

## INCONSISTENT CONDOM USE AMONG YOUNG MEN WHO HAVE SEX WITH MEN, MALE SEX WORKERS, AND TRANSGENDERS IN THAILAND

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Young men who have sex with men (MSM) are at risk for HIV infection. We investigated inconsistent condom use among 827 sexually active young MSM (15–24 years), enrolled using venue-day-time sampling in Bangkok, Chiang Mai and Phuket, Thailand. Data was collected using palmtop computer-assisted self-interviewing. Of participants, 33.1% were regular MSM, 37.7% were male sex workers (MSWs) and 29.1% were transgenders (TGs). Of MSM, 46.7%, of MSWs, 34.9% and of TGs, 52.3% reported recent inconsistent condom use. In multivariate analysis, receptive anal intercourse (MSM, MSWs), receptive and insertive anal intercourse, living alone and a history of sexual coercion (MSWs), not carrying a condom when interviewed (MSM, TGs), lower education, worrying about HIV infection and a history of sexually transmitted infections (TGs) were significantly and independently associated with inconsistent condom use. Interventions for young MSM are needed and must consider the distinct risk factors of MSM, MSWs, and TGs.

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Soon after the first case of AIDS in Thailand was identified in a homosexual male in 1984 (Wangroongsarb et al., 1985), HIV spread rapidly among injection drug users, female sex workers, their clients, wives, and eventually to their newborn children (Weniger et al., 1991). The Thai government and its partners rapidly implemented pragmatic HIV prevention programs, including the campaign for 100% condom use in sex work (Hananberg et al., 1994). Subsequently, from 1989 to 2006, the HIV prevalence fell from 33.2% to 4.6% in female sex workers, from 2.3% to 0.9% in pregnant women, and from 4.0% to 0.5% in young military recruits (Danyuttapolchai et al., 2007). Despite the success in reducing HIV infection, little information is available about men who have sex with men (MSM) in the Thai HIV epidemic (van Griensven, Thanprasertsuk et al., 2005).

Most MSM and their behaviors are hidden in Thai society because open expression of homosexuality is not considered acceptable and is socially prohibited (Jackson & Sullivan, 1999). As a result, MSM are hard to reach for HIV research and prevention. MSM, particularly young MSM, may engage in multiple high-risk behaviors such as unprotected sex, multiple sex partners, sex work, and drug use (Jenkins et al., 1999; Kitsiripornchai et al., 1998; Nelson et al., 2002).

Despite the early absence of MSM-specific studies, research on HIV risk behavior in young Thai men showed homosexual activity to be common among military conscripts, students, and factory workers. In these studies the prevalence of male-to-male sex ranged from 3.3% to 16.3% (London, VanLandingham, & Grandjean, 1997) and inconsistent condom use with men from 52.8% to 60.0% (Kaewmarin, Jitsabuy, Pimpa, & Plipat, 2007). In 2003, the Thailand Ministry of Public Health – U.S. Centers for Disease Control and Prevention (MOPH – U.S. CDC) Collaboration conducted the first assessment of HIV infection and risk behavior among MSM in Bangkok and found an HIV prevalence of 17.3% (van Griensven, Thanprasertsuk et al., 2005). In 2005, in a similar assessment, the HIV prevalence among MSM in Bangkok had increased to 28.3% (CDC, 2006). Among MSM aged 15-22 years old, the HIV prevalence was 11.2% (CDC, 2006). Because these young men are likely to have been homosexually active for only a short period of time, this HIV prevalence suggests a high underlying HIV incidence. Against the background of this increased risk for HIV infection in young MSM, we investigated factors associated with inconsistent condom use in this population. Because of distinct a priori economic and sexual characteristics of young MSM (such as selling sex or transgenderism) analyses were conducted separately for general MSM, male sex workers (MSWs) and transgenders (TGs). This information may help in developing appropriate HIV prevention interventions for distinct populations of young MSM in Thailand and elsewhere.

## METHODS

### SAMPLING AND ASSESSMENT

The methods for the current assessment have been described previously (van Griensven, Thanprasertsuk et al., 2005; CDC, 2006; Mansergh et al., 2006). Venue-day-time sampling (VDTS) was used to recruit 2,049 Thai MSM (response rate 97.3%) in Bangkok, Chiang Mai, and Phuket between March and October 2005. There are four phases in VDTS: (a) venue identification and mapping, (b) counting of male

venue attendees, (c) determining eligibility and willingness to participate, and (d) recruitment of participants. All identified venues were visited, verified for existence, and characterized by owner-gatekeeper support, safety, and opening times. Participant eligibility included male sex; aged at least 15 years old; Thai nationality; residency in Bangkok, Chiang Mai, or Phuket; and having engaged in oral or anal sex with a man in the past 6 months. Participation was voluntary and anonymous. Once eligibility and verbal informed consent were attained, palmtop computer-assisted self-interviews were used to collect demographic and behavioral data. An oral fluid specimen was self-collected using OraSure device (OraSure Salivary Collection Device, OraSure Technologies Inc., Beaverton, Oregon) for HIV testing. A local community-based organization, Rainbow Sky Association of Thailand, aided research staff in mapping and recruitment of men at venues. The assessment protocol was determined a surveillance activity by the CDC, which, consequently, did not require an institutional board review. It was reviewed and approved by the Ethical Review Committee of the Thailand Ministry of Public Health.

#### STUDY POPULATION AND STATISTICAL ANALYSIS

Of a total of 2,049 participants, 1,162 (56.7%) were aged 15-24 years. Of the latter, 827 (71.2%) reported having had anal intercourse with a man in the past 3 months. These men were included in this analysis. Of these 827 men, 274 (33.1%) were general MSM, 312 (37.7%) were MSWs, and 241 (29.1%) were TGs. In this study, group membership (MSM, MSWs, or TGs) was defined by the type of enrollment venue. MSM were enrolled from locations where men congregate to socialize with other men and seek male sexual partners (e.g., bars, discos, saunas and parks, MSWs from sex-work venues (e.g., “go-go” bars [i.e., bars where sex workers can be solicited], including some frequented by foreign clients; massage parlors, and street locations.) (Note: Clients were not enrolled at these venues.) TGs were enrolled based on their outward characteristics from sex-work venues and cabaret show theaters. At sex-work venues, all personnel (e.g., hosts, dancers and waiters) were offered enrollment; clients were not enrolled. Overall, MSM were recruited from 10 bars/discos ( $n = 77$ , 28.1%), 12 saunas ( $n = 28$ , 10.2%), and 17 parks/street/public toilets ( $n = 169$ , 61.7%); MSWs were recruited from 19 “go-go” bars ( $n = 230$ , 73.7%), five massage parlors ( $n = 16$ , 5.1%), and 7 parks/streets ( $n = 66$ , 21.2%); TGs were enrolled from 14 “go-go” bars ( $n = 125$ , 51.9%), 4 cabaret show theaters ( $n = 61$ , 25.3%), and eight other venues (coffee shop/public toilets) ( $n = 55$ , 22.8%).

The outcome variable in our analysis was inconsistent condom (not always) use during anal intercourse with a man in the past 3 months. Variables related to condom use in each group (MSM, MSWs and TGs) were evaluated using bivariate and multivariate logistic regression analyses. Independent variables with bivariate  $p$  values of .05 or less were further evaluated in multivariate regression models, using generalized estimating equations logistic regression to adjust for clusters by venues and calendar dates. Because no between-group comparisons were made in the multivariate analyses, no adjustment to offset the likelihood of chance findings was performed.

SPSS 11.0 (Version 11.0.1) and STATA 9.0 (Version 9.1) were used for statistical analysis.

## RESULTS

### DEMOGRAPHIC AND BEHAVIORAL CHARACTERISTICS

A plurality of the 827 men were enrolled from Bangkok (40.7%), and the remainder from Chiang Mai (33.1%) and Phuket (26.1%); 30.6% were between ages 15 and 19, and 69.4% were between ages 20 and 24. The mean age was 20.7 years (median 21 years). Most were single (96.0%) and employed (74.4%), and 36.5% had technical school education or higher. The overall HIV prevalence was 13.1%; it was 13.9% in MSM, 14.7% in MSWs and 10.0% in TGs. In this study, 40.1% of MSM, 52.6% of MSWs and 38.2% of TGs reported to have been tested for HIV previously.

Of participants, 95.8% reported having ever drunk alcohol, of which 65.1% said to have had five drinks or more in one sitting at least five times in the past 3 months. Having been drunk during most recent sex was reported by 3.5% of all participants. Drug use (ever) was reported by 63.4% and drug use in the past 3 months by 42.2%. Of the latter, 22.9% reported use of benzodiazepines, 16.3% methamphetamines, 10.9% marijuana, 10.4% ecstasy, 10.0% inhaled nitrates ("poppers"), 5.7% ketamine, and 4.0% inhaled solvents (thinner or glue).

MSWs were less educated, more often employed, more likely to have ever used drugs, and more likely to live away from the family than MSM and TGs. Also, MSWs more often identified as the insertive partner during anal intercourse and more often reported carrying a condom at the time of the interview. MSWs were less likely to report having been sexually coerced and were more likely to have used condoms consistently with a man in the past 3 months than were MSM and TGs (all  $p$  values < 0.001).

### BIVARIATE AND MULTIVARIATE ANALYSES OF INCONSISTENT CONDOM USE

Of the total study population, 43.9% reported using condoms inconsistently during the past 3 months; among MSM this was 46.7%, among MSWs, 34.9% and among TGs, 52.3%. These percentages did not differ significantly by partner type (steady, casual, and commercial partners).

*MSM.* In bivariate analysis, usually being receptive during anal intercourse (vs. being insertive only), being concerned about getting a sexually transmitted infection (STI), and not carrying a condom at the time of the interview were significantly associated with inconsistent condom use (see Table 1).

In multivariate analysis, usually being receptive during anal intercourse and not carrying a condom at the time of the interview were significantly and independently associated with inconsistent condom use (see Table 1).

*MSWs.* In bivariate analysis, being recruited from Phuket (vs. being recruited from Chiang Mai), living away from the family, having a history of drug use (ever), usually being receptive or both receptive and insertive during anal intercourse (vs. being insertive only), having been sexually coerced (ever), having self-reported an STI (ever), being concerned about getting STI, and being HIV-positive in the current study were significantly associated with inconsistent condom use (see Table 1).





In multivariate analysis, living away from the family, usually being receptive or both receptive and insertive during anal intercourse (versus being insertive only), and having been sexually coerced (ever) were significantly and independently associated with inconsistent condom use (table).

TGs. In bivariate and multivariate analysis, having completed technical school or higher, having self-reported an STI (ever), being concerned about getting HIV infection, and not carrying a condom at the time of the interview were significantly associated with inconsistent condom use (see Table 1).

## DISCUSSION

In this study, Thai MSMs, MSWs, and TGs aged 15-24 years old reported high levels of HIV risk behavior: 52.3% of TGs, 46.7% of MSM and 34.9% of MSWs used condoms inconsistently during anal intercourse with another man. Given the background HIV prevalence of 13.1% in this group, young MSM, MSWs and TGs are at high risk for the acquisition and transmission of HIV infection. Risk factors for inconsistent condom use included receptive anal intercourse, a self-reported history of STI, a history of sexual coercion and not carrying a condom at the time of the interview. Most risk factors varied between MSM, MSWs and TGs, highlighting the importance of analyzing these groups separately.

We found that young MSM and TGs who did not carry a condom at the time of the interview were more likely to report inconsistently using condoms. Studies have demonstrated that having a condom at disposal at all times increases the likelihood of its use when sexual intercourse occurs (Ichikawa et al., 1996). Alternatively, possession of a condom may be a marker of being better informed and motivated to use a condom when necessary. MSWs were more likely than MSM or TGs to carry a condom at the time of the survey, and the prevalence of condom use among those who carried a condom was highest in MSWs. As MSWs were recruited from venues where sex is available for purchase, these results suggest MSWs are prepared to use condoms with clients. Male sex work venues may also be more often targeted for outreach activities, which include the distribution of condoms. Other studies among MSWs confirm the higher levels of condom use than among other groups at risk (Hsieh, 2002).

MSWs who live away from the family were more likely to use condoms inconsistently when having anal intercourse. As has been previously suggested, it is possible that men living away from the family have lower social support levels and fewer financial means to negotiate condom use effectively with partners, particularly if there is an obligation to support the extended family at home (International Organization for Migration [IOM], 2007; McCamish, 2002; Morisky, Stein, & Chiao, 2006).

Being receptive during anal intercourse (or being receptive and insertive) was found associated with inconsistent condom use in MSM and MSWs. Because almost all TGs reported practicing receptive anal intercourse, the association with inconsistent condom use could not be evaluated in this group. However, the high prevalence of receptive anal intercourse illustrates their increased vulnerability in this respect. The decreased control the receptive partner has over condom use compared to the insertive partner may contribute to this risk. Programs aiming to increase consistent



condom use in MSM should therefore address the responsibilities of both partners in anal intercourse and include strategies for increased condom negotiation skills and abilities to carry out safer sexual scripts of partners to effectively negotiate condom use (Drezin, Torres, & Daly, 2007; Maticka-Tyndale, 1991). With an awareness of the group-specific risk factors highlighted in the analysis, this information can be used to design HIV prevention messages that are applicable to MSM in general and various subgroups.

In our analysis, TGs who self-reported a history of STI had two times the odds of using condoms inconsistently. STI history is likely a surrogate marker for unprotected intercourse (Lagarde et al., 2001) and young men with a history of STIs should therefore be specifically targeted for promotion of condom use (Beyrer et al., 1995; London, VanLandingham & Grandjean, 1997). Because STIs have been established as a risk factor for both the acquisition and transmission of HIV infection, routine screening for STIs, including asymptomatic STIs, is recommended (Fleming & Wasserheit, 1999; Tapsoba Ly, Moreau, Niang & Castle, 2004).

Low levels of consistent condom use among young MSM reflect recent trends of condom use among the broader population of young Thais. In the 2006 National Behavioral Surveillance Survey, 60.3% and 58.3% of Thai male military conscripts with a median age of 21 years reported inconsistent condom use with female and male casual partners, respectively (Kaewmarin et al., 2007). In another survey in 2006, 88.0% and 53.0% of Thai (predominantly heterosexual) 18-24 year-old men, reported inconsistent condom use with regular and casual partners (Chamrathirong, Kittsuksathil, Podhisita, Isarabhakdi, & Sabuying, 2007). Our data and those of an earlier survey of MSM in Bangkok in 2003, (Mansergh et al., 2006) show similarly low levels of consistent condom use among this group. Thus, high percentages of inconsistent condom use in MSM, MSWs and TGs and the lack of increase among MSM since 2003, point at the larger problem of unaddressed sexual risk taking among Thai youths. However, background HIV prevalence among heterosexual Thais is low; 0.5% in male conscripts and 0.9% in young pregnant women in 2006 (Danyuttapolchai et al., 2007). Because MSM, MSWs and TGs have a higher background HIV prevalence of 19.2%, 15.6%, and 13.5% respectively (CDC, 2006), the epidemic has further potential to spread in this population. These epidemiologic factors combined with the difficulty of reaching this target population signify the need for HIV prevention initiatives specific to young MSM, MSWs and TGs.

Even though substance use was not significantly associated with unprotected sex in our study, its high level of use is reason for concern. Several studies have shown an association between drug use and sexual risk taking among MSM, particularly of the use of amphetamine type substances (Colfax et al., 2001; Garofalo, Mustanski, McKirnan, Herrick, & Donenberg, 2007). More detailed study and monitoring of the association of substance use, sexual risk taking and HIV infection in Thai MSM is therefore warranted.

Prior HIV testing and HIV test result in the current study were not associated with inconsistent condom use in this study. However, HIV voluntary counseling and testing should be promoted to increase protective behavior and reduce further HIV transmission (Mansergh et al., 2006).

Our study demonstrated low levels of consistent condom use among MSM, MSWs, and TGs; however, it had its limitations. Importantly, the risk behaviors of young MSM, MSWs and TGs may not be representative of the total population of men who engage in sex with other men since participants were recruited from venues where men socialize and find sex partners or clients. Levels of inconsistent condom



use and risk behavior may be overestimated because young men who gather in these venues may have higher risk profiles. On the other hand, participants in our study may have overreported the use of condoms, because they may be aware that this is the normative response. However, we relied on palm-top computer-assisted self-interviewing to assess behavioral data, which has shown to generate more candid and reliable information than other interview methods (van Griensven, Naorat, et al., 2005).

Despite Thailand's successes in controlling the HIV epidemic among heterosexual men and women, the epidemic has not been well controlled among populations of MSM. The inconsistent condom use among a large percentage of young MSM, MSWs, and TGs, demonstrated by our study suggests that the spread of HIV will not decrease until we observe wide-scale behavior change among these groups. To assist in designing condom promotion programs, we have identified several risk factors for unprotected anal intercourse. More information is needed about additional psychosocial factors not assessed here such as mental health, motivation, intention, self-efficacy, intimacy and other variables which may be important in increasing protective behavior. Finally, qualitative studies to increase and deepen our understanding of the reasons young MSM, MSWs, and TGs cite for not using condoms consistently are also urgently needed.

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