OPINIONS ABOUT ACCESSIBILITY AND BARRIERS TO HIV TESTING AND SEXUAL HEALTH SERVICES AMONG MEN WHO HAVE SEX WITH MEN UNIVERSITY STUDENTS IN NORTHERN THAILAND

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Abstract. Men who have sex with men (MSM) university students are at risk of contracting human immunodeficiency virus (HIV) infection. In this study we aimed to determine the opinions of MSM university students about access and barriers to HIV testing and sexual health services in northern Thailand in order to improve existing services. Study subjects were recruited through peers and the internet. The calculated minimum number of study subjects required for this study was 169. Each study subject was asked to complete a self-administered questionnaire on basic demographics, sexual behavior, history of getting tested for HIV and using sexual health services, as well as opinions about access and barriers to HIV testing and sexual health services. Data were analyzed with descriptive statistics and logistic regression analysis. A total of 176 subjects were included in the study. The mean age of study subjects was 20 years. The most common field of study (72.6% of subjects) was sciences/applied sciences. Among study subjects, 40.9% had previously been tested for HIV infection or used sexual health services. Eighty-five-point six percent of subjects who were sexually active engaged in high-risk sexual behavior, defined as having multiple sex partners within the previous year. Study subjects mentioned the following barriers to accessing sexual health services: poor service quality (71.6%), anticipated stigma (68.8%), low perception of HIV risk (68.2%), inconvenient location (65.3%) and high cost for service (52.3%). On multivariate analysis, having a history of HIV testing or using sexual health services previously were significantly associated with: having a history of sexual intercourse (adjusted odds ratio (adjusted OR) = 3.12; 95% confidence interval (CI): 1.16-8.39; p = 0.024) and having a positive opinion about the quality of the health service system (adjusted OR = 2.74; 95%CI: 1.28-5.91; p = 0.010). In summary, a large proportion of our study subjects had a negative opinion about existing HIV testing and sexual health services, particularly regarding location and cost. We conclude there is a perceived problem with HIV testing and sexual health services among MSM university

students in northern Thailand. Studies are needed to determine the quality of current sexual health services and to determine why the subject population held these opinions. There is also a need to raise awareness of sexual risk behavior in the study population.

Keywords: access and barriers, health services, men who have sex with men, university students, HIV, Thailand

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INTRODUCTION

Men who have sex with men (MSM) are at greater risk for contracting HIV infection and other sexually transmitted diseases (STIs) than other populations (Beyrer *et al*, 2011). Receptive anal intercourse has been estimated to be the mode of contracting HIV infection in 60-70% of HIV infections worldwide and accounts for 70-90% of HIV infections in Southeast Asia (Cáceres *et al*, 2006; Mustanski *et al*, 2011). Other factors that increase the risk for contracting HIV infection among MSM include drinking alcohol before having sex (Pollock *et al*, 2012), using illicit drugs (Ko *et al*, 2012), having a night out (Ko *et al*, 2012) and having group sex (Violette *et al*, 2019). The risk for contracting HIV infection is worsened by low rates of condom use (Gangcuangco *et al*, 2013; Silan *et al*, 2013; Tangmunkongvorakul *et al*, 2016). It was estimated that 40-50% of new HIV infections in Thailand during 2012-2016 were among MSM. (UNICEF, 2014).

Access to comprehensive sexual health services is needed for MSM to lower the risk and obtain early treatment for HIV infection and STIs. These services should include providing the patient with a general knowledge about HIV and STIs, promotion of safe sexual behavior, encourage condom use, provide HIV counseling and testing, provide pre-exposure (PrEP) and post-exposure prophylaxis (PEP) for HIV and provide antiretroviral treatment (Underhill *et al*, 2010). It is estimated only 1 out of 10 MSM world-wide accessed basic HIV infection prevention services in 2012 (WHO, 2015) A study from Thailand in 2010 estimated only 29.2% of MSM had HIV testing or used sexual health services (UNICEF, 2014).

Researchers have identified a variety of determinants that aggravate poor access and create barriers to HIV testing and sexual health services among young MSM. Issues related to the healthcare facility included lack of dedicated services, high cost or lack of health

insurance, the services were too far away and required too much travel time, unfriendly and discriminatory staff, lack of confidentiality, poor quality service and lack of privacy (Lea *et al*, 2017; Magesa *et al*, 2014). Barriers related to the clients have been reported to include negative client attitudes about the services, fear of disclosure of MSM identity, low perception of HIV risk and internalized stigma (Thepthien *et al*, 2014; Chen *et al*, 2015; McKirnan *et al*, 2013; Mustanski *et al*, 2011; Wanyenze *et al*, 2016).

According to the World Health Organization (WHO, 2014), few countries have comprehensive sexual health services for MSM. In Thailand, government hospitals do not offer specific HIV testing and sexual health services for MSM. Young MSM must use general sexual health services in the hospitals and the quality and comprehensiveness of the services vary by hospital. Services specific for MSM are found only through research projects and civil society programs and are offered only in Bangkok and other large cities (UNESCO Office Bangkok and Regional Bureau for Education in Asia and the Pacific, 2012). Relevant data is needed from young MSM in order to improve or design appropriate comprehensive sexual health services for them. Opinions about access and barriers to using available services among young MSM can help identify important characteristics of the services that need to be addressed. Impressions about existing services among MSM who use these services and the perceptions of these services among those who have yet to use them provide important feedback for improving these services.

In this study, we aimed to determine the opinions of MSM university students about access and barriers to HIV testing and sexual health services in northern Thailand in order to improve existing services

MATERIALS AND METHODS

Study design and study setting

This cross-sectional study was conducted during May-August 2018 at 2 public universities in the same province in northern Thailand. At the time of the study, there were no specific sexual health services for MSM in the study area. Sexual health services for MSM were provided as part of general sexual health services at a government provincial hospital located in the capital city of the study province.

Population and sampling

The inclusion criteria for a study subject were being male, aged ≥18 years, having the ability to communicate well in Thai, being an undergraduate student, studying at one of the 2 study universities and identifying as an MSM. This study did not include men who identified as transgender women because the sexual identity and behaviors of this group differ from people who identify as MSM.

There were 3,712 male undergraduate students at the 2 study universities at the onset of this study. Of these, approximately 8% were expected to be

MSM according to a study of MSM (Surit *et al*, 2016). The minimum number of subjects required for our study was 169 in order to have at least 29% of subjects who had HIV testing or accessed sexual health services (UNICEF, 2014), have a 95% confidence interval (CI), 5% precision (Daniel, 1999) and 10% added to this number to compensate for incomplete responses.

Study subjects were identified and recruited using 3 methods: 1) personal Facebook pages belonging to the study investigators, 2) posters placed around campus and 3) and peer recruitment by 12 MSM students identified through methods 1 and 2.

Measurements

Each subject was asked to complete a questionnaire consisting of 3 parts: background information, sexual and health related behaviors and opinions about access and barriers to HIV testing and sexual health services.

The background data asked questions about religion, type of residence, name of university, name of faculty studied in, year of study, employment status, membership in an MSM network, sexual identity and disclosure about sexual identity.

The questions about sexual behavior and related health behavior were modified from a questionnaire developed by the Bureau of Epidemiology, Department of Disease Control, Thailand Ministry of Public Health (Bureau of Epidemiology, 2012) and the Sexual Health Needs Assessment of Men Who Have Sex with Men (Mironski, 2010). The questionnaire asked about history of sexual intercourse, age at first sexual intercourse, condom use at first sexual intercourse, finding sex partners online, having a night out to find sexual partners, having group sex, having more than one sexual partner, using illicit drugs before having sex, perception of HIV risk, opinion about the quality of sexual health services in the province, and willingness to be tested for HIV. The information about history of HIV testing or have accessed to sexual health services was collected as one variable.

The research participants were also asked about opinions regarding access and barriers to HIV testing and sexual health services; the questionnaire was modified from that used in a study from Canada about healthcare access for MSM and bisexuals (Coleman, 2014). The questions about the subject's opinions about access to healthcare services were divided into four groups: questions about the location of the service, questions about service quality, a question about the service cost and questions about acceptability of the services. The questions about barriers to access were divided into two groups: service provider barriers and client-based barriers. The service provider barriers questions asked about stigma, discrimination and friendliness of the services. The client-based barriers asked about fear of HIV infection and disclosure of sexual identity, difficulties due to distance from the services and questions about

perceived risk for contracting HIV infection. All the questions were answered with either "agree" or "disagree".

Data Collection

The questionnaires were completed online and each subject was given a unique password to enter the site. The initial page of the site described the risks and benefits of participating in the study and the process for completing the questionnaire. After giving consent, the subject was allowed access to the questionnaire and given 30 minutes to complete it.

Statistical Analysis

Data were analyzed using the Statistical Package for the Social Sciences, version 22.0 (IBM Corporation, Armonk, NY). All variables were analyzed descriptively using percentages and means where appropriate. The Chi-square test was used to identify relationships between independent and dependent variables. Statistically significant variables on binary analyses were included in binary logistic regression analysis. Having a history of an HIV test or accessing sexual health services was considered as one variable and used as the main dependent variable for all analyses. A p-value <0.05 was considered statistically significant.

Ethical considerations

This study was approved by the Research Ethics Committee, Faculty of Medicine, Chiang Mai University (approval number: 228/2560).

RESULTS

Sociodemographic characteristics of study subjects

A total of 176 subjects were included in the study; the mean (range) age of study subjects was 20 (18-30) years. Majority (97.2%) was Buddhist. Thirty-eight-point six percent of the subjects reported living with friends and 38.1% reported living alone. Almost three- fourths (74.4%) of the subjects studied at one of the study universities (University A) and the rest studied at the other university (University B). Seventy-two-point seven percent of the subjects majored in the sciences/ applied sciences and 27.3% majored in the arts or education. About one-thirds (34.1%) of subjects were in their second year of study, 26.7% were in their first year, 21.0% were in their third year and 15.9% were in their fourth year. Most of the subject (86.9%) were unemployed and 89.2% were members of an MSM network. Only 40.9% of the subjects had a history of HIV testing or using sexual health services. Sixty-five-point nine percent of the subjects admitted to engaging in both insertive and receptive anal intercourse with male partners, 15.9% admitted to engaging in insertive anal intercourse only and 18.9% had sex with both men and women. Most (85.2%) had disclosed their sexual identity (Table 1).

Subjects who were in a higher year of study were more likely to have accessed HIV testing or using sexual health services (p = 0.016) (Table 1).

Table 1

Proportions of subjects with a history of HIV testing or using sexual health services by socio-demographic characteristics (Total number, N = 176)

Characteristics	*n*/N (%)	*p*-value
Age in years (mean = 20, range 18-30)		
18	7/26 (26.9)	0.116
>18	65/150 (43.3)	
Religion		
Buddhist	68/171 (39.7)	0.071
Christian	4/5 (80.0)	
Living situation		
Alone	32/67 (47.8)	0.197
With family or relatives	8/18 (44.4)	
With a spouse or sexual partner	11/23 (47.8)	
With friend(s)	21/68 (30.8)	
University		
A	50/131(38.1)	0.207
B	22/45 (48.8)	
Academic Major		
Sciences or applied sciences	55/128 (43.0)	0.364
Arts or education	17/48 (35.4)	
Study year		
First	20/47 (42.5)	0.016
Second	18/60 (30.0)	
Third	16/37 (43.2)	
Fourth	18/28 (64.3)	
Fifth	0/4 (0)	
Working while studying		
No	62/153 (41.2)	0.788
Yes	10/23 (43.5)	

Table 1 (cont)

Characteristics	*n*/N (%)	*p*-value
Member of an MSM network		
No	65/157 (41.4)	0.703
Yes	7/19 (36.8)	
Sexual practices		
Insertive anal intercourse	45/116 (38.8)	0.556
Insertive and receptive anal intercourse	14/28 (50)	
Bisexual	13/32 (40.6)	
Disclosed sexual identity		
No	10/26 (38.5)	0.783
Yes	62/150 (41.3)	

MSM: men who have sex with men

Sexual behavior and Opinions about sexual health services

Seventy-nine percent of subjects reported having had sexual intercourse, 78.4% reported having their first sexual intercourse before age 18 years and 61.2% stated they used condoms during first sexual intercourse. Sixty-point four percent of subjects stated during the previous 12 months they had sought a sexual partner online, 75.5% had sought sexual partners at nightlife spots, 13.7% had participated in group sex and 86.3% had more than two sexual partners. Majority (92.8%) of subjects reported during the previous year they had consumed alcohol before having sex and 7.2% reported they had used an illicit drug prior to having sex. Eight percent of subjects reported experiencing sexual harassment. About half (53.4%) of subjects felt they were not at risk for contracting HIV infection and 64.2% felt they did not need HIV testing or sexual health services. Seventy-one-point six percent of subjects believed the quality of sexual health services in their province was poor.

Significantly more (p = 0.007) subjects who had previously had sexual intercourse were more likely to have accessed HIV testing or sexual health services than those who had never had sexual intercourse. Subjects who had a positive opinion about the quality of sexual health services in their province were significantly more likely (p = 0.001) to have accessed HIV testing or sexual health services than those who had negative opinion. Subjects who were

Table 2

Proportions of subjects with a history of HIV testing or using sexual health services by sexual behaviors, related health behaviors and opinions about sexual health/HIV testing services

Characteristics	*n*/N (%)	*p*-value
History of sexual intercourse*		
No	8/37 (21.6)	0.007
Yes	64/139 (46.0)	
Age at first sexual intercourse in years†		
<18	50/109 (45.9)	0.938
≥18	14/30 (46.7)	
Used condom when having first sexual intercourse†		
No	22/54 (40.7)	0.317
Yes	42/85 (49.4)	
Sought sexual partner online within the last year†		
No	21/55 (38.1)	0.132
Yes	43/84 (51.2)	
Engaged in nightlife activities to seek sexual partners in the last year†		
No	14/34 (41.2)	0.512
Yes	50/105 (47.6)	
Had group sex within the last year†		
No	53/120 (44.2)	0.265
Yes	11/19 (57.9)	
Had multiple sexual partners within the last year†		
No	8/20 (40.0)	0.558
Yes	56/119 (47.1)	
Drank alcohol before having sex within the last year†		
No	3/10 (30.0)	0.291
Yes	61/129 (47.3)	

Table 2 (cont)

Characteristics	*n*/N (%)	*p*-value
Used illicit drugs before having sex within last year†		
No	60/129 (46.5)	0.691
Yes	4/10 (40.0)	
Considered oneself at risk for HIV infection†		
No	32/63 (50.8)	0.306
Yes	32/76 (42.1)	
Opinion toward the quality of existing sexual health services in the province*		
Poor quality	42/126 (33.3)	0.001
Good quality	30/50 (80.0)	
Interested in getting tested for HIV*		
No	18/63 (28.6)	0.013
Yes	54/113 (47.8)	

*N = 146; †N = 139

interested in getting tested for HIV were significantly more likely (p = 0.013) to have accessed HIV testing or sexual health services than those who were not interested in getting tested for HIV.

Opinions about accessibility to sexual health services

Of all research participants, 80.7% were not aware of sexual health services provided at the provincial hospital. Sixty-eight-point two percent of study subjects felt the sexual health services in the study province were neither private nor confidential and 65.3% thought the sexual health service facilities were too far away. Almost two-thirds (63.9%) of study subjects thought the wait times for sexual health services were too long, 36.9% felt the available sexual health services were not comprehensive enough and 42.0% reported some sexual health services staff were absent during working hours. About half (52.3%) of subjects felt the sexual health services were too expensive, 40.3% thought the sexual health service system was too complex and did not notify them about the price before providing the service. A little higher than one-thirds (36.4%) of subjects felt the sexual health service providers lacked interpersonal skills and trustworthiness, 48.9% thought the available sexual health services were not

up to standards and 44.9% thought the service facilities lacked appropriate technology or medical devices to perform necessary examinations and treatment.

Subjects who knew there were no sexual health services specifically for MSM were significantly less likely (p = 0.018) to have accessed HIV testing or sexual health services than those who thought sexual health services specifically for MSM existed. Subjects who thought that the available sexual health services were not private or not confidential were significantly less likely (p = 0.045) to have accessed HIV testing or sexual health services than those who thought they were private and confidential. Subjects who thought the sexual health services system was too complex and stated they were not made aware of the cost of the services before accessing them were significantly less likely (p = 0.012) to have had HIV testing or accessed sexual health services than those who believed the system was not too complex or they were made aware of the cost of the services before accessing them. Subjects who thought the sexual health services were not up to the standards were significantly less likely (p = 0.005) to have had HIV testing or accessed sexual health services than those who thought the services were up to standard (p = 0.005) (Table 3).

Table 3

Proportions of subjects with a history of HIV testing or using sexual health services by opinions about accessibility to sexual health services (Total number, N = 176)

Accessibility issue	*n*/N (%)	*p*-value
Geographic accessibility		
No specific service for MSM		
Disagree	20/34 (58.8)	0.018
Agree	52/142 (36.6)	
No privacy or confidentiality		
Disagree	29/56 (51.8)	0.045
Agree	43/120 (35.8)	
Services are located too far, take a long time to travel, too far from home		
Disagree	29/61 (47.5)	0.192
Agree	43/115 (37.4)	

Table 3 (cont)

Accessibility issue	*n*/N (%)	*p*-value
Availability		
Long wait time for service		
Disagree	29/64 (45.3)	0.369
Agree	43/112 (38.4)	
Services are not comprehensive		
Disagree	46/111 (41.4)	0.851
Agree	26/65 (40.0)	
Staff absenteeism during service hours		
Disagree	40/102 (39.2)	0.592
Agree	32/74 (43.2)	
Affordability		
Fee for service or service is expensive		
Disagree	38/84 (45.2)	0.264
Agree	34/92 (37.0)	
Acceptability		
Service system is too complex and not aware of the price before accessing services		
Disagree	51/105 (48.6)	0.012
Agree	21/71 (29.6)	
Staff lack interpersonal skills and trustworthiness		
Disagree	49/112 (43.8)	0.311
Agree	23/64 (36.0)	
Services are not up to the standards		
Disagree	46/90 (51.1)	0.005
Agree	26/86 (30.2)	
Lack of technology or instruments		
Disagree	44/97 (45.4)	0.183
Agree	28/79 (35.4)	

MSM: men who have sex with men

Opinions about barriers to healthcare services

Fifty-four-point five percent of study subjects felt the sexual health services provided were not confidential, 35.8% felt the sexual healthcare services environment was not friendly, 26.7% felt the healthcare services providers stigmatized and discriminated against MSM and 17.6% believed the sexual healthcare providers refused to provide services for MSM. Sixty-eight-point eight percent of study subjects were afraid to know their HIV status or felt they could not cope with a positive result, 67.0% feared disclosure of their HIV status, 51.7% were afraid of what the consequences would be if others heard they accessed the sexual health services, 50.5% feared there would be stigmatization and/or discrimination by the healthcare service providers. Fifty percent of subjects feared societal stigmatization and social discrimination for using the healthcare services, 27.8% feared accessing the sexual healthcare services would lead to disclosure of their risk behaviors to their spouse or partner and 42.6% feared disclosure of their MSM status. About one-half (51.7%) of subjects thought the sexual health services were too far from home. Seventy-one percent of subjects thought they were healthy and did not need sexual health services, 68.2% felt they were not at risk for contracting HIV infection, 52.3% had no interest in accessing sexual healthcare services and 1.1% stated they knew they were HIV positive.

Subjects who thought sexual health services staff would not keep client information confidential were significantly less likely (p = 0.004) to have had HIV testing or accessed sexual health services than those who thought sexual health services staff would keep information confidential. Subjects who feared they might have HIV infection and could not deal with this news were significantly less likely (p = 0.032) to have had HIV testing or accessed sexual health services than those who were not afraid of this. Subjects who feared disclosure of their HIV status were significantly less likely (p = 0.001) to have had HIV testing or accessed sexual health services that those who were not afraid of disclosure. Subjects who feared disclosure of their MSM status were significantly less likely (p = 0.03) to have had HIV testing or accessed sexual health services than those who were not afraid of disclosure (Table 4).

Factors associated with having had HIV testing or accessing sexual health services

On multivariate analysis, 2 independent variables were significantly positively associated with having had HIV testing or accessing sexual health services. Subjects who had ever had sexual intercourse were significantly more likely (adjusted OR = 3.12; 95% CI: 1.16-8.39; p= 0.024) to have had HIV testing or accessed sexual health services than those who had never had sexual intercourse. Subjects who had a positive opinion about the quality of sexual health

Table 4

Proportions of subjects with a history of HIV testing or using sexual health services by opinions about barriers to sexual health services (Total number, N = 176)

Barriers to healthcare services	n/N (%)	p-value
Service providers		
Staff stigmatize and discriminate against MSM		
Disagree	50/129 (38.8)	0.337
Agree	22/47 (46.8)	
Staff refuse to provide services to MSM		
Disagree	55/145 (37.9)	0.082
Agree	17/31 (54.8)	
Staff do not keep client information confidential		
Disagree	42/80 (52.5)	0.004
Agree	30/96 (31.3)	
Unfriendly service		
Disagree	49/113 (43.4)	0.375
Agree	23/63 (36.6)	
Clients		
Fear that spouse or partner would learn about risk behaviors due to accessing health service		
Disagree	54/127 (42.6)	0.484
Agree	18/49 (36.7)	
Fear of stigma and discrimination from family, partner, friends and community due to accessing health service		
Disagree	35/88 (39.8)	0.759
Agree	37/88 (42.0)	
Fear of stigma and discrimination from health staff		
Disagree	38/87 (43.7)	0.460
Agree	34/89 (38.2)	
Fear of HIV infection/inability to cope with the HIV positive test result		
Disagree	29/55 (52.7)	0.032
Agree	43/121 (35.5)	

Table 4 (cont)

Barriers to healthcare services	*n*/N (%)	*p*-value
Clients (cont)		
Fear of disclosure of positive HIV status		
Disagree	34/58 (58.6)	0.001
Agree	38/118 (28.0)	
Fear of disclosure of MSM status		
Disagree	51/101 (50.5)	0.003
Agree	21/75 (28.0)	
Fear the effects on daily life if people know they accessed this type of health service		
Disagree	39/85 (45.9)	0.195
Agree	33/91 (36.3)	
Spend too much time traveling to the service; service is located too far away		
Disagree	35/85 (41.2)	0.944
Agree	37/91 (40.7)	
No interest in the service		
Disagree	39/84 (46.4)	0.155
Agree	33/92 (35.9)	
Not at risk for HIV infection		
Disagree	28/56 (50)	0.094
Agree	44/120 (36.7)	
Already HIV infected, so does not want to use the service		
Disagree	72/174 (41.3)	0.237
Agree	0/2 (0)	
Healthy and does not want to use the service		
Disagree	21/51 (41.2)	0.963
Agree	51/125 (40.8)	

MSM: men who have sex with men

services were significantly more likely (adjusted OR = 2.74; 95% CI: 1.28-5.91; p = 0.010) to have had HIV testing or accessed sexual health services than those who had a negative opinion (Table 5).

DISCUSSION

As far as we know, this is the first study about the opinions of MSM university students in Thailand regarding the barriers to having HIV testing and accessing sexual health services. As much as 40.9% of our subjects reported having a history of either being tested for HIV infection or accessing sexual health services; this high figure combined with the high rate of risky sexual behavior among study subjects suggests the need for appropriate sexual health services for this population.

In our study, the subjects who had previously used sexual health services answered based on their experiences and these are more likely to represent reality while the beliefs of subjects who had not previously used the sexual health services were based only on their concerns and reflect what they were worried about.

In our study, the high frequency of negative opinions about the sexual health services is concerning. These opinions need to be taken into consideration when attempting to improve the current services. These concerns include: location, waiting time and cost of services. The study hospital is located in the city center which may not be convenient to access for some subjects. Long wait times at government health facilities in Thailand are common. A recent study reported the average outpatient wait time at 52 government hospitals was 90 minutes, which is relatively long compared to private hospitals (Aujirapongpan *et al*, 2020). The average wait time at the sexual health services clinic needs to be determined. The high reported cost mentioned by some subjects needs to be investigated as sexual health services at government facilities should be free. This needs to be better advertised in the study population.

A barrier to accessibility of HIV testing and sexual health services listed by subjects was HIV-related stigma. Subjects mentioned fear of a positive HIV test, fear about the inability to cope with a positive HIV test, fear of disclosure of a positive HIV status and concern about privacy and confidentiality of the sexual health services. These feelings can be categorized as anticipated stigma and result from perceived stigma in society (Turan *et al*, 2017). Reducing stigma in society is difficult but it should at least be reduced among sexual health services providers which may result in a reduction in stigma among members of society. The reduction in stigma among providers should improve patient/provider communication. Improvement programs should also emphasize improving privacy and confidentiality to develop the trust of clients.

Despite engaging in high-risk sexual behavior, most of our study subjects did

Table 5

Multivariate analysis of factors associated with a history of HIV testing or using sexual health services of MSM students

Independent variables	*n*/N (%)	OR (95% CI)	*p*-value	Adjusted OR (95% CI)	*p*-value
History of sexual intercourse					
No	8/37 (21.6)	Reference		Reference	
Yes	64/139 (46.0)	3.09 (1.32-7.24)	0.007	3.12 (1.16-8.39)	0.024
Opinion toward the quality of existing sexual health services in the province*					
Poor quality	42/126 (33.3)	Reference		Reference	
Good quality	30/50 (60.0)	3.00 (1.53-5.90)	0.001	2.74 (1.28-5.91)	0.010
Interested in getting tested for HIV					
No	18/63 (28.6)	Reference		Reference	
Yes	54/113 (47.8)	2.28 (1.18-4.43)	0.013	1.75 (0.82-3.74)	0.148
No specific services available for MSM					
Agree	52/142 (36.6)	Reference		Reference	
Disagree	20/34 (58.8)	2.47 (1.15-5.31)	0.018	1.62 (0.67-3.92)	0.282
Lack of privacy and confidentiality					
Agree	43/120 (35.8)	Reference		Reference	
Disagree	29/56 (51.8)	1.92 (1.01-3.66)	0.045	1.43 (0.67-3.08)	0.359

Table 5 (cont)

Independent variables	*n*/N (%)	OR (95% CI)	*p*-value	Adjusted OR (95% CI)	*p*-value
Service system is too complex and not aware of the price before accessing services					
Disagree	21/71 (29.6)	Reference		Reference	
Agree	51/105 (48.6)	2.25 (1.19-4.25)	0.012	1.24 (0.57-2.68)	0.588
Staff do not maintain client confidentiality					
Disagree	30/96 (31.3)	Reference		Reference	
Agree	42/80 (52.5)	2.43 (1.31-4.50)	0.004	1.64 (0.80-3.36)	0.179
Fear of HIV infection/inability to cope with a positive HIV test result					
Agree	43/121 (35.5)	Reference		Reference	
Disagree	29/55 (52.7)	2.02 (1.06-3.87)	0.032	1.67 (0.74-3.73)	0.214
Fear of disclosure of positive HIV status					
Agree	38/118 (32.2)	Reference		Reference	
Disagree	34/58 (58.6)	2.98 (1.56-5.71)	0.001	1.74 (0.80-3.80)	0.166
Fear of disclosure of MSM status					
Agree	21/75 (28.0)	Reference		Reference	
Disagree	51/101 (50.5)	2.62 (1.39-4.96)	0.003	1.83 (0.87-3.86)	0.111

CI: confidence interval; MSM: men who have sex with men; OR: odds ratio

*"Opinions about the quality of existing sexual health services in the province" was strongly associated with the "Thought that the available services were not up to the standards"; Only the prior variable was selected for inclusion in the final model.

not believe they were at increased risk for contracting HIV infection or STI and did not perceive the need for HIV testing or sexual health services. This is concerning because it will result in people not accessing sexual health services and increasing the risk for transmission of HIV infection and STI. Improvement programs need to focus on improving risk awareness.

In our study, MSM university students with a history of sexual intercourse were more likely to seek HIV testing or sexual health services than students with no history of sexual intercourse. This makes sense since only those with sexual activity are at risk for contacting a sexually related disease. Programs need to identify and target those who are sexually active MSM in order to optimize disease reduction. Another factor associated with accessing HIV testing and sexual health services was feeling confident about the quality of the sexual health services. This requires developing and implementing instruments to identify good quality sexual health services in order to guide improvement programs.

A strength of this study was that it explored an issue not previously studied in Thailand. A weakness was the small sample size from only 2 universities. Some subjects may not have answered the questions in the questionnaire truthfully since the questionnaire was self-administered and the subject matter was sensitive.

In summary, a large proportion of study subjects engaged in risky sexual behavior and had negative feelings about existing local HIV testing and sexual health services. Those with a history of sexual intercourse and positive attitudes about the quality of the sexual health services were more likely to have had HIV testing or have accessed sexual health services. Most subjects did not feel a need for HIV testing or sexual health services. We conclude there is a need for further studies to determine if the subject opinions accurately reflect the reality of the services and to guide improvement programs. There is a need for education of the study population regarding the risks of sexual behavior and the value of the sexual health services and HIV testing.

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