid number.

A total of 2,074 male respondents were interviewed in the second survey, which was a benchmark behavioral surveillance study (Lau & Siah, in press). They were asked whether they had actually taken a blood test for HIV status in the past 6 months, their perceived chance of contracting HIV in the future and their perceived efficacy of condom use

in AIDS prevention. Other questions included condom use during sexual intercourse with FSWs in the past 6 months and with non-regular partner, number of FSWs they had visited in mainland China in the past 6 months, and whether they had contracted STD in the past 6 months. 250 (12.1%) of them reported they had sexual intercourse with a FSW in the past 6 months in mainland China and indicated whether they had taken a blood test for HIV status. They were included in the analyses of the present study.

Data analysis method

The prevalence and 95% confidence intervals of intended and actual HIV antibody testing were reported. The associations between the studied factors and intention and action for testing were described by odds ratios and chi-square test in the univariate analysis. Multiple logistic regression models were fitted to summarize the data. $p < .05$ is seen as statistically significant.

Results

In the first sample, among those who had visited a FSW in China in the past 6 months ($n = 453$), 31.1% (95% confidence interval = 33% to 43%) indicated that they intended to take the test in the future.

None of the demographic variables were significantly associated with the intention of a blood test for HIV (Table 1). Attitudinal/knowledge variables such as knowledge about the asymptomatic property of HIV transmission, misconception that HIV could be transmitted via kissing, perceived chance of HIV infection via sexual intercourse with a FSW in mainland China, perceived efficacy of condom use in AIDS prevention and self-perceived chance of contracting HIV were all non-significant to predict intention of HIV testing (Table 1).

Whether the respondents had been or would be using condom with FSW and other types of sex partners (wife or girlfriend) were also not associated with a higher likelihood of intending to have a blood test for HIV status (Table 2). Whether the respondents had had sexual intercourse with a FSW or a non-regular partner in that particular trip preceding the interview was not also associated with the intention for testing. Those who had visited more FSW (over 10, OR = 2.15, $p = 0.01$) in the past 6 months and had ever contracted STD were however more likely to report an intention for HIV testing (Table 3).

Results from the second sample (Study II) of Hong Kong-China cross-border sex networkers showed that 16.4% (95% confidence interval = 12% to 21%, Table 4) of the

HongKong-China sex networkers had actually taken a blood test for HIV antibody in the past 6 months. The results of the analyses to examine factors that may be associated with the testing behavior are similar to those analyzing factors that were associated with the intention for testing (Study I). Demographic factors, self-perceive susceptibility for HIV infection, knowledge about the means of transmission and the perception of efficacy of condom use in HIV prevention were non-significant to predict HIV testing behavior (Table 4, 5). Condom use, STD history and whether they had sex intercourse with a non-regular sex partner were also not significant (Table 6). Like the previous analysis, those who had more female sexual partners (more than 4) in the past 6 months were more likely to have taken an HIV test (Table 6).

Discussion

Among those who had visited a FSW in mainland China in the past 6 months, about 70% did not have an intention to take a HIV antibody test. The actual percent tested in a 6 months period was only 17%. The willingness and behavioral level of testing are therefore quite low among this cross-border sex-networking cohort, as compared to some at-risk populations reported in other countries (e.g., Berrios et al., 1993). The intention and practice for testing was largely independent of age, education level, marital status, AIDS-related knowledge, perceived infectivity, etc. Whether using condom with the FSW and with one's regular sex partner were also not related to the intention and practice of testing. Among all factors studied, only the number of FSW visited in the past 6 months and perceived efficacy were significant to predict the intention/practice of HIV testing.

When reviewing the calendars of all education/prevention programs published by the Committee of Education and Publicity on AIDS during 1996 to 1999, none of the enlisted events mentioned HIV testing, neither had any of the governmental Announcement of Public Interest (API) carried an explicit message concerning HIV testing. The total lack of emphasis of HIV testing in the AIDS campaign in Hong Kong is therefore consistent with the findings.

The results of this study further points out that it is not cognitive knowledge, attitudes (such as fear of AIDS, perceived chance of contracting HIV, condom efficacy) or the use of condom that affect the intention/behavior of taking the test. Instead, STD history and number of FSW visited were significant factors. It seems that a very high risk level rather than attitudes was what drove the sex networkers to go testing.

HIV testing is an important component of an effective AIDS campaign. AIDS workers in Hong Kong should have paid more attention in promoting HIV testing among

those at risk. Efforts have to be made to understand reasons behind the unwillingness for testing. Longitudinal studies to investigate actual testing behavior and the decision model are therefore warranted. The study documents the attitudes/behavior concerning HIV testing among this at-risk population in Hong Kong and possibly Asia for the first time. It has the strength in asking about the attitudes/behavior of HIV testing among a cohort that had actually practised some sexually-related risk behaviors. It also has a design that maximizes confidentiality and anonymity. The results should have important bearings on future promotion of HIV testing in the territory.

The findings of the present study substantiate the worry that these cross-border risk-takers would serve as a bridging population of HIV infection between the two geographic entities and the two genders (Broring & Duifhuizen, 1996; Hawkes & Hart, 1993; Kong & Hedley, 1997; Lau, Thomas, & Liu, in press). This study suggests that it is unlikely that the aforementioned “bridging” effects could be alleviated as a result of self-screening. An infected individual would be unlikely to be aware of the infection, and may transmit the HIV to other sex partners.

References

- Advisory Council on AIDS Hong Kong (ACA). (1997). **An overview of the HIV/AIDS situation and the programmes on its prevention, care and control in Hong Kong**. Hong Kong: Government Printer.
- AIDS Scenario and Surveillance Research (ASSR). (1995). Cross-border lorry drivers and commercial sex activities in Hong Kong: Report of a preliminary study. Hong Kong Government Printer.
- Berrios, D. C., Hearst, N., Coates, T. J., Stall, R., Hudes, E. S., Turner, H. Eversley, R., & Catania, J. (1993). HIV antibody testing among those at risk for infection. The National AIDS Behavioral Surveys. JAMA, 270(13), 1576-80.
- Broring, G., & Duifhuizen, R. (1993). AIDS and mobility: international cooperation in AIDS-prevention activities for mobile populations. International Conference AIDS, 2, 835 (abstract no. PO-D13-3707), Jun 6-11.
- Dubois-Arber, F. (1998). HIV testing. American Journal of Public Health, 88(4), 683-684.
- Dubois-Arber, F., Konings, E., Koffi-Blanchard, M., Gervasoni, J. P., Hausser, D. (1995). Evaluating HIV prevention of low threshold needle exchange programmes in Switzerland. In: Friedrich, D., Heckman, W., eds. AIDS in Europe: The Behavioral Aspect. Berlin, Germany: Ed. Sigma, (pp. 183-190).
- Goodman, E., Chesney, M. A., & Tipton, A. C. (1995). Relationship of optimism, knowledge, attitudes, and beliefs to use of HIV antibody testing by at-risk adolescents. Psychosomatic Medicine, 57, 541-546.
- Hawkes, S., & Hart, G. J. (1993). Travel, migration and HIV. AIDS Care, 5, 207-214.
- Hecht, F. M., Wachter, R. M., Heller, K. (1994). Failure to obtain early care for HIV. Journal of General International Medicine, 9(suppl. 2), 55.
- Ho, C. O. B., & Choi, Y. L. R. (1996). AIDS awareness and sexual behavior of truck drives in Hong Kong. In: Hong Kong Advisory Council on AIDS, Proceedings of the Hong Kong AIDS Conference (pp. 229-233). Hong Kong: Government Printer.
- Kong, J., & Hedley, A. J. (1997). Travel and travel clinics in Asia. In: H. L. Dupont & R. Steffen (Eds.), Textbook of Travel Medicine and Health (pp. 41-45). Hamilton, Ontario: BC Becker Inc.

- Lau, J. T. F., & Siah, P. C. (in press). Behavioral surveillance of sexually-related risk behaviors of the Chinese male general population in Hong Kong. AIDS Care.
- Lau, J. T. F., & Wong, W. S. (in press). Behavioral surveillance of sexually-related risk behaviors for the cross-border traveler population in Hong Kong --- The evaluation of the overall effectiveness of relevant prevention programs by comparing the results of two surveillance surveys. AIDS Education and Prevention: An Interdisciplinary Journal.
- Lau, J. T. F., Thomas, J., & Liu, J. L. Y. (in press). Risk behaviors of Hong Kong male residents travelling to mainland China: A potential bridge population for HIV infection. AIDS Care.
- Lau, J. T. F., Thomas, J., & Liu, J. L. Y. (in press). Mobile phone and interactive computer interviewing to measure HIV related risk behaviors: The impacts of data collection methods on research results. AIDS.
- Paget, W. J., & Eichmann, A. R. (1997). Voluntary confidential HIV testing of STD patients in Switzerland, 1990-5: HIV test refuses cause different biases on HIV prevalence in heterosexuals and homo/bisexuals. The Journal of Sexual Health & HIV, 73(6), 444-447.
- Povinelli, M., Remafedi, G., & Tao, G. (1996). Trends and predictors of human immunodeficiency virus antibody testing by homosexual and bisexual adolescent males, 1989-1994. Arch Pediatr Adolesc Med, 150(1), 33-38.
- UNDP-MOH. (1996). Project proposal multi-sectional approaches for HIV/AIDS prevention and control phase II. China International Center for Economic and Technical Exchanges and the Ministry of Health, People's Republic of China.
- Wortley, P. M., Chu, S. Y., Diaz, T., et al. (1995). HIV testing patterns: where, why, and when were persons with AIDS tested for HIV? AIDS, 9, 487-492.
- Hong Kong Government, Department of Health. Evolving pattern of commercial sex in Hong Kong. Hong Kong STD/AIDS Update 1998; 4(1), 1-2.

Table 1: The intention of blood test for HIV status by demographic factors (Study I, n = 453)

| Socio-demographic characteristics | <u>Want to have a blood test for HIV status</u> | | | | | | P value (χ^2 test) |
|-----------------------------------|--|-----|---------------|-----|-------|-----|-----------------------------|
| | Yes | | No/Don't know | | All | | |
| | % | n | % | n | % | n | |
| Age | | | | | | | |
| 18-30 | 37.2 | 48 | 62.8 | 81 | 100.0 | 129 | n.s. |
| 31-40 | 31.5 | 62 | 68.5 | 135 | 100.0 | 197 | |
| Over 40 | 24.4 | 31 | 75.6 | 96 | 100.0 | 127 | |
| Marital Status | | | | | | | |
| Married | 29.9 | 79 | 70.1 | 185 | 100.0 | 264 | n.s. |
| Not married | 33.0 | 62 | 67.0 | 126 | 100.0 | 188 | |
| Education | | | | | | | |
| Primary – Secondary 3 | 25.8 | 31 | 74.2 | 89 | 100.0 | 120 | n.s. |
| Secondary 4 – Secondary 7 | 34.4 | 75 | 65.6 | 143 | 100.0 | 218 | |
| Tertiary | 30.7 | 35 | 69.3 | 79 | 100.0 | 114 | |
| All respondents | 31.1 | 141 | 68.9 | 312 | 100.0 | 453 | |

Table 2: The intention of blood test for HIV status by attitudes towards AIDS (Study I, n = 453)

| Attitudes and perceptions related to AIDS | <u>Want to have a blood test for HIV status</u> | | | | OR | 95% CI | <i>p</i> |
|--|---|-----|---------------|-----|------|-----------|----------|
| | Yes | | No/Don't know | | | | |
| | % | n | % | n | | | |
| Know about asymptomatic property of HIV transmission | | | | | | | |
| Yes | 30.3 | 108 | 69.7 | 248 | .98 | 0.55-1.74 | 0.94 |
| No | 30.8 | 20 | 69.2 | 45 | 1.00 | | |
| HIV can be transmitted via kissing | | | | | | | |
| Yes | 28.6 | 46 | 71.4 | 115 | .78 | 0.51-1.20 | 0.26 |
| No | 33.9 | 82 | 66.1 | 160 | 1.00 | | |
| You are fearful of AIDS | | | | | | | |
| Yes | 31.1 | 92 | 68.9 | 204 | .97 | 0.62-1.52 | 0.89 |
| No | 31.7 | 40 | 68.3 | 86 | 1.00 | | |
| Perceived chance of HIV infection via sexual intercourse with a FSW in mainland China | | | | | | | |
| High | 31.4 | 86 | 68.6 | 188 | 1.22 | 0.67-2.22 | 0.51 |
| Low | 27.3 | 18 | 72.7 | 48 | 1.00 | | |
| Perceived efficacy of condom use in AIDS prevention | | | | | | | |
| High to very high effectiveness | 33.6 | 110 | 66.4 | 217 | 1.63 | 0.92-2.91 | 0.09 |
| Low to moderate effectiveness | 23.7 | 18 | 76.3 | 58 | 1.00 | | |
| Self-perceived chance of contracting HIV in the future | | | | | | | |
| Moderate to high | 32.8 | 100 | 67.2 | 205 | 1.27 | 0.83-1.96 | 0.27 |
| No chance | 27.7 | 41 | 72.3 | 107 | 1.00 | | |

Table 3: The intention of blood test for HIV status by condom use with different types of sexual partner (Study I, n = 453)

| Condom Use | Want to have a blood test for HIV status | | | | OR | 95% CI | <i>p</i> |
|---|--|-----|---------------|-----|------|-----------|----------|
| | Yes | | No/Don't know | | | | |
| | % | n | % | n | | | |
| Would use condom during sexual intercourse with your wife | | | | | | | |
| All the time or most of the time | 35.3 | 49 | 64.7 | 90 | 1.31 | 0.86-2.01 | 0.21 |
| Never or seldom | 29.3 | 92 | 70.7 | 222 | 1.00 | | |
| Total | 31.1 | 141 | 68.9 | 312 | | | |
| Would use condom during sexual intercourse with girlfriend | | | | | | | |
| All the time or most of the time | 32.1 | 87 | 67.9 | 184 | 1.12 | 0.75-1.68 | 0.58 |
| Never or seldom | 29.7 | 54 | 70.3 | 128 | 1.00 | | |
| Total | 31.1 | 141 | 68.9 | 312 | | | |
| Would use condom during sexual intercourse with FSW | | | | | | | |
| All the time or most of the time | 31.7 | 132 | 68.3 | 284 | 1.45 | 0.66-3.15 | 0.35 |
| Never or seldom | 24.3 | 9 | 75.7 | 28 | 1.00 | | |
| Total | 31.1 | 141 | 68.9 | 312 | | | |
| Had always been using condom while having sexual intercourse with FSW in mainland during the most recent trip | | | | | | | |
| Yes | 25.5 | 14 | 71.5 | 41 | .58 | 0.27-1.22 | 0.15 |
| No | 37.2 | 32 | 62.8 | 54 | 1.00 | | |
| Total | 32.6 | 46 | 67.4 | 95 | | | |
| Had always been using condom while having sexual intercourse with non-regular sex partner (excluding FSWs) in mainland China during the most recent trip | | | | | | | |
| Yes | 30.2 | 19 | 69.8 | 44 | .86 | 0.37-2.03 | 0.73 |
| No | 33.3 | 13 | 66.7 | 26 | 1.00 | | |
| Total | 31.4 | 32 | 68.6 | 70 | | | |
| Had always been using condom while having sexual intercourse with FSW in mainland China in the past six months | | | | | | | |
| Yes | 33.0 | 61 | 67.0 | 124 | 1.10 | 0.73-1.65 | 0.64 |
| No | 30.9 | 80 | 69.1 | 179 | 1.00 | | |
| Total | 31.8 | 141 | 68.2 | 303 | | | |

Table 4: The intention of blood test for HIV status by level of risk behavior and lifetime STD prevalence (Study I, n = 453)

| Risk Behavior / STD History | <u>Want to have a blood test for HIV status</u> | | | | OR | 95% CI | <i>p</i> |
|--|---|-----|---------------|-----|------|-----------|----------|
| | Yes | | No/Don't know | | | | |
| | % | n | % | n | | | |
| Had intercourse with FSWs in mainland China during the most recent trip | | | | | | | |
| Yes | 32.6 | 46 | 67.4 | 95 | 1.11 | 0.72-1.69 | 0.64 |
| No | 30.4 | 95 | 69.6 | 217 | 1.00 | | |
| Total | 31.1 | 141 | 68.9 | 312 | | | |
| Had intercourse with non-regular sex partners in mainland China during the most recent trip | | | | | | | |
| Yes | 31.4 | 32 | 68.6 | 70 | 1.01 | 0.63-1.63 | 0.95 |
| No | 31.1 | 109 | 68.9 | 242 | 1.00 | | |
| Total | 31.1 | 141 | 68.9 | 312 | | | |
| Had intercourse with how many FSWs in mainland China in past six months | | | | | | | |
| 1-3 | 27.5 | 74 | 72.5 | 195 | 1.00 | | |
| 4-10 | 32.4 | 36 | 67.6 | 75 | 1.26 | 0.78-2.04 | 0.34 |
| More than 10 | 44.9 | 31 | 55.1 | 38 | 2.15 | 1.25-3.71 | 0.01* |
| Total | 31.4 | 141 | 68.6 | 308 | | | |
| Have ever contracted STD | | | | | | | |
| Yes | 44.5 | 93 | 55.5 | 116 | 3.06 | 2.01-4.65 | <0.01* |
| No | 20.8 | 48 | 79.2 | 183 | 1.00 | | |
| Total | 32.0 | 141 | 68.0 | 299 | | | |

* significant at $\alpha = .05$

Table 5: Whether had taken a blood test for HIV status in the past 6 months by demographic factors (Study II, n = 250)

| Profile of the cross-border sex networkers (Study II) | <u>Had blood test for HIV status in the past 6 months</u> | | | | | | χ^2 |
|---|--|----|------|-----|-------|-----|----------|
| | Yes | | No | | All | | |
| | % | n | % | n | % | n | |
| <u>Socio-demographic characteristics</u> | | | | | | | |
| Age | | | | | | | |
| 18-30 | 19.1 | 21 | 80.9 | 89 | 100.0 | 110 | n.s. |
| 31-45 | 15.0 | 16 | 85.0 | 91 | 100.0 | 107 | |
| Over 45 | 10.0 | 3 | 90.0 | 27 | 100.0 | 30 | |
| Education | | | | | | | |
| Primary – Secondary 4 | 17.9 | 17 | 82.1 | 78 | 100.0 | 95 | n.s. |
| Secondary 5 | 14.4 | 14 | 85.6 | 83 | 100.0 | 97 | |
| Matriculation or above | 17.5 | 10 | 82.5 | 47 | 100.0 | 57 | |
| All respondents | 16.4 | 41 | 83.6 | 209 | 100.0 | 250 | |

Table 6: Whether had taken a blood test for HIV status in the past 6 months by attitudes and knowledge about modes of HIV transmission (Study II, n = 250)

| Attitudes and knowledge related to AIDS | <u>Had blood test for HIV status in the past 6 months</u> | | | | | | | |
|---|---|----|------|-----|------|-----------|----------|--|
| | Yes | | No | | OR | 95% CI | <i>p</i> | |
| | % | n | % | n | | | | |
| Self-perceived chance of contacting HIV in the future | | | | | | | | |
| Yes | 18.7 | 26 | 81.3 | 113 | 1.47 | 0.74-2.94 | 0.27 | |
| No | 13.5 | 15 | 86.5 | 96 | 1.00 | | | |
| Perceived efficacy of condom use in HIV prevention | | | | | | | | |
| High to very high effectiveness | 16.8 | 39 | 83.2 | 193 | 1.42 | 0.31-6.47 | 0.999 | |
| Low to moderate effectiveness | 12.5 | 2 | 87.5 | 14 | 1.00 | | | |
| Knowledge about modes of HIV transmission | | | | | | | | |
| Mentioned 0-1 of the 4 channels* | 14.4 | 14 | 85.6 | 83 | 1.00 | | | |
| Mentioned 2 of the 4 channels | 15.7 | 16 | 84.3 | 86 | 1.10 | 0.51-2.40 | 0.81 | |
| Mentioned 3 of the 4 channels | 21.6 | 11 | 78.4 | 40 | 1.63 | 0.68-3.91 | 0.38 | |

Note: * Respondents were asked to name 3 modes of HIV transmission as possible by an open-ended question. The number of correct answers given (sexual intercourse, vertical transmission of HIV to the fetus, sharing needle, and blood transfusion) was coded.

Table 7: Whether had taken a blood test for HIV status in the past 6 months by condom use and risk behavior (Study II, n = 250)

| Condom Use / Risk Behavior | <u>Had blood test for HIV status in the past 6 months</u> | | | | OR | 95% CI | p |
|--|---|----|-------|-----|------|------------|-------|
| | Yes | | No | | | | |
| | % | n | % | n | | | |
| Had always used a condom during sexual intercourse with FSWs in the past 6 months | | | | | | | |
| Yes | 17.0 | 41 | 83.0 | 200 | 3.93 | 0.22-68.91 | 0.36 |
| No | 0 | 0 | 100.0 | 9 | 1.00 | | |
| Total | 16.4 | 41 | 83.6 | 209 | | | |
| Had always used a condom during sexual intercourse with non-regular partner | | | | | | | |
| Yes | 12.6 | 15 | 87.4 | 104 | 0.99 | 0.37-2.64 | 1.00 |
| No | 7.7 | 1 | 92.3 | 12 | 1.00 | | |
| Total | 12.1 | 16 | 87.9 | 116 | | | |
| Number of female sexual partners in the past 6 months | | | | | | | |
| 1 | 11.7 | 7 | 88.3 | 53 | 1.00 | | |
| 2-3 | 13.6 | 11 | 86.4 | 70 | 1.19 | 0.432-3.28 | 0.94 |
| 4 or more | 26.3 | 15 | 73.7 | 42 | 2.70 | 1.01-7.24 | 0.04* |
| Total | 15.4 | 8 | 84.6 | 44 | | | |
| Had non-regular sexual partners in the past 6 months | | | | | | | |
| Yes | 15.4 | 6 | 84.6 | 33 | 0.85 | 0.31-2.37 | 0.96 |
| No | 17.6 | 16 | 82.4 | 75 | 1.00 | | |
| Total | 16.9 | 22 | 83.1 | 108 | | | |
| Had contracted STD in the past 6 months | | | | | | | |
| Yes | 26.7 | 4 | 73.3 | 11 | 1.95 | 0.59-6.44 | 0.28 |
| No | 15.7 | 37 | 84.3 | 198 | 1.00 | | |
| Total | 16.4 | 41 | 83.6 | 209 | | | |

* significant at $\alpha = .05$