

Factors Affected Unprotected Anal Intercourse among Men Who Have Sex with Men in Solok Indonesia

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Abstract

Unprotected Anal Intercourse (UAI) was the primary factor in transmission HIV among MSM. The aim of this study was to examine factors that affected UAI among MSM in Solok, Indonesia. This study using a design mix method approach, a study combination between quantitative among 70 MSM and qualitative among 19 informants. The result of this study shows that 77.1% reported engagement in UAI during sex in the previous six months. Multivariate analysis shows that UAI was associated with partner status ($p=0.017$, OR: 3.958; 95% CI:1.230 to 12.736), and knowledge about HIV/AIDS ($p= 0.01$, OR: 9.8; 95% CI: 2.555 to 37.587). The qualitative study shows that preference and lack of MSM identification were the other factors that affected UAI among MSM.

Keywords: HIV/AIDS · MSM · UAI.

Introduction

Men who have sex with Men (MSM) are currently at marked risk for HIV infection in Low- and Middle-Income Countries (LMICs) in Asia, Africa, Latin America and the Caribbean, and in Eastern Europe and Central Asia, and countries with a lower-middle economy state that MSM is 19 times more at risk of developing HIV than the general population.^{1,2} In the United States, HIV/AIDS cases among MSM have been increasing for over half (53%) of all reported HIV infection in 2006, and the case increase from 28,077 cases in 2007 to 30,573 cases in 2010.³ In Asia, the HIV/AIDS epidemic is generally concentrated on Injecting Drug Users (IDU), men who have sex with men (MSM), and sex workers. HIV/AIDS cases among homosexuals in China increased from 14.7% in 2009 to 17.4% in 2011, and about 2-4 % of men population in China identified as MSM.⁴ In Indonesia, the number of new cases of HIV among MSM in 2015 about 4.241 cases with AIDS about 449 cases.⁵

The primary risk factors transmission HIV/AIDS in MSM was Unprotected Anal Intercourse (UAI). UAI is unsafety sex behavior among insertive or receptive MSM whose doing anal intercourse without using condoms

for both insertive and receptive in anal intercourse.⁶ Unprotected Anal Intercourse (UAI) is deviant sexual behavior, where MSM does not think about the effects that can occur due to unsafe sexual behavior without using condoms. Broadly speaking, human behavior is a reflection of various psychiatric symptoms, such as knowledge, desires, interests, motivations, perceptions, and attitudes.⁷ The more often men who perform sex do not use condoms, the higher the risk of infected HIV/AIDS. In the United States, 43% of MSM who carry out UAI are infected with HIV.⁸ In Denmark, 66% of MSM who carry out UAI are infected with HIV.⁶ In Kazakhstan 69% of HIV positive MSM have unprotected anal sex (OR: 2.00; 95% CI: 1.04-3.84).¹ Research conducted at MSM in Nanjing, China also showed that 62.3% of MSM samples performed UAI.⁹

The reason for non-use condoms among MSM can be caused by internal and external factors. Internal factors are determinants that are unique to each individual, such as demographic characteristics, mental health factors, and personal beliefs about sexual pleasure. External factors came from outside of individuals that can support MSM not using condoms while doing intercourse.¹⁰ High rated of UAI has been found among immigrants

citizen, have physical conditions like homophobia, have a large number of partner, alcohol and drug consumption, have a low level of education, being in the heterosexual marriage, HIV status, HIV perception, internet usage for finding sex partners were the factors that affected UAI among MSM.^{11,12}

In this study, we reported the results of factors that affected for non-use of condoms among MSM in Solok - West Sumatera. In 2015 it is known that the number of MSM in Solok increased sharply from 2014 to 2015. In the preliminary study with HIV/AIDS Prevention Commission in Solok, it is known that around 50% of MSM in Solok still practice sex with not using condoms. An understanding of the factors that influence the behavior of UAI in MSM can help in designing programs that are effective in preventing the transmission of the HIV/AIDS virus to MSM and their partners. Therefore, researchers intend to examine the factors associated with Unprotected Anal Intercourse (UAI) on MSM in Solok.

Method

This study using a mix method approach or a combination of quantitative and qualitative approaches. This method using quantitative method at the first stage and qualitative method at the second stage to strengthen the results of quantitative research conducted at the first stage. The qualitative method used to obtain more in-depth information about other factors that influence MSM having sex without using a condom to informants who feel relevant to the problem in this study. This research was conducted from December 2016 to May 2017 and took place in Solok, West Sumatera, Indonesia.

The number of samples in quantitative research was determined using the Lemeshow formula and obtained about 70 samples and selected using consecutive techniques. To be eligible for participation, individuals needed to identify themselves as male, 16 years or older and having engaged sex with another man for the past 6 months. Data collected by using a self-administered questionnaire containing questions about demographic conditions of samples such as names, age, education, occupation, partner, sexual orientation, HIV status, knowledge about HIV/AIDS, alcohol, and drug consumption. Data were analyzed using univariate, bivariate, and multivariate analysis.

Two-sample chi-square tests were performed using statistical software to assess proportional differences

in data study. Logistic regression was used to identify dominant factors that affected UAI among variables derived from self-administered questionnaire items.

The sample for qualitative research is determined by using purposive sampling and selected from informants who are considered knowing the problem more broadly and deeply and can be trusted as a source of data. Informants in this study were selected about 19 informants. Background of the 19 informants that participated in qualitative method is from Public Health Office Kota Solok, HIV/AIDS Prevention Commission, part of a No-Governmental Organization that focused on MSM and the groups that risk for HIV/AIDS, and from MSM itself. MSM that eligible to be as informants is an individual that part of the quantitative technique and divided into two age groups namely 16-30 years old and higher than 30 years old. Data collected with in-depth interview technique and Focus Group Discussion among informants and analyzed using triangular method.

Results

Quantitative Method:

Univariate Analysis:

Table 1 Main Characteristic of Participants

Variable	f	%
Age		
16-30 years	49	70
>30 years	21	30
Education		
Elementary school	4	5.7
Junior high school	4	5.7
Senior high school	49	70
College	13	18.6
Occupation		
Non-workers	21	30
Workers	49	70
Marital Status		
Single	56	80
Married	9	12.9
Widowed	5	7.1
Sexual orientation		
Homosexual	10	14.3
Bisexual	60	85.7

Variable	f	%
Partner Status		
Regular	44	62.9
Irregular	26	37.1
Number of partner		
1	44	62.9
2	9	12.9
3	9	12.9
4	2	2.9
5	2	2.9
6	2	2.9
7	1	1.4
9	1	1.4
Level of Education		
Low	38	54.3
Middle	19	27.1
Good	13	18.6
HIV Test		
Yes	45	64.3
Positive	1	2.2
Negative	44	97.8
No	25	35.7
Alcohol Consumption		
Yes	18	25.7
No	52	74.3
Drugs		
Yes	4	5.7
No	66	94.3
UAI		
Yes	54	77.1
No	16	22.9

All of the participants in this study reported having anal intercourse with 1 or more partners during the previous 6 months. The characteristic of 70 participants are described in Table 1. 49 MSM (70%) aged between 16-30 years old, 70% of participants graduated from senior high school. 70% of participants have a job like an entrepreneur, beauty stylist, parking attendants, and artist. Non-jobs participants generally are students. The majority of participants (80%) were single. For sexual orientation, 85.7% of participants self-identified as bisexual and 14.3% as a homosexual.

Over half of the participants (62.9%) have regular

partners for the past 6 months, while other participants (37.1%) having 2-9 sex partners. Half of the participants (54.3%) have low-level knowledge about HIV/AIDS. Over half of the participants (64.3) had HIV tests and 1 of the participants reported having HIV status. 25.7% of participants consume alcohol and the majority of participants were non-drugs person.

A total of 54 participants (77.1%) reported doing UAI with male partners in 6 past months. Result of the relationship between variables shown in Table 2.

Table 2 Relationship between variables

Variables	UAI				Total	
	UAI		Safe sex		F	%
	f	%	f			
Age						
16-30	39	79.6	10		49	100
>30	15	71.4	6	-	21	100
Total	54	77.1	16		70	100
Level education						
Primary-secondary	6	75	2		8	100
Higher than secondary	48	77.4	14	-	62	100
Total	54	77.1	16		70	100
Partner Status						
Regular	38	86.4	6		44	100
Irregular	16	61.5	10	3.958	26	100
Total	54	77.1	16		70	100
Sexual orientation						
Bisexual	46	76.7	14		60	100
Homosexual	8	80	2	-	10	100
Total	54	77.1	16		70	100
Knowledge about HIV/AIDS						
Not Good	49	86	8		57	100
Good	5	38,5	8	9,8	13	100
Total	54	77.1	16		70	100
HIV Test						
Yes	35	77.8	10		45	110
No	19	76	6	-	25	100
Total	54	77.1	16		70	100
Alcohol Consumption						
Yes	14	77.8	4		18	100
No	40	76.9	12	1.050	52	100
Total	54	77.1	16		70	100
Drugs						
Yes	2	50	2		4	100
No	52	78,8	14	-	66	100
Total	54	77.1	16		70	100

From Table 2. Variables indicating significance with UAI among participants is partner status (having a regular or irregular partner) $p= 0.017$ and knowledge about HIV/AIDS $p= 0.001$.

Factors That Affected UAI among Participants:

In univariate analysis (Table 1 and Table 2), reporting that UAI significantly associated multivariate analysis with Status Partner and knowledge about HIV/AIDS ($p<0.05$). Logistic regression was used to identify dominant factors that affected UAI among participants. Significant factors affecting UAI included in the model were as follows: partner status (OR: 3.958; 95% CI:1.230 to 12.736), and knowledge about HIV/AIDS (OR: 9.8; 95% CI: 2.555 to 37.587).

Table 3 Multivariate Analysis

Variable	P Value	OR	95% CI for EXP (B)	
			Upper	Lower
Partner Status	0,017	3.958	1.230	12.736
Knowledge Level	0,001	9.8	2.555	37.387

From logistic regression, knowledge about HIV/AIDS is a dominant factor that affected UAI.

Qualitative Method

Background of the 19 informants that participated in qualitative method is from Public Health Office Kota Solok, HIV/AIDS Prevention Commission, part of a Non-Governmental Organization that focused on MSM and the groups that risk for HIV/AIDS, and from MSM itself. The topic that discussed with the informants is the reason for MSM practicing UAI when doing anal intercourse from another perspective. In the qualitative method, data collected using Focus Group Discussion method among MSM group and in-depth interview with staff of the Public Health Office in Solok, HIV/AIDS Prevention Commission, and part of a Non-Governmental Organization that focused on MSM.

The result shows that other factors that affected MSM practicing UAI while doing anal intercourse is preference factor, Lack of identification of MSM so that it affects the distribution of condoms, and lack of government programs that providing knowledge about HIV/AIDS that affected the low level of knowledge about HIV/AIDS among MSM.

Discussion

Unprotected Anal Intercourse among Participants:

Our study is the first to investigate the issue of unprotected sex between MSM in Solok. The result shows that over half of the participants (77.1%) reported doing UAI at least one period during 6 previous months. Unprotected sex-related with condom use among MSM. This result parallels with the other study where about over half of MSM doing UAI.^{9,13} This study identifies the factors that affected UAI doing intercourse among MSM was status partner and level knowledge about HIV ($p<0.05$). Other factors like age, level of education, sexual orientation, alcohol, and drugs were not affected UAI among participants.

In this study, the researcher did not find an association between age with UAI. As in other studies, older MSM has greater risk than younger MSM.¹⁴ It because older MSM generally become less aware of the importance of using contraception compared to younger age, making older MSM less obedient when using condoms.¹⁴ In contrast, in this study younger MSM mostly doing UAI than older ages. It is because from an interview with MSM, mostly MSM state that they are uncomfortable using condom while doing sex. FGD of MSM reported that the older age of MSM has high awareness of using condoms. It reported that the older age of MSM always bringing condoms when they have intention doing intercourse with their partners.

The decision of using condoms relate with education level.¹⁵ In this study, level of education not associated with UAI. MSM who have low level of education more often involved in sexual risk behavior than MSM that has higher education.¹⁶

Sexual orientation is a term used to describe the pattern of emotional, romantic, or sexual attraction. As in other studies, sexual orientation associated with UAI. Bisexual more often didn't use condoms while doing intercourse.¹⁷ In contrast, from this study sexual orientation not related with UAI. From the interview in the qualitative study, the result shows that bisexuals have more worries about sex especially because bisexuals are generally also bound by a female partner and have a wife. This concern makes bisexuals prefer to have safer sex compared to homosexuals.

Getting a HIV test is the most important thing to knowing about HIV status. By getting HIV status,

an MSM can know about their HIV status and their partner's status so they will aware and communication between MSM will increase when doing intercourse and it will preventing HIV transmission.¹⁷ Communication MSM and their partners about HIV status is a key point to improving HIV protective behavior in preventing HIV transmission.¹³ Our study stated that having HIV status is not significant factor that related with UAI. From the qualitative study, this is caused by low awareness from MSM that having HIV test to using condoms when doing intercourse and their mindset that it is still safe doing UAI if the result when getting HIV test among them is negative.

Alcohol and drugs can cause risky sexual behavior such as not using a condom during sex on MSM. Marijuana, ecstasy, ketamine, cocaine, opiate, and stimulant drugs are reported can increasing risky sexual behavior among MSM and reported the risk is increasing 2 multiple higher among MSM.^{18,19} Alcohol and drugs can cause loss of consciousness, irrational mind, and increasing sexual desire among MSM. Irrational mind can cause MSM losing self-control and increasing irrational sex behavior like not using condoms.²⁰ From this study, alcohol and drugs are not significant factors that related with UAI. The number of participants that using alcohol and drugs when doing intercourse still small, so it's cause lacking variation of sample.

Partner of sex is two or more different parties who work together because they need or complement each other in sexual relationships. In this study, it was found that as many as 44 MSM (62.9%) had regular sex partners and 26 MSM (37.1%) had irregular sex partners. The results of this study related with research conducted in Hong Kong that stated over half (75.1%) of MSM had permanent partners.²¹ Relationship between status partner with UAI support with statements from participants in the qualitative study. In the qualitative study, MSM stated that they feel safe doing intercourse with a regular partner than irregular partner. It's because communication about each other especially about their HIV status and the risk of HIV will communicate so well with regular partners. In contradiction, communication about sensitive issues like HIV and the risk will feel not communicating so well if their partners are different about time to time.¹³ In other cases, MSM that knowing about each other status about HIV makes MSM and their partners more comfortable and confident not to use condoms during sex.

Awareness of using condoms consistently based on willingness, motivation, and sufficient knowledge especially about benefit of using condoms when doing intercourse. It is because the action with knowledge will be lasting forever than without knowledge.¹⁰ Surprisingly, the result of this study shows that there is a positive association between knowledge about HIV/AIDS with UAI among MSM ($p < 0.05$). The risk MSM that has low level knowledge about HIV doing UAI is 10 times greater than MSM that has knowledge about HIV/ADS sufficiently.

Counseling, promotion, information, and education programs are significant factors that affected UAI among MSM in Liaoning.²² Related with quantitative method, in qualitative method knowledge about HIV and sexual risk behavior were also the factors that affected UAI.

Low level of knowledge about HIV/AIDS among participants caused by lacking socialization about HIV/AIDS especially for the risk groups like MSM. Based on interviews with staff of Public Health Office Solok, the programs have been created but still not right on the target. The target of the programs still focused on to general public but not for the risky groups. The programs still not covering all of MSM population in Solok, so that there are still MSM who does not participate in socialization programs. Effectiveness of socialization program has so many limitations such as lack of coordination among staff, lack of MSM identification, and difficulty to gather all of MSM to participate in programs because sometimes MSM socializes in a group-group, and sometimes the groups didn't get along with other groups.

Preference is another factor that affected UAI among participants. Based on data in qualitative interviews, personal preferred caused by desires of MSM itself, discomfort when using condoms, and that factor of partner desire. This result is relatable with other studies where discomfort when using condoms while doing intercourse is an inhibitor for condom-use among MSM in Uganda.²⁰ From the qualitative data, inconveniences of using condoms among participants caused by the condom have non-proportional size so that associated with increased odds for condom breakage or slippage. Because of this non-proportional size, MSM did not use the condoms consistently or regularly.²³ Request of a partner is the factor that affected the preference of MSM using condoms while doing intercourse. Request of a partner to use or not using condoms while doing

intercourse can be affected by the decision of MSM, because partner is an important person especially for MSM that worked as commercial sex workers.

Lacking identification of MSM reportedly related with condoms distribution among MSM in Solok. MSM that didn't get condoms distribution reportedly having risk doing UAI 2.2 multiple greater than MSM whose getting condoms.²² MSM who receive condoms is more likely to use condoms during sex than those who do not receive condoms. Therefore the lack of identification of MSM is one of the factors that influence MSM behavior in using condoms.

Our study has some limitations, first because this study bringing the sensitive and taboo topic in east culture, so participants are afraid and worries to participate in this study especially negative stigma in the community about deviant behavior. Several participants explained that they were afraid to disclose their sexual orientation and to speak freely about their sexual practice and sometimes covering the truth. Interviewed explained that if they had agreed to participate in this study because they considered that confidentiality and safety were guaranteed by recruitment method. Second, the study may be limited by the fact that it was a sensitive topic, the study still not cover all of MSM in this area, and not all of MSM can be interviewed by researchers, so Focus Group Discussion was performed to obtain the information because MSM is openly and confident when asking questions if they're in groups than individually.

Despite this limitation, as the first study to explore HIV transmission risk behaviors among MSM in Solok and West Sumatera, our work could open the way to future studies on MSM and HIV in this country. Further investigation could concern about MSM and various sexual identities exist about their sexual behavior and its relationship with socio-culture, norms, and religion. Our study suggests improving the role of peer prevention activities to increasing and suggest that prevention interventions should be systematically implemented within the high-risk groups of MSM in the Indonesian context.

Communication and coordination in the prevention interventions of programs must be improving among government and non-government parties to increasing the effectiveness of programs. Beyond social, norms, erroneous representation of HIV risk and taboos, prevention strategy should consider all forms of sexuality

and social status.

Conclusion

The study reveals that partners status, knowledge about HIV/AIDS, preference of using condoms, and lacking identification of MSM reportedly related with UAI.

Conflict of Interest: The authors declare that there is no Conflict of Interest in this study.

Ethical Clearance: Formal permission was obtained from National AIDS Prevention Commission and Health Office of Solok municipality, The participants were voluntary invited to participated in this study, and they informed that their participation would remain anonymous.

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