

図2 Incidence of early syphilis in men in 6 US cities, 2000-2003

3. 梅毒流行の特徴について

最近の早期梅毒流行には、二つの非常に重要な特徴が見られる。その第一は、白人の MSM を中心とする流行であること、第二は、HIV の共感染率が非常に高いことである。その直前までの梅毒流行が、例えば、西欧では、移民もしくは海外で感染して帰国した人々における異性間感染、米国では、先述したように南部や大都市のアフリカ系アメリカ人における異性間感染であったことを考えれば、感染経路も集団も全く異なる流行が突如出現したことになる。

表 1 は、主要な国について、代表的なデータをまとめたものである^{6),9),12)-16)}。状況は相互に酷似しており、早期梅毒感染者に占める MSM の割合は 70~90%と高く、また MSM 中の HIV 感染者の割合は 50%前後と、MSM 以外の早期梅毒感染者における HIV 感染率を大きく上回っている。

これ以外の特徴として指摘されているのは、年齢である。それまでの流行が、20 歳代を中心としていたのに対して、最近では、30 歳代から 40 歳代前半が中心で、年齢の上昇が認められている。また、感染した場所については、例えば西欧諸国の以前の異性間感染では、移民や海外旅行という国際的な人の移動の重要性が指摘されていたが、現在の梅毒流行は、70%近くが国内感染である

とされている¹⁷⁾。

つまり、1997 年以降、先進諸国において、梅毒流行が同時多発的に発生したが、それは大都市における壮年~中年層の MSM を中心とする流行であり、かつ HIV 感染と強い関連があるという特徴がみられるということである。

4. 流行の背景要因について

ではこうした早期梅毒の流行はどのような背景で生じたのだろうか？ 以下それについて文献に基づいて考察する。本総説はテーマを梅毒に限定したものであり、かつ現時点の梅毒流行が MSM にほぼ限局しているため、以下の議論は MSM を中心としたものとなるが、一部を除き、多くの論点が、MSM 以外の集団にも当てはまることに注意が必要である。

1) MSM における性行動の変化

梅毒流行の背景にあるのは、言うまでもなく、MSM における性行動の変化である。欧米では、1990 年代の後半に MSM の間でリスクの高い性行動（コンドーム不使用、相手の多数化、不特定の相手との性交）が増加したことを示す論文が数多く報告されている¹⁸⁾⁻²⁰⁾。例えば、米国のサンフランシスコの STOP AIDS PROJECT にあ

ける大規模横断調査では、多数の相手と無防備な肛門性交をする MSM の割合が、1994 年から 1997 年にかけて、23.6%から 33.3%と大きく増加したことが観察されている²¹⁾。オーストラリアのシドニーの大規模調査でも、不特定の相手との無防備な性行動が、1996 年から 2000 年にかけて、HIV に感染した MSM では、35%から 46%に、HIV に感染していない MSM でも、16%から 27%に増加し、HIV 感染の有無にかかわらず、性行動の無防備化が進んだことが観察されている²²⁾。

2) エイズ予防キャンペーンの影響

1980 年代のエイズ流行の勃発は、それに伴う予防キャンペーンの集中的増加をもたらしたが、それが性行動の強い抑止力となつて、梅毒を含めた STI 全般の大きな減少をもたらすことになった²³⁾。しかし、1990 年代後半にはキャンペーン自体が低調化したこと²⁴⁾、また、セーフセックスメッセージを無視する傾向が強まったこと^{25)~28)}、あるいは、prevention fatigue (予防疲れ) と呼ばれる、予防行動を持続することへの疲れが生じたことによつて²⁹⁾、その抑止力が弱まり、それがリスクの高い性行動の復活につながつたと考察されている。

さらに、エイズ予防キャンペーンは、予期しない形で STI の流行に寄与することになった。それは、エイズ予防の上では相対的に安全とされたオーラルセックスの蔓延

である。オーラルセックスは、エイズ流行と並行して増加し、例えば、2000 年の英国における全国調査(NAT-SAL2000) では、男女の約 80%がオーラルセックスを経験したと報告されている³⁰⁾。オーラルセックスは、HIV 流行には抑制的に働くが、ほとんどの STI は口腔感染するため、「口腔-生殖器」感染による STI 流行が生じたと考えられている。実際、最近の梅毒流行では、多くの国で、オーラルセックスの役割の重要性が指摘されている³¹⁾。例えば、2000 年から 2002 年にかけて行われたシカゴの調査では、MSM の早期梅毒患者 325 人のうち、オーラルセックスだけが感染経路と思われる症例が 20%と報告されており³²⁾、2001 年から 2002 年にかけてのロンドンの調査では、それが 52% (44/103) にも上ることが報告されている³³⁾。オーラルセックスについては、わが国においても非常に一般的な性行動になったこと、かつ STI 感染の重要なリスク要因であることが報告されている^{34),35)}。

また、エイズ流行によつて生じた sero-sorting (感染選択)あるいは negotiated safety (交渉による安全確保) と呼ばれる性行動も、早期梅毒流行の背景の 1 つとして指摘されている³⁶⁾。これは、HIV 陽性者は陽性者と、HIV 陰性者は陰性者と選択的に性行動を行う傾向のことを意味し、HIV 予防の現実的戦略として生じた行動である。しかし、この行動は、HIV 感染には予防的に働くものの、無防備な性行動を伴うため、STI の流行を予防すること

表 1 Proportions of men who have sex with men (MSM) among early syphilis case and HIV positives among MSM patients in developed countries

Country (City)	Year of study	Number of patients	MSM (%)	HIV positives among MSM patients (%)	HIV positives among non-MSM patients (%)
United Kingdom (London) ⁶⁾	2001	1222	68%	47%	5%
France ¹²⁾	2000-2003	1080	84%	53%	11%
Germany ¹³⁾	2003	2932	76%	50%	—
Canada (Ottawa) ⁹⁾	2001-2006	102	84%	48%	21%
Australia (Victoria) ¹⁵⁾	2004	85	74%	40%	—
US (San Francisco, Los Angeles, Atlanta) ¹⁶⁾	2004-2005	455	80%	47%	17%

*MSM=men who have sex with men

はできない。それに、多剤併用療法による HIV 感染者の予後改善効果が加わり、もともと行動リスクの高かった HIV 感染者の間では STI が蔓延することとなった。これが、梅毒と HIV 感染の共感染率が非常に高いこと(表 1)の背景と考えられている。HIV 検査が非常に進んだ地域(例: サンフランシスコでは、MSM の HIV 検査率は 90%以上)では、sero-sorting が高い確率で可能であるため、HIV 感染の発生は増加せず、STI だけが増加するという現象が生じたが³⁶⁾、MSM の検査率がそれほど高くない地域では、sero-sorting が成立しにくいいため、STI 感染と HIV 感染が同時に生じるという現象が生じている。

3) 多剤併用療法の影響について

1996 年に導入された多剤併用療法 (highly active antiretroviral therapy ; 以下 HAART)は、HIV 感染者の予後に大きな影響を与え、例えば、デンマークの研究では、25 歳の感染者は 40 年近くの生存が可能になったとされている³⁷⁾。しかし、HAART は、単に生存期間を延長しただけではなく、社会復帰が可能となるほど感染者の健康状態を回復し、先進諸国では、エイズをめぐる状況は一変した。しかし、一方で、無防備な性行動が消失したわけではないため^{38),39)}、HAART の受療と STI リスクの上昇との関連を示す報告がみられるようになった。例えば、1995 年から 1999 年という HAART の受療者と非受療者が混在する時期にサンフランシスコで行われたケースコントロール研究では、HAART 受療者の STI 感染リスクは非受療者の 4 倍も高いと報告され⁴⁰⁾、アムステルダムでの STD クリニックで 6103 人の MSM 受診者を対象に行われた研究では、HAART 導入後の梅毒感染リスクが HAART 導入前に比べ、3.4 倍高まったと報告されている⁴¹⁾。理論的に、感染症の伝播は、三つの要素、つまり、① 1 回の性交での感染確率 (β)、②ある単位期間中のパートナー数 (r)、③感染性のある時間 (D) によって決定される⁴²⁾。したがって、仮に HIV 感染者の性行動に全く変化がなくとも、治療によって生存期間 (D) が延長すれば、伝播が生じやすくなり、STI の流行が促進されることになる。逆に、生存期間 (D) が短ければ、伝播は抑制されるが、実際、HAART 導入直前までの梅毒流行の急減には、HIV 感染者の生存期間の短さが影響していたことが示唆されている^{43),44)}。また、HAART は、HIV 感染への楽観意識 optimism (抗 HIV 治療に

よって感染性 infectivity が低下するという意識)を生じ、それが梅毒流行の背景の一つとなったことが指摘されている^{22),29)}。

4) インターネットの影響について

インターネットは、匿名に近い環境を提供することにより、MSM がパートナーを探す重要な場となったことが指摘されている^{45),46)}。そして、インターネットは、これまで地理的に制限されてきた性的ネットワークを拡大し、新たな性的ネットワークを作り出すことになり、これが最近の多地域での同時多発的な梅毒のアウトブレイクの背景にあることが示唆されている^{2),3)}。そうしたインターネット使用と梅毒感染を示唆する報告も多く、例えば、サンフランシスコでは、MSM の早期梅毒患者の中で、インターネットを介して相手を見つけたと答えた人は、2000 年には、12.2%であったものが、2002 年には 32.6%、2003 年には 44.4%に増加したことが報告されている⁴⁷⁾。

5) リクリエーションドラッグやバイグラの影響について

1990 年代前半までの梅毒流行は、コカイン (クラック)使用の蔓延と関連していることが指摘されていたが、最近の流行には、合成麻薬であるメタンフェタミンなど、いわゆるリクリエーションドラッグ (パーティドラッグ) と呼ばれる薬物やバイグラとの関連が報告されている。例えば、サンフランシスコの公的 STD クリニックの MSM 患者を対象とした研究では、メタンフェタミン単独使用で梅毒感染リスクが 3.2 倍高まること、バイグラと併用する場合には、6.2 倍と相乗的に高まることが指摘されている⁴⁸⁾。これは、こうした薬物の使用が、無防備な性行動を促進するためであり^{49),50)}、わが国でも、日高らによって、メタンフェタミンなどの薬物を使用する MSM における性行動は、使用しない MSM よりも性行動が非常に活発で無防備であることが報告されている⁵¹⁾。

以上をまとめると、先進諸国で最近同時多発的に生じた MSM 間での梅毒流行は、HAART 導入による予後改善や楽観論、エイズ予防キャンペーンの停滞やキャンペーンに対する無視や予防疲れ、インターネットによる性的ネットワークの拡大やリクリエーションドラッグ

使用の蔓延などによる無防備な性行動の復活によって発生したものと考えられる。

5. 最後に

図3に示すように、わが国においても、2002～2003年以降、男性の早期梅毒罹患患者報告数の増加が観察されており、2004年から2007年にかけての増加は、31%に上る(358→470)⁵²⁾(注：女性でも増加傾向にあり、他の国でも同じ動向が報告されているが¹⁷⁾、症例が少なく、その原因については詳しい分析は行われていないため、以下男性に議論を限定する)。興味深いことに、この梅毒の増加は、他のSTIとは正反対の動向を示しており、クラミジアや淋菌感染が2002年をピークに減少に転じているのに対し、梅毒は2002～2003年を底として増加に転じている。これは、クラミジアや淋菌感染の流行と梅毒の流行がそれぞれ異なる集団に発生していることを意味しており、クラミジア、淋菌感染が主として異性間感染であることを考えれば、この梅毒増加は、欧米社会と同じように、MSMにおいて生じていることを強く示唆するものとなっている。事実、最近の報告によ

れば、わが国のHIV診療医療機関でも、MSMのHIV感染者の34.4%に梅毒の既往もしくは新規感染があることが観察されており⁵³⁾、MSMにおける梅毒感染の蔓延が示唆されている。梅毒自体は報告件数は少ないが、現在の梅毒流行が、MSMにおける行動変化の「兆候」である可能性があること、また、最近の梅毒感染では、性器感染であっても無症状の場合が少なくないこと^{54),55)}、また、口腔感染は多くの場合無症候であることから³²⁾、報告数の増加は氷山の一角であることを認識することが重要である。

また、梅毒が、HIV流行の促進要因となる可能性についても注意が必要である。梅毒に感染すると、局部に炎症や潰瘍が生じることによって、HIVに数倍感染しやすくなることはよく知られているが⁵⁶⁾、HIV感染に梅毒が合併すると、CD4リンパ球の減少や血中ウイルス量の増加が生じることが明らかにされており⁵⁷⁾、そのためにHIV感染を他に移しやすくなってしまふ。また、HIV感染者においては、梅毒が神経梅毒に進展する速度が速いことも知られている⁵⁸⁾。つまり、梅毒流行とHIV流行の間には相互作用があり、お互いの流行を促進するだけでなく、お互いの症状の悪化につながる(注：これを疫

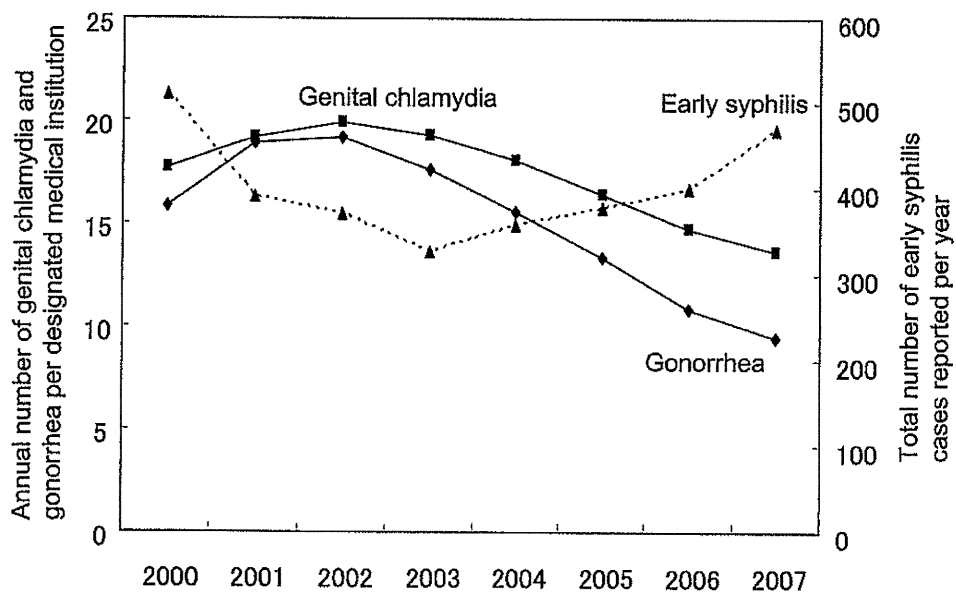


図3 Incidence of genital chlamydia, gonorrhea, and early syphilis in men in Japan, 2000-2007. Note: Number of male early syphilis patients in 2000-2003 were calculated multiplying 0.72, an average proportion of male in 2004-2007, to the total number of early syphilis in 2000-2003.

学的相乗作用 epidemiologic synergy と言う) という重要な関連が存在する。

よく知られているように、わが国においては、HIV 感染者報告数が増加を続け、その中で MSM が大半(2009 年で 68%) を占めている⁵⁹⁾。そうした状況において、梅毒が流行し始めたことの意味は非常に重要であり、MSM を対象とした予防対策の一層の強化が求められている。

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Potential for Sexual Transmission of HIV Infection From Male Injecting-Drug Users Who Have Sex With Men in Tehran, Iran

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Background: Iran faced an HIV epidemic among injecting-drug users (IDUs) and has responded to this threat. Meanwhile, there is growing concern over the possibility of bridging HIV infection from IDUs to other populations, including men who have sex with men (MSM).

Methods: Cross-sectional biobehavioral surveys were conducted among 370 injecting-drug users recruited from drug treatment centers, a drop-in center, as well as streets in drug-populated areas in Tehran, Iran, between 2003 and 2004.

Results: Data from these surveys showed that about 12% of male, sexually experienced IDUs have had same-gender sex, and HIV prevalence is high (19%), but condom use during the last sexual encounter was low (20%). A multivariate analysis showed that IDUs who had sex with men (MSM IDUs), compared to other sexually experienced IDUs, are younger (AOR, 0.89; 95% CI, 0.81–0.98), more likely to have used a shared needle/syringe for drug injection (AOR, 4.29; 95% CI, 1.82–10.12), and have had more than 5 sexual partners in their lifetime (AOR, 2.71; 95% CI, 1.14–6.44).

Conclusions: These results show that MSM IDUs exhibit more drug-related and sexual risk behaviors that may serve as a bridge for sexual transmission of HIV to other populations, including the broader MSM community, in Tehran. This report intends to encourage health authorities in Iran to take serious action to prevent sexual transmission of HIV from MSM IDUs to their sexual networks.

Iranian health authorities have responded to an HIV epidemic among injecting-drug users (IDUs) by adopting harm reduction policies and practices.¹ Although the coverage of these programs for drug users has not yet been evaluated, there is evidence showing a rapid increase in the availability of prevention interventions within prisons and among the broader community.^{2,3} Meanwhile, there is increasing concern over the

possibility that HIV infection can bridge from IDUs to the wider MSM community in Iran.

Bridging HIV transmission between MSM and IDU communities has been documented in other countries. It is believed that HIV infection bridged from MSM into IDUs in local areas of New York, Sydney, and Rio de Janeiro through MSM who were using injected drugs (MSM IDUs).^{4–7} In Manhattan, the earliest adult cases of AIDS were entirely among homosexual/bisexual men who were not IDUs; however, the first known cases among IDUs included a high proportion of homosexual/bisexual men.⁵ It has also been documented that HIV-1 B/C recombinants among MSM in Jiangsu, China, were introduced by IDUs.⁸

There is a dearth of knowledge regarding the health status of the MSM population in Iran. Furthermore, there is little information on whether HIV has entered this community. This brief review, taken from surveys completed by IDUs in Tehran, aims to highlight the potential for HIV bridging from infected MSM IDUs to other populations, including the wider MSM community. The data presented here are from the first 2 phases of the HADI Project (HIV/AIDS Prevention Study among Drug Users in Iran) conducted between 2003 and 2004. In particular, this article reports the proportion of IDUs who have had sex with other men and the prevalence of HIV-1 infection among them, and defines other HIV-related risk characteristics that are associated with a history of same-gender sex among IDUs in Tehran.

MATERIALS AND METHODS

Through the 2 chronological phases of this project, IDUs were recruited first from drug treatment centers, and then from a drop-in center and from the streets of areas of downtown Tehran with significant IDU populations. These individuals were asked to participate in HIV bio-behavioral surveys. The cumulative data from these 2 surveys are presented in this paper and more details can be found elsewhere.^{9–11} Briefly, between October 2003 and November 2004, IDUs were recruited at treatment centers and from the community to investigate the prevalence of and factors associated with HIV infection among them. After obtaining informed consent, each respondent was interviewed and asked about sociodemographics and drug- and sexual risk behaviors. Here, we have defined IDUs as individuals who had used illicit drugs by injection during their lifetime and MSM as males who had ever had sexual intercourse with a person of the same gender.

Oral mucosal transudate samples were then obtained from consenting participants using the OraSure oral fluid specimen collection device (OraSure Technologies, Inc., Beaverton, OR). All samples were tested in Japan for HIV-1 by an ELISA (Oral Fluid Vironostika HIV-1 MicroELISA System, Bi-

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oMérieux Inc., Durham, NC) and repeatedly reactive ELISA samples were confirmed positive by Western blot (OraSure HIV-1 Western Blot Kit, OraSure Technologies, Inc., Bethlehem, PA).¹² Informed consent was obtained separately for the interview and HIV testing, and no personal identifiers were recorded on the questionnaires.

Statistical analyses were performed using SPSS for Windows (version 13). Student *t*, chi-squared, or Fisher exact tests were performed to determine bivariate associations between a history of same-gender sexual practice and continuous or categorical variables. Variables were entered into a multivariate model if their association with a history of same-gender sexual practice by bivariate analyses had a *P* value ≤ 0.10 . A multivariable logistic regression analysis was used to examine the associations between independent variables and outcome, simultaneously adjusting for potential confounders, and to estimate adjusted odds ratios (AORs) and 95% confidence intervals (CIs).

RESULTS

Between 2003 and 2004, 370 IDUs in Tehran participated in these 2 surveys. Among those interviewed, 307 (83%) reported having experienced sexual intercourse and were included in further analyses. The mean age of sexually experienced IDUs was 33.0 years and most (65%) were of Fars ethnicity. All professed belief in Islam and 70% had educational levels of junior high school or higher. Up to 58% had been or were married and 18% were homeless at the time of the interview (Table 1).

Table 1 shows HIV-related risk behaviors of the sexually experienced IDUs. The mean age at first drug injection was 26.1 year, with an average duration of drug injection of 6.4 years by the interview date. About 44% reported using a shared needle or syringe for drug injection and 80% had been incarcerated. About one-third reported that they had had greater than 5 sexual partners in their lifetime and the majority (86%) had had only non-IDU sexual partners. Over 38% had exchanged money or drugs for sex in their lifetime. Among all sexually experienced IDUs, 53% reported having ever used a condom during sexual intercourse. Meanwhile, consistent condom use was uncommon, as only 20% reported using a condom during their last sexual experience. Around 1 in 8 (12%) of the sexually experienced IDUs reported that they had had sex with another man during their lifetime. Up to 41% reported having had an HIV test before this study. Up to 19% (58/307) of the mucosal transudate specimens from IDUs were confirmed HIV-1 positive (Table 1).

A bivariate comparison of the MSM IDUs and other IDUs without a history of same-gender sex showed that both groups were comparable with regard to ethnic background, educational levels, living status and job situation. However, MSM IDUs were significantly younger than non-MSM IDUs (29 vs. 32 years old, respectively; *t*-test, *P* < 0.01) and a higher proportion of MSM IDUs had never married (65% vs. 38%, respectively; chi-squared, *P* < 0.01). MSM IDUs started drug injection at an earlier age than non-MSM IDUs (23 vs. 25 years old, respectively; *t*-test, *P* < 0.01). Whereas they reported a marginally shorter length of drug injection, a higher proportion of MSM IDUs had used a shared needle or syringe for drug injection in their lifetime compared to non-MSM IDUs (68% vs. 40%, respectively; chi-squared, *P* < 0.01). History of incarceration was comparable between the 2 groups.

Bivariate analyses showed that a higher proportion of MSM IDUs compared to non-MSM IDUs reported having had

more than 5 sexual partners in their lifetime (54% vs. 30%, respectively; chi-squared, *P* < 0.01). A history of exchanging money or drugs for sex was also reported by a higher proportion of MSM IDUs than other IDUs (56% vs. 36%, respectively; chi-squared, *P* < 0.05). However, rate of condom use during their last sexual encounter was low and comparable among MSM IDU and non-MSM IDU participants (24% vs. 19%, respectively). In both groups of IDUs, slightly over 40% of the participants reported having had at least one prior HIV test. Based on our HIV testing, there was no significant difference in the prevalence of HIV-1 infection between MSM IDUs and non-MSM IDUs (22% vs. 18.5%, respectively) (Table 1).

Three variables maintained a statistically significant difference after multivariate analysis. MSM IDUs, compared to other sexually experienced IDUs, were significantly younger (AOR, 0.89; 95% CI, 0.81–0.98; *P* < 0.05) and a higher proportion of them reported using a shared needle/syringe for drug injection (AOR, 4.29; 95% CI, 1.82–10.12; *P* < 0.01) or having had more than 5 sexual partners in their lifetime (AOR, 2.71; 95% CI, 1.14–6.44; *P* < 0.05).

DISCUSSION

Our study findings suggested that male IDUs in Tehran were mostly sexually experienced, had a high prevalence of HIV infection, and low rates of condom use. Within this group of IDUs, we identified a significant minority (12%) that had had sex with other men (MSM IDUs). MSM IDUs, who were significantly younger than non-MSM IDUs, reported more drug-related and sexual risk characteristics.

Investigating same-gender sexual behavior in Islamic countries such as Iran is a challenging task. Same-gender sex is still taboo in Iran and is punishable by law. Asking questions related to same-gender sex is also sensitive for drug-using individuals because of the additional embarrassment or fear of penalty because of their drug use. We thereby included a desensitizing explanation before asking the same-gender sexual experience question by stating that other people may have had similar experiences. Despite sensitivities regarding same-gender sexual practice, 12% of IDUs reported having had sex with another man in their lifetime, a proportion that may be an underestimate.

The multivariate comparison of MSM IDUs with those IDUs without a history of same-gender sex showed that a higher proportion of MSM IDUs reported sharing a needle/syringe for drug injection in their lifetime. Additionally, although MSM IDUs were significantly younger, they reported more lifetime sexual partners than other non-MSM, sexually experienced IDUs. Another worrisome finding was that condom use during their last sexual intercourse was low in both groups of IDUs. Our data also suggested that male IDUs were primarily involved in sexual relationships with people other than IDUs. Taken together, these findings suggest that MSM IDUs with their high HIV prevalence, low rate of condom use, and multiple sex partners in their lifetime serve as a potential bridge for HIV transmission to their sexual partners, who could be members of the broader MSM community and/or their heterosexual networks.

MSM IDUs in several other countries have been shown to be at greater risk of HIV infection.^{13–16} Based on our data, however, MSM IDUs in Tehran did not have a greater risk of HIV infection at the time of our investigation; our data showed that HIV prevalence among MSM IDUs was high (22%) but comparable to the prevalence among non-MSM IDUs (18.5%). Whereas this finding suggests no additional risk for HIV ac-

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TABLE 1. Comparison of Sexually Active Male IDUs Who Have Had Sex With Men and Other IDUs Without Same-Gender Sexual Experience Recruited in Tehran, Iran, 2003–2004

Characteristics	Total n	Non-MSM IDUs n (Column %)	MSM IDUs n (Column %)	P	Odds Ratio (95% CI)	
					Crude	Adjusted*
Overall sexually active IDUs	307	270	37 (12.1)	—	—	—
Mean age (SD) (median)	33 (8.0) (32.0)	33.6 (8.1) (32.0)	28.7 (5.7) (29.0)	0.001	0.91 (0.86–0.96) [†]	0.89 (0.81–0.98) [†]
Ethnicity						
Fars	198 (64.5)	174 (64.4)	24 (64.9)		Ref.	—
Others	109 (35.5)	96 (35.6)	13 (35.1)	0.96	0.98 (0.48–2.02)	—
Religion						
Shia Islam	301 (98.0)	267 (98.9)	34 (91.9)		Ref.	Ref.
Sunni Islam	6 (2.0)	3 (1.1)	3 (8.1)	0.025	7.85 (1.52–40.47)	8.30 (0.90–76.32)
Marital status						
Single (never married)	128 (41.7)	104 (38.5)	24 (64.9)		Ref.	Ref.
Married and living with spouse	92 (30.0)	85 (31.5)	7 (18.9)	0.023	0.36 (0.15–0.87)	0.89 (0.31–2.52)
Ever married but not living with spouse	87 (28.3)	81 (30.0)	6 (16.2)	0.018	0.32 (0.13–0.82)	0.50 (0.15–1.59)
Living status						
Not homeless	251 (81.8)	222 (82.2)	29 (78.4)		Ref.	—
Homeless	56 (18.2)	48 (17.8)	8 (21.6)	0.57	1.28 (0.55–2.96)	—
Mean age at first injection (SD) (median)	26.1 (6.5) (25.0)	26.5 (6.6) (25.0)	23.3 (5.1) (23.0)	0.007	0.91 (0.86–0.98) [†]	1.02 (0.92–1.13) [†]
Mean length of lifetime drug injection (SD) (median)	6.4 (5.9) (5.0)	6.5 (6.1) (5.0)	5.2 (4.1) (5.0)	0.194	0.96 (0.89–1.02) [†]	—
Ever used a shared needle/syringe for drug injection						
No	170 (56.3)	158 (59.6)	12 (32.4)		Ref.	Ref.
Yes	132 (43.7)	107 (40.4)	25 (67.6)	0.002	3.08 (1.48–6.39)	4.29 (1.82–10.12)
No. lifetime sex partners						
1–5	183 (59.6)	171 (63.3)	12 (32.4)		Ref.	Ref.
6 or more	100 (32.6)	80 (29.6)	20 (54.1)	0.001	3.56 (1.67–7.64)	2.71 (1.14–6.44)
Not reported	24 (7.8)	19 (7.0)	5 (13.5)	0.024	—	—
Ever had sex with an IDU sex partner						
No	257 (86.0)	225 (85.9)	32 (86.5)		Ref.	—
Yes	42 (14.0)	37 (14.1)	5 (13.5)	0.921	0.95 (0.35–2.60)	—
Ever exchanged money/drug for sex						
No	185 (61.7)	169 (64.0)	16 (44.4)		Ref.	Ref.
Yes	115 (38.3)	95 (36.0)	20 (55.6)	0.023	2.22 (1.10–4.50)	1.63 (0.73–3.65)
Ever used a condom for sexual intercourse						
No	144 (47.2)	130 (48.5)	14 (37.8)		Ref.	—
Yes	161 (52.8)	138 (51.5)	23 (62.2)	0.223	1.55 (0.76–3.14)	—
Used condom for last sexual intercourse						
No	243 (80.2)	215 (80.8)	28 (75.7)		Ref.	—
Yes	60 (19.8)	51 (19.2)	9 (24.3)	0.461	1.36 (0.60–3.05)	—
Ever been tested for HIV infection before this study						
No	181 (59.0)	160 (59.3)	21 (56.8)		Ref.	—
Yes	126 (41.0)	110 (40.7)	16 (43.2)	0.772	1.11 (0.55–2.22)	—
Result of confirmatory HIV testing						
Negative	249 (81.1)	220 (81.5)	29 (78.4)		Ref.	—
Positive	58 (18.9)	50 (18.5)	8 (21.6)	0.651	1.21 (0.52–2.81)	—

*The variables in the multivariate analysis are also adjusted to the phase of the study.

[†]Continuous variable.

MSM indicates men who have sex with other men; IDU, injecting drug user; CI, confidence interval; SD, standard deviation; Ref, reference category.

quisition from sexual partners of MSM IDUs, it also suggests that the MSM IDU population in Tehran, with its high level of HIV infection, may act as a bridge for HIV transmission from IDUs to the MSM community.

Sexual risk reduction programs are crucial for preventing sexual transmission of HIV infection from sexually active IDUs to the broader population of Iran. Despite existing social barriers against homosexuality in Iran, governmental and non-governmental health authorities are encouraged to address the same-gender sexual practices of IDUs and begin identifying appropriate sexual risk reduction strategies. Sexual health services targeting MSM IDUs can be further integrated into a more comprehensive HIV prevention package for IDUs in Iran, incorporating components related to sexual orientation.

An increasing number of IDUs are visiting drop-in centers or voluntary HIV counseling and testing centers in Iran; such visits would be a good opportunity for health care providers to discuss concepts related to sexual orientation and how to reduce the risk of HIV acquisition/transmission between same-gender partners. Appropriate training of health care providers would be among the first steps necessary for comprehensive HIV prevention among the MSM community in Iran.

The general MSM community in Iran should also be made aware of the potential risk of HIV and other blood-borne infections and be encouraged to exhibit safer sex practices. Whereas HIV prevention interventions targeted at MSM IDUs and other MSM, including the promotion of consistent condom use and repeated HIV testing, are urgently needed, any plan targeting the MSM community in Iran should be supportive in nature and sensitive to the current context of the country, avoiding further stigma associated with same-gender sexual activity.

Some limitations of this study should be noted. Although the research team made efforts to help participants feel comfortable and share their thoughts and experiences, social desirability remains a potential source of bias in responding to survey questions,¹⁷ especially in research involving behaviors that are illegal. We recruited participants from treatment and drop-in centers and through outreach activities in downtown Tehran; therefore, our findings may not be representative of the wider IDU community. Further research is definitely needed to explore cultural context in regard to homosexuality in Iran, as well as opportunities for HIV prevention among MSM IDUs and among the wider noninjecting MSM population in Iran.

In conclusion, these results indicate that IDUs in Tehran who are MSM are at a higher risk of contracting blood-borne infections and that they may act as a bridge for sexual transmission of HIV to other populations, including the broader non-IDU MSM community and/or their heterosexual networks. Health authorities in Iran, who have already shown their strength in preventing and controlling HIV infection among IDUs, are encouraged to take swift action now to prevent further spread of HIV infection among the MSM population before the infection reaches epidemic proportions.

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Sexual behavior of Japanese tourists visiting Thailand a key informant approach

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ABSTRACT

Visrutaratna S, Wongchai S, Jaikueankaew M, et.al. Sexual behavior of Japanese tourists visiting Thailand a key informant approach. JPHD. 2010; 8(1) : 33-44.

This study described the sexual behavior of Japanese tourists with local people during visiting Thailand, through qualitative and quantitative data collected from key-informants related to tourism (i.e. sex-workers, tour guides, and beach/boat boys) in 6 major tourist sites during the period from September 2006 to March 2007.

This study illustrated that some Japanese male and female tourists, may have sought sexual services from several sexual behaviors during their visit to Thailand. Some Japanese male tourists did not want to use condoms, and were only forced to do so by Thai sex workers. Equally important was the observation that certain female Japanese tourists engaged in sexual activities with Thai males, including tour guides, beach-boys/boat-boys, and male commercial sex workers. Although many of them used condoms during their first sexual act together, condom usage dramatically declined with every subsequent sexual act. This study illustrates that some female and male tourists, while visiting Thailand, engage in high risk sexual behavior. Surprisingly, it was found that some Japanese females, especially those under 30 years of age, exhibited sexual behavior that can facilitate the contraction and trans- mission of HIV as well as other sexually transmitted infections. The findings from this study show that educational initiatives should be undertaken in both Japan and Thailand focusing on consistently using condoms with vaginal , anal and oral sex.

Keywords sexual behavior, Japanese, tourist, Thailand

พฤติกรรมกรรมมีเพศสัมพันธ์ของนักท่องเที่ยวชาวญี่ปุ่นที่เดินทางมา ท่องเที่ยวในประเทศไทย-กรณีศึกษาจากผู้เกี่ยวข้อง

บทคัดย่อ

สุรสิงห์ วิศรุตรัตน์, ศิริพร วงศ์ชัย, มนูญ ใจเขื่อนแก้ว และคณะ. พฤติกรรมกรรมมีเพศสัมพันธ์ของนักท่องเที่ยวชาวญี่ปุ่นที่เดินทางมาท่องเที่ยวในประเทศไทย-กรณีศึกษาจากผู้เกี่ยวข้อง. ว.สาธารณสุขและการพัฒนา, 2553; 8(1) : 33-44.

การศึกษานี้มีวัตถุประสงค์เพื่อศึกษาพฤติกรรมเสี่ยงที่เกี่ยวข้องกับการมีเพศสัมพันธ์ของนักท่องเที่ยวชาวญี่ปุ่นที่เดินทางมาท่องเที่ยวในประเทศไทยด้วยวิธีการศึกษาเชิงคุณภาพและใช้ข้อมูลการศึกษาเชิงปริมาณในบางพื้นที่เป็นการสนับสนุนโดยเก็บข้อมูลจากผู้ที่มีปฏิสัมพันธ์กับนักท่องเที่ยวโดยตรง เช่น หญิงบริการชายบริการ มัคคุเทศก์ เด็กวัยรุ่นชายที่ให้บริการแก่นักท่องเที่ยว ตามชายหาดและเรือท่องเที่ยว สำหรับพื้นที่ในการเก็บข้อมูลประกอบด้วย จังหวัดเชียงใหม่ ภูเก็ต สุราษฎร์ธานี กระบี่ ชลบุรีและกรุงเทพมหานครในช่วงเวลา ระหว่างเดือนกันยายน พ.ศ. 2549 ถึงเดือนมีนาคม พ.ศ. 2550

ผลการศึกษาแสดงให้เห็นว่าบางส่วนของนักท่องเที่ยวชาวญี่ปุ่นทั้งชายและหญิงมีพฤติกรรมกรรมมีเพศสัมพันธ์กับบุคคลหลายกลุ่มนักท่องเที่ยวชายบางส่วนไม่ต้องการใช้ถุงยางอนามัย แต่จำเป็นต้องใช้เพราะหญิงบริการบังคับให้ใช้ ในขณะที่เดียวกันพบว่านักท่องเที่ยวหญิงบางส่วนมีเพศสัมพันธ์กับมัคคุเทศก์ ชายขายบริการ เด็กวัยรุ่นชายที่ให้บริการแก่นักท่องเที่ยวตามชายหาดและเรือท่องเที่ยว ในกลุ่มนี้ยังพบว่ามีการใช้ถุงยางอนามัยในการมีเพศสัมพันธ์ในครั้งแรก แต่การมีเพศสัมพันธ์ในครั้งต่อมามักไม่ใช้ถุงยางอนามัย สรุปได้ว่านักท่องเที่ยว ทั้งหญิงและชายที่มีเพศสัมพันธ์มีโอกาสเสี่ยงสูงที่จะได้รับ เชื้อเอชไอวีหรือโรคติดต่อทางเพศสัมพันธ์อื่นๆ

คำสำคัญ พฤติกรรมกรรมมีเพศสัมพันธ์ นักท่องเที่ยว ญี่ปุ่น ประเทศไทย

INTRODUCTION

With the increase of global tourism, over the last several decades, people's sexual behavior during travel has become a topic of interest to many public health specialists and social scientists. There have been many publications, either presented in books or as research studies, focusing on the sexual behavior of tourists in various parts of the world. This includes Cabada and others who studied the sexual behavior of tour guides in Peru.¹ Taylor studied the sexual behavior of female tourists in the Dominican Republic and Jamaica.² Bellis reported on the sexual behavior of young people who visited popular tourist spots in Spain.³ Orisatoki studied the role of tourism in contributing to the HIV/AIDS epidemic in the Caribbean.⁴ Thailand has, over the past two decades, emerged as one of Asia's premier tourist locations, and accordingly many millions of international tourists are constantly traveling across the country, from the pristine sandy beaches in the South to the rugged mountains in the North. The number of Japanese tourists visiting Thailand, over the past two decades, has increased every year. A Thai tourism authority report indicated that 1,248,700 Japanese tourists arrived in Thailand during 2007.⁵ There are several studies that describe the sexual behavior of Japanese tourists in Thailand. Cash⁶ studied Japanese male tourists and businessmen in 1994 through the use of in-depth interviews and focus group discussions. The author found that 71% of Japanese men engaged in sexual activities with commercial sex workers. The overwhelming majority (>95%) of these men, however, used condoms. Nemoto and others⁷ studied high risk behavior of Japanese tourists in Khaosan Road Bangkok in 2002 through the use of self-administered questionnaires. They found that 91%

of tourists used condoms with sex workers when engaging in vaginal sex, while 47% used condoms when engaging in oral sex. With respect to Japanese female tourists Vorakit-phokatorn⁸ studied the behavior of young Japanese women in 1994. She found that they were culturally and socially native and willing to take risks with respect to sexual contacts with local Thai men.

The present study was designed to explore the sexual risk behavior of Japanese tourists with local people from a different perspective, namely by collecting relevant information from the sexual partners of Japanese tourists (e.g. male or female sex workers, tour guides, beach/boat boys). The researchers felt that many sexually related issues could be very sensitive (e.g. the use of condoms, oral sex practices, etc.) and accordingly it would be difficult to approach foreign tourists. Even if this was possible the researchers were concerned that it would be very difficult to verify the reliability of any data that they could collect. Accordingly, they decided instead to directly interview and talk with the sexual partners of the Japanese tourists. It was hoped that the latter could provide a more objective, or unbiased, synopsis of what transpired during these sexual encounters. The study included a mixture of qualitative and quantitative approaches in order to obtain the pertinent information. The qualitative method provided details of behaviors and quantitative technique provided projection amount of actions.

METHODS

This study was approved by the Chiang Mai Public Health Research Committee and was implemented during the period September 2006 - March 2007. The researchers collected

information from key informants who had sex with Japanese tourists or who had information about friends who had engaged in sex with Japanese tourists (i.e. sex-workers, beach/boat boys, and tour guides) working in 6 tourist spots in Thailand.

Study Design

Qualitative methods, including in-depth interviews and focus group discussions, were the main data collection methodologies employed in this study. A quantitative method (self-administered questionnaires) was also used as a supportive data collection instrument for a group of male sex-workers in a northern province and for a group of beach/boat boys in a southern province of Thailand. The sample sizes for the quantitative study were calculated from the Yamane formula⁹. Minimum sample size for male sex workers and beach/boat boys were respectively 101 and 76 respondents.

Methodological explanation

Because of the difficulties inherent in approaching the study population, the study team used various approaches to collect data from each key informants group.

Tour guides(TGs) - Local public health staff from each province contacted Japan tour companies, in their own geography area, to participate in focus group discussions. In those tourist spots where there were few Japanese tour guides, the research team performed in-depth interviews with each respondent. We performed 2 focus group discussions and 11 in-depth interviews.

Female sex workers(FSSs) - Local public health staff identified and mapped the establishments that provided sexual services for Japanese clients (e.g. Japanese bars). They contacted and obtained permission to conduct the study with the managers

of these establishments. The researchers conducted 4 focus group discussions with sex workers in one province. In the other provinces, researchers generally conducted only 2 focus group discussions if there were not any new issues to discuss that arose from the earlier discussions. In those tourist spots where there were a small number of sex workers engaging in sexual activities with Japanese clients the researchers conducted in-depth interviews with the respondents. In brief the researchers were able to have access to most of the popular places frequented by Japanese tourists in each of the 6 provinces. They subsequently were able to randomly approach members of the different "target groups", who were not engaged with Japanese clients, at the time of these visits. We performed 13 focus group discussions and 5 in-depth interviews.

Male sex workers(MSSs) - Local public health staff identified and mapped the gay bars that provided sexual services for Japanese clients. The researchers had earlier conducted a pilot study focusing on male sex workers. One of the main findings was that there was a great deal of peer pressure for male sex workers to exaggerate their "sexual exploits" when in a group setting. As such it was felt that it would be better to conduct in-depth interviews rather than focus group discussions to ensure that the data was reliable and accurate. We performed 40 in-depth interviews.

Beach/boat boys - local public health staff identified and mapped the beaches where there were beach/boat boys. From another earlier pilot study, among this group, researchers also observed that there was a great deal of peer pressure to exaggerate one's "sexual exploits" when in a group setting. Therefore the research team similarly decided to conduct in-depth interviews with this target group. The local public health coordinator initially contacted members

of this target population and randomly asked individuals if they would be interested in participating in the study. We performed 50 in-depth interviews.

Interview Process

In-depth interviews were performed in an appropriate environment. Consenting respondents allowed research staff to use a tape-recorder while interviewing male sex workers, beach boys, and boat boys. In those provinces in which there were very few female sex workers or tour guides, the research team conducted in-depth interviews instead of focus group discussions. Each interview took 45-60 minutes by using interview guide for each category informants. Focus group discussions were generally conducted with tour guides and female sex workers.

Data analysis

The taped sessions for the in-depth interviews were transcribed verbatim in Thai. However all names were deleted from the transcripts. All

transcripts were subse-quentially independently read by at least 2 members of the research team. Interview data were analyzed and interpreted using content analysis in which the main ideas, comments, and words were grouped according to variables of interest. The researchers conducted content analysis of the focus group discussion data. Field notes served as contextual supplements to the transcripts for each target group. The investigators and facilitators independently classified the information and arrived at similar conclusions which provided consistency and credibility.

RESULTS

The results of this study are based on data collected from 106 in-depth interviews and 15 focus group discussions amongst various target populations located in 6 tourist sites. Additional self-administered questionnaires were distributed to male sex workers in a northern province and beach/boat boys in a southern province. The details of qualitative data collection components are highlighted in Table 1.

Table 1 Number of respondents included in study's qualitative data collection components (i.e. in-depth interviews and focus groups discussions)

Province-Region	Study Respondents			
	Tour guides	Male Sex workers	Female Sex workers	Beach/Boat Boys
B-Central	-	10**	2*/10	-
C-Northern	5**	10**	4*/40	-
Ch-Eastern	-	10**	2*/10	-
K-South	2**		5**	10**
P-South	2*/16	10**	3*/15	30**
S-South	4**	-	2*/10	10**
Total	27	40	13*/90	50

Note : */=* Number of focus group discussions conducted/number of individuals participating in focus group discussions

** = Number of in-depth interviews conducted

Information Gathered From Sex-Workers

Male sex-workers

Some male sex workers stated that they had both had male and female Japanese clients, and that oral sex was one of the most prominent sexual services provided. Some examples of their experiences, with respect to the number and characteristics of the Japanese clients, are as follows:

"...In this bar we like male clients. About 80% of our clients are males. Women are difficult, but we will provide sexual services to them as well ..." (*P - province*)

"...I have been working here for 5 years, and during this period I have provided sexual services to about 50 male Japanese customers..." (*Ch - province*)

"...The Japanese customers are under 40 years of age..." (*B - province*)

"...I have more than 30 Japanese clients per month..." (*B - province*)

"... 80% of my clients are male while the remaining 20% are female..." (*B - province*)

Some gay bars provided services to female clients. Male sex workers mentioned that most of their clients were over 30 years of age. The latter enjoyed performing oral sex, but without using condoms to protect against the HIV or other STIs. Some examples of the sex workers' experiences are as follows:

"...Japanese female clients, most of whom are over 30 years of age, come here to watch our show. Afterwards they take boys out for a price ranging between 1,000 - 4,000 Baht..." (*B&C&P - province*)

"...Most of the Japanese women like to perform oral sex without using any condoms for protection..." (*Ch&P&C&B - province*)

"...these women are not at all interested if we use condoms, but for the most part we use condoms because we are afraid of contracting a STI and wish to protect ourselves..." (*P - province*)

About 40 % of my clients do not care whether condoms are used or not..." (*Ch - province*)

From quantitative study in a northern province, we surveyed all of gay bars in the province. A key finding was that 44.3% of the male sex workers in this province, answering a self-administered questionnaire, indicated that they had engaged in sexual activities with Japanese

male customers. At the same time 20.2% of these male sex workers also claimed to have had sexual contacts with Japanese female clients. Some of these respondents even claimed to have engaged in sexual activities with more than 50 Japanese female tourists. The data from this quantitative instrument confirms the observations and findings from the qualitative components of this study. Details are highlighted in Table 2.

Table 2 The experience of male commercial sex workers with Japanese male and female clients, according to the number of sexual contacts, in a northern province during the previous year.

Number of Japanese clients engaging in sexual activities with individual male sex workers	# of male sex workers having sexual contacts with male clients		# of male sex workers having sexual contacts with female clients	
	Number	Percent	Number	Percent
0 clients	58	55.7	83	79.8
1-10 clients	40	38.5	15	14.4
11-29 clients	3	2.9	3	2.9
> 30 clients	3	2.9	*3	2.9
Total	104	100.0	104	100.0

* Note: 1 male sex worker claimed to have had sex with 50 female Japanese clients.
1 male sex worker claimed to have had sex with 52 female Japanese clients.
1 male sex worker claimed to have had sex with 100 female Japanese clients.

Female Sex Workers

Female sex workers are employed at various venues such as karaoke bars and massage parlors. They mentioned that some of their clients did not want to use condoms. The following are some of the comments that they made with the respect to the number and characteristics of their Japanese clients:

"...90% of the customers are Japanese. There are not many customers under 40 years of age..." (*C&Ch&B&S&P - province, several FSSs*)

"...The customers like to come here to drink. Afterwards they invite us to have sex at the place where they are staying. We travel by Tuk-Tuk..." (*C - province, several FSSs*)

"...The customers like to have us perform oral sex, but without using condoms" (*B&C&P&Ch&S - province, several FSSs*)

"...Japanese clients who do not want to use condoms. They always say that since they have only one sexual partner there is no need to use condoms..." (*B - province, several FSSs*)

"...All my customers have to use a condom. Otherwise I will force them to use it. If they do not agree to do so, I will cancel the sexual engagement without returning their money..." (*Ch&C&P&S-province, several FSSs*)

"...About 2 out of every 10 customers ask me not to use a condom, but I refuse to do it. In the end they have to use it anyway..." (*Ch&C-province*)

Information from Beach Boys/Boat Boys

The beach boys/boat boys tend to be young males who work at a beach (or on a boat). They provide various services to tourists, such as renting Jet skis, steering banana boats, and diving. Some of the beach/boat boys mentioned that they had engaged in sexual activities with Japanese female tourists. The following are some comments made by the beach/boats boys, with respect to their Japanese clients:

"...If a group contains 2-3 tourists, and they are all women, there is a chance to engage in sexual activities..." (*K&P-province*)

"...Most of them want to have sex in the water, or roll the boat over to have sex on the island..." (*K-province*)

"When we teach them to ride Jet skis, there is a good chance to come into close contact with these tourists..." (*P&K-province*) "If she persuades me to go out at night for a tour or to have dinner, there is a good chance of us engaging in sexual activities" (*P&S-province*)

"...It is very common for Japanese female tourists to have sex here. I have a lot experience with them. I also used to have a Japanese wife..." (*S-province*)

"I engaged in sexual activities with 6 Japanese female tourists." (*P-province*)

"...I use Condoms, but it depends on my judgment with respect to which partners I can trust. I might wear 2 condoms on an occasion, or wear only one condom, or not wear any at all. I may wear a condom for the first sexual encounter with an individual, and then not put one on the next time..." (*S&P-province*)

".....Condoms are used sometimes....." (*K-province, BBs*)

The results from the self-administered questionnaire that we performed with beach boy working all of tourist beaches in a southern province indicated that a significant percentage of beach boys/boat boys (39%), working at various beaches, had engaged in sexual activities with female Japanese tourists. If one focuses on the more popular beaches, then more than half of the beach boys/boat boys claimed to have had sexual contacts with Japanese female tourists. We also found that 66.6% of them always use condoms, 70% of them performed oral sex and 83.3% of them received oral sex from their partners. This quantitative data confirmed the data collected in the in-depth interviews and focus group discussions. Details are highlighted in Table 3.