

Original article

A study of HIV risky behaviors and Self-esteem among men who have sex with men (MSM) at RSAT Medical Technology Clinic Ramkhamhaeng

Phubet Panpet^a, Buranee Kanchanatawan^{b,*}

^aProgram in Mental Health, Department of Psychiatry, Faculty of Medicine, Chulalongkorn University, Bangkok, Thailand

^bDepartment of Psychiatry, Faculty of Medicine, Chulalongkorn University, Bangkok, Thailand

Background: Nowadays, studies show that the rate at which men who have sex with men (MSM) contract human immunodeficiency virus (HIV) remains the highest among ordinary people. Therefore, a reduction in contracting HIV with the support of caring individuals and self-protection is a must.

Objective: To study the association of HIV risk behaviors, self-esteem, and related factors among MSM at Rainbow Sky Association of Thailand (RSAT) Medical Technology Clinic Ramkhamhaeng.

Methods: Data were collected from 358 MSM clients at RSAT MT Clinic by using questionnaires including: 1) demographic questionnaire; 2) an HIV/AIDS knowledge test; 3) The Coppersmith Self-Esteem Inventory Adult Form; and, 4) an HIV risky behavior questionnaire. Descriptive and inferential statistics (Chi-Square and Multiple Logistic Regression Analysis) were used to evaluate the data.

Results: Most MSM subjects had permanent sexual partners (61.7%) while others non-permanent sexual partners (56.4%); 57.5% had high self-esteem, whereas 69.3% had moderate HIV risky behaviors. The multiple logistic regression analysis showed that four factors were significantly associated with HIV risky behaviors: those with insufficient income had 3 times incidence of HIV risky behaviors than those with sufficient income adjusted odds ratio(AOR) = 2.875, 95% CI: 1.196 - 6.914, $P=0.018$), education level lower than Bachelor's Degree had 6 times the incidence of risky behavior than master's degree or higher (AOR = 5.979, 95% CI: 1.120 - 31.936, $P=.036$), having non-permanent sexual partner had 9 times the incident rate of risky behavior than those who do not (AOR = 9.434, 95% CI: 3.784 - 23.522, $P<0.001$); meanwhile, low self-esteem had 38 times the possibility of HIV risky behaviors than those with high self-esteem (AOR = 37.864, 95% CI: 7.610 - 188.380, $P<0.001$).

Conclusion: Factors related to HIV risky behaviors include low self-esteem, insufficient income, education level, and having non-permanent partners. The most prominent contributing factor is low self-esteem. Therefore, raising one's self-esteem is crucial to developing a sense of safe behavior and practices.

Keywords: HIV/AIDS, HIV Risky behaviors, self-esteem, men who have sex with men, MSM.

The state of human immunodeficiency virus/acquired immunodeficiency syndrome (HIV/AIDS) in Thailand has resulted in national plans to eliminate the high rates of HIV/AIDS as well as modifying behavior at higher risk of contracting HIV by men who have sex with men (MSM), sex workers, transgender people, youth, and drug users.⁽¹⁾ Data from Thailand National Operational Plan Accelerating

Ending AIDS 2015 - 2019 estimated a total of 33,970 new HIV infections, which shows that 3 out of 4 new HIV infections belong to MSM and serodiscordant couples.⁽²⁾ Moreover, the Thailand AIDS Response Progress Report 2018 estimated a total number of around 159,600 MSM in the country.⁽³⁾ The report on HIV prevalence for MSM in the year 2014 was 19.2% and in the year 2018 was 11.9%, which is still unacceptably high.⁽⁴⁾ Thus, MSM is the key population group that needs urgent resolution.

A study of risky behaviors in MSM was conducted, showing a trend in which such behavior increase by having unprotected anal intercourse with partners who do not know their HIV status.⁽⁵⁾ In addition, a study conducted by Chomchey N.⁽⁶⁾ stated

*Correspondence to: Buranee Kanchanatawan,
Department of Psychiatry, Faculty of Medicine, Chulalongkorn University, Bangkok 10330, Thailand.
E-mail: drburanee@gmail.com
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that MSM had sexual intercourse with multiple partners, both permanent and non-permanent (or non-regular) partners. They may be strangers who met through dating applications or common meeting places, such as spas, saunas, entertainment venues, public parks, private parties, etc., to seek non-permanent partners. During intercourse, the level of condom usage was low while usually accompanied by alcohol consumption or drug intake as well as injecting drugs with shared needles. These are all practices that lead to high HIV infection.

Raising awareness, developing skills, obtaining counseling, or accessing health services to lower risky behaviors to prevent or decrease the spread of HIV in MSM is crucial. Self-esteem is one of the key factors which affects human problem-solving capacity by raising one's sense of responsibility for one's actions.⁽⁷⁾ After individuals take control of their actions, they would see greater success, enhanced potential as well as their true self-value. A previous study done by Thangsuwan J, *et al.*⁽⁸⁾ found that differences in self-esteem would result in statistically significant ($P = 0.016$) different AIDS prevention practices. Similarly, a study conducted by Sa-ardeam S.⁽⁹⁾ found that various behaviors that would raise the risk of contracting HIV was related to low self-esteem as statistically significant. Therefore, decreasing risky behaviors could be affected by raising an individual's self-esteem. This conforms to Snell WE, *et al.*⁽¹⁰⁾ who found that individuals with higher self-esteem tended to have positive thinking and practiced self-care, which increased the chance of having protected sex, tending to their own self-care, and decreased risky sexual behaviors.

As studies in this field are limited, this study would focus on studying the behaviors at risk of contracting HIV as well as self-esteem among MSM. It would be conducted with the MSM that received services from Rainbow Sky Association of Thailand (RSAT) Medical Technology Clinic, Ramkhamhaeng, an organization of civil society that deals with HIV/AIDS by providing access to sexual health care, prevention, as well as HIV-related services for MSM that started in 2014.

Materials and methods

A cross-sectional descriptive methodology was used to recruiting 358 MSM who were not under 18 years old, of Thai nationality, able to communicate, read and write in Thai, who could

complete questionnaires independently, and gave consent for this study by signing the provided forms. The study was approved by the Ethics Committee, the Institutional Review Board of Faculty of Medicine, Chulalongkorn University (IRB no. 458/64). Data were collected from MSM clients at the RSAT Medical Technology Clinic Ramkhamhaeng by using the following questionnaires of four parts namely:

Part 1: The demographic data questionnaire created by the researcher based on related studies, including: 1) demographic data: age, occupation, monthly income, income sufficiency, education, marital status, number of siblings, current residential status; 2) sex and psychosocial factors: sexual partner, MSM disclosure and acceptance from others; and, 3) clinical characteristics: congenital disease and mental illness.

Part 2: HIV/AIDS knowledge assessment created by Polsilp P.⁽¹¹⁾ containing 15 items consisting of the cause of infection (1 item), HIV transmissions (5 items), risk factors (3 items), prevention (2 items), and symptoms (2 items). Each item can be rated as 0 (False/ Unknown) and 1 (True). The total score is categorized into 3 levels, namely; high (12 - 15), moderate (9 -11), and low (< 9). The reliability is determined by the internal consistency method with Cronbach's alpha coefficient 0.85.

Part 3: The Coppersmith Self-Esteem Inventory Adult Form was translated and developed by Kongsri S.⁽¹²⁾ from the Coppersmith Self-Esteem Inventory Adult Form. The reliability was determined and applied to mobility impairment workers undergoing vocational training by Pornkaew P.⁽¹³⁾ and verified by Kuder-Richardson formula 21 with a reliability score of 0.836 used for assessing self-esteem in general, with family, and in social situations. It contain 25 items with yes/no response for each item with 2 types of questions: positive question of 8 items and negative question of 17 items. Each item can be rated as 0 (No), 1 (Yes) for positive questions which alternate with negative questions. The total score be categorized into 3 levels: low and moderately low (0 - 49), moderately high (50 - 74) and high level (75 - 100).

Part 4: HIV Risky behaviors questionnaire developed by Takkanun S.⁽¹⁴⁾ from Hathaichanok T, had a reliability score of 0.64. Used for assessing risky behaviors, it contains 21 items with 4 choices (always, often, rarely, never). Each item can be rated as 1, 2, 3, 4 with the lower score representing a higher level of HIV risky behaviors. The score is categorized into 3 levels: high (< \bar{x} - SD), moderate (between a range

of \bar{x} - SD), and low ($> \bar{x} + SD$). The literature review showed a specificity within the MSM context and lifestyle. Therefore, the researcher adjusted some questions in the assessment and proposed to an advisor for content validity. Thirty samples were tried out to determine the reliability by internal consistency method with Cronbach's alpha coefficient 0.858.

Statistical analysis

Descriptive statistics were used to describe demographic characteristics and related factors of the subjects among MSM clients at the RSAT Medical Technology Clinic Ramkhamhaeng. Data was expressed as frequencies, mean (\bar{x}), and standard deviation (SD). Inferential statistics were used to determine factors related to HIV risky behaviors among the subjects with Chi-square and Multiple Logistic Regression Analysis which was used to determine predictors of HIV risky behaviors. $P < 0.05$ was considered as significant.

Results

Demographic data is presented in Table 1. Overall, of the 358 MSM subjects, the mean age was 31.0 years. Most were employees of private companies (58.7%), with a monthly income of 28,387.01 baht, most had income sufficiency (64.0%), attained a Bachelor's Degree (65.6%), single (69.1%), living alone (46.9%) and rented accommodation (44.4%). The median number of siblings was two.

As to sex and psychosocial factors, most subjects had permanent sexual partners (61.7%) while some non-permanent sexual partners (56.4%). Most disclosed to their close friends that their nature of MSM (83.5%) and about 90.2% close friends accepted that they were MSM. As to their clinical characteristics, most of them had no congenital disease (82.4%) or mental illness (96.1%)

Table 1. Subjects' demographic data and clinical characteristics (n = 358).

Demographic data and clinical characteristics		n (%) ^a
Age (years)		31.0 ± 7.7 ^a
Occupation	Government official/state enterprise employee	37 (10.3)
	Employee of private company	210 (58.7)
	Merchant, freelance, or business owner	52 (14.5)
	Student	38 (10.6)
	Unemployed	21 (5.9)
Monthly income (baht)		28387.0 ± 28496.9 ^a
Income sufficiency	Sufficiency	229 (64.0)
	Insufficiency	129 (36.0)
Education	Lower than Bachelor's Degree	83 (23.2)
	Bachelor's Degree	235 (65.6)
	Master's Degree or higher	40 (11.2)
Marital status	Single	344 (96.1)
	Married	7 (2.0)
	Separated	7 (2.0)
Number of siblings		Median = 2
Current residential status	Alone	168 (46.9)
	Living with parents/sibling/relatives	128 (35.8)
	Living with partner	62 (17.3)
Residential condition	Owner	128 (35.8)
	Rental	159 (44.4)
	Property of parents/sibling/relatives	59 (16.5)
	Property of others/Living by others' rental	12 (3.4)
Had a permanent sexual partner	Yes	221 (61.7)
	No	137 (38.3)
Had non-permanent sexual partner	Yes	202 (56.4)
	No	156 (43.6)

Table 1. (Con) Subjects' demographic data and clinical characteristics (n = 358).

Demographic data and clinical characteristics		n (%) ^a
Disclosure about being MSM		
Disclosed to parents	Disclosed	202 (56.4)
	Not disclosed	156 (43.6)
Disclosed to siblings	Disclosed	212 (59.2)
	Not disclosed	146 (40.8)
Disclosed to close friends	Disclosed	299 (83.5)
	Not disclosed	59 (16.5)
Disclosed to colleagues	Disclosed	229 (64.0)
	Not disclosed	129 (36.0)
Acceptance about being MSM		
Accepted by parents	Accepted	253 (70.7)
	Not accepted	105 (29.3)
Accepted by siblings	Accepted	273 (76.3)
	Not accepted	85 (23.7)
Accepted by close friends	Accepted	323 (90.2)
	Not accepted	35 (9.8)
Accepted by colleagues	Accepted	295 (82.4)
	Not accepted	63 (17.6)
Congenital disease	No congenital disease	299 (82.4)
	congenital disease	63 (17.6)
Mental illness	No mental illness	344 (96.1)
	mental illness	14 (3.9)

^a = Mean ± SD**Table 2.** Subjects' HIV/AIDS knowledge, Self-esteem, and HIV risky behaviors (n = 358).

Factors		n (%)
HIV/AIDS knowledge	low knowledge	23 (6.4)
	moderate knowledge	97 (27.1)
	high knowledge	238 (66.5)
Self-esteem	low and moderately low	49 (13.7)
	moderately high	103 (28.8)
	high self-esteem	206 (57.5)
HIV risky behaviors	high risky behavior	46 (12.8)
	moderate risky behavior	248 (69.3)
	low risky behavior	64 (17.9)

HIV/AIDS knowledge

Most subjects had high HIV/AIDS knowledge (66.5%), some moderate knowledge (27.1%), and a few low knowledge (6.4%) (Table 2).

Self-esteem

The results from using Coppersmith Self-Esteem Inventory Adult Form showed that most of the subjects had high self-esteem (57.5%), some moderately high (28.8%), whereas 13.7% low and moderately low in self-esteem (Table 2).

Factors related to HIV risky behaviors among MSM clients at RSAT Medical Technology Clinic Ramkhamhaeng

The results assessed by the HIV Risky behaviors questionnaire indicated that 46 subjects were found to have highly risky behavior (12.8%), 248 subjects were found to have moderate risk (69.3%) and 64 subjects were found to have low risky behavior (17.9%) (Table 2).

Eight factors were found to be related to HIV risk behaviors: age, monthly income, income sufficiency, education, living condition, non-permanent sexual partner, disclosing to parents about being MSM, and self-esteem (Table 3).

Predictors related to HIV risk behaviors among MSM clients at RSAT Medical Technology Clinic Ramkhamhaeng

Factors related to HIV risk behaviors were analyzed by using multiple logistic regression analysis.

The following 5 factors capable of predicting HIV risk behaviors among MSM clients remained: 1) low and moderately low self-esteem (AOR = 37.864, 95% CI: 7.610 - 188.380, $P < 0.001$); 2) moderately high self-esteem (AOR = 6.168, 95% CI: 2.343 - 16.234, $P < 0.001$); 3) income sufficiency adjusted odds ratio (AOR) = 2.875, 95% CI: 1.196 - 6.914, $P = 0.018$; and, 4) education (AOR = 5.979, 95% CI: 1.120 - 31.936, $P = 0.036$); and, 5) had non-permanent sexual partner (AOR = 9.434, 95% CI: 3.784 - 23.522, $P < 0.001$) (Table 4).

Table 3. Relationships between HIV risk behaviors and related factors (n = 358).

Factors	HIV risky behaviors			P-value
	High (n = 46) n (%)	Moderate (n = 248) n (%)	Low (n = 64) n (%)	
Age	29.1 ± 6.7	30.7 ± 7.7	33.0 ± 7.9	0.037*
Monthly income	21380.4 ± 13898.5	27358.6 ± 27508.1	37408.1 ± 37072.2	0.008*
Income sufficiency				0.004*
Sufficient	21 (9.2)	159 (69.4)	49 (21.4)	
Insufficient	25 (19.4)	89 (69.0)	15 (11.6)	
Education				0.046*
Lower than Bachelor's Degree	14 (16.9)	60 (72.3)	9 (10.8)	
Bachelor's Degree	29 (12.3)	164 (69.8)	42 (18.0)	
Master's Degree or higher	3 (7.5)	24 (60.0)	13 (32.5)	
Residential condition				0.046*
Owner	14 (10.9)	80 (62.5)	34 (26.6)	
Rental	24 (15.1)	115 (72.3)	20 (12.6)	
Property of parents/sibling/relatives	6 (10.2)	46 (78.0)	7 (11.9)	
Property of others/Living by others' rental	2 (16.7)	7 (58.3)	3 (25.0)	
Had non-permanent sexual partner				< 0.001*
Yes	35 (17.3)	149 (73.8)	18 (8.9)	
No	11 (7.1)	99 (63.5)	46 (29.5)	
Disclosure to parents about being MSM				0.021*
Disclosed	32 (15.8)	128 (63.4)	42 (20.8)	
Not disclosed	14 (9.0)	120 (76.9)	22 (14.1)	
Self-esteem				< 0.001*
Low and moderately low	17 (34.7)	30 (61.2)	2 (4.1)	
Moderately high	18 (17.5)	72 (69.9)	13 (12.6)	
High self-esteem	11 (5.3)	146 (70.9)	49 (23.8)	

* $P < 0.05$

Table 4. Predictors of HIV risk behaviors among MSM clients at RSAT Medical Technology Clinic Ramkhamhaeng when analyzed with multiple logistic regression analysis.

Factors (n = 358)	Adjusted odds ratio	95 % CI	P - value
Self-esteem			
Low and moderately low	37.864	7.610 – 188.380	<0.001*
Moderately high	6.168	2.343 - 16.234	<0.001*
High self-esteem	1	Reference	
Income sufficiency			
Sufficient	2.875	1.196 - 6.914	0.018*
Insufficient	1	Reference	
Education			
Lower than Bachelor's Degree	5.979	1.120 - 31.936	0.036*
Bachelor's Degree	2.959	0.693 - 12.646	0.143
Master's Degree or higher	1	Reference	
Had non-permanent sexual partner			
Yes	9.434	3.784 - 23.522	<0.001*
No	1	Reference	

* $P < 0.05$

Discussion

Age is related to behaviors at risk of contracting HIV. Those with higher risk of contracting HIV tend to be younger. This conforms with the survey UNAIDS conducted in 2011 that specified that 30.0% of new HIV infection prevalence can be found in the MSM community, mostly were found in the age range as early as 15 years old.⁽¹⁵⁾ Moreover, this is also consistent with the report for the Bangkok area in 2019 that estimated the number of new HIV infections at 1,190 of which 628 were youth under the age of 25, amounting to 52.8%.⁽⁴⁾

A study on socioeconomic status found income sufficiency to be a factor relevant to behaviors at risk of contracting HIV. Santelli JS, *et al.*⁽¹⁶⁾ stated in their study that having a low income would put them into a power disadvantage status, more vulnerability, and correlate to risky sexual behaviors such exchanging sex for money, material objects, drugs, shelter, food, security, etc.⁽¹⁷⁾ As a result of having a low income or lacking shelter, some have to gain additional income or shelter via support from other people, life partners, or sex partners. This particular situation or relation leads to the difference in power, particularly in terms of sexual relations which can affect sexual behaviors as well.⁽¹⁸⁾ Furthermore, a study by Schur CL, *et al.*⁽¹⁹⁾ stated that academic level correlates to risky sexual behaviors. Receiving higher education opportunities enables one to access to reproductive health, sexual health care, birth control, proper practices, instructions, counseling, and health services.

In addition, support for preventative measures will also help decrease the chance of contracting HIV.

Having a non-permanent partner is related to behavior with a higher risk of contracting HIV. This conforms to a study done by Kyaw Min Htut.⁽⁵⁾ that found those with a non-permanent partner tend to have multiple partners. Sixty percent of them do not use condoms during sex leading to a higher risk of getting infected with HIV. Some surveys discovered that among the MSM, the reason for not using condoms was to prevent their lover or partner from suspecting them of having HIV, thereby building closeness and trust as well as confirming that they are safe.⁽⁶⁾ Many surveys in different studies of risky sexual behaviors have explained sexual sensation-seeking personality and sexual compulsivity as factors that lead to highly risky sexual behaviors.⁽²⁰⁾

Results from our study of self-esteem in the subjects have found that low self-esteem has 38 times more impact on behaviors at risk of contracting HIV than high self-esteem. As for moderate self-esteem, the number lowers to 6 times more than those with high self-esteem. Clearly, this shows that low self-esteem is related to more behaviors at risk of contracting HIV and substantiates a study by Josephs R, *et al.*⁽²¹⁾ that specifies those with low self-esteem have high-risk sexual behaviors. They might not be in control and struggle to solve their sexual problems.⁽²²⁾ which may include sexual violence, difficulties in negotiating for safe sex, as well as drugs and alcohol consumption, etc.⁽²³⁾ On the other hand, those with

high self-esteem will exhibit fewer behaviors at risk of contracting HIV. This can be corroborated in a study by Snell WE, *et al.*⁽¹⁰⁾ which discovered that low self-esteem concerning sex has an impact on risky behaviors during sex in MSM relations. If an individual has higher self-esteem, they will care for and protect themselves as well as gain confidence and capabilities in protecting themselves when having sex. It can be said that having high self-esteem is greatly relevant to one's ability to care for and protect oneself.⁽²⁴⁾ Therefore, having a healthy mental mindset, motivation, capability for self-control, and self-acceptance are important to building an individual's self-esteem, leading to positive behavior and safe practices that will more effectively lessen risky behaviors.

Conclusion

Behaviors at risk of contracting HIV in MSM relations have a close correlation to low self-esteem. And, in the case of low self-esteem, it will have an impact on such behaviors more than those of high self-esteem. Factors related to behaviors at risk of contracting HIV are namely: low self-esteem, in sufficiency of income, low level of education, and having non-permanent partners. Thus, to decrease the risky behaviors, we should consider and focusing on giving advices, knowledge sharing, and counselling to encourage proper behaviors, especially in youth, as well as improving a care program. As for sexual health services procedures, we should add self-esteem building and encourage behaviors to lower the risk by motivating a change for better health behavior in those who are at high risk.

Conflict of interest statement

Each of the authors has completed an ICMJE disclosure form. None of the authors declare any potential or actual relationship, activity, or interest related to the content of this article.

Data sharing statement

The present review is based on the reference cited. Further details, opinions, and interpretation are available from the corresponding authors on reasonable request.

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