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PREVALENCE SEXUAL TRANSMITTED INFECTION (HIV AND SYPHILIS) AMONG MEN WHO HAVE SEX WITH MEN (MSM) IN SURABAYA Evy Diah Woelansari, Wisnu Istanto, Sri Sulami Endah Astuti, Hana Maratussolicha Analyst Health Department Health Polytechnic Surabaya Jl. Karangmenjangan No 18A Surabaya email : evydiahw@yahoo.com ABSTRACT Background Men who have sex with men (MSM) is high risk group for Sexual Transmitted Infection (STI). This research aims to determine prevalence sexual transmitted infection (HIV and syphilis) among men who have sex with men (MSM) in Surabaya. Methods This research is observational cross sectional study. Sample amount 57 MSM were recruited from respondent in a Public Health Service Surabaya. Result Specimen were collected for HIV (anti-HIV) and Syphilis (VDRL and TPHA). The prevalence of HIV infection was 15.78% (9/57), Syphilis 3.51% (2/57) and prevalence of HIV and syphilis infection was 3.51% (2/57). Seronegative HIV and syphilis infection was 77.19% (44/57). The prevalence of MSM who are not married and infected with HIV amounted to 17.65% and 33, 33% were married. Unmarried MSM infected with syphilis 7, 84%. Senior high school educated MSM infected with HIV as much as 15.79% and syphilis as much as 7.89%. HIV- infected MSM ages 20-30 yrs ie as much as 17.95% and 7.69% syphilis. MSM who use anal and oral highest HIV infection (23.535), anal (33.33%), oral (5.88%), user drugs (0.5%). MSM infected with syphilis and the use of anal and oral (8.82%), and anal 16.67%. Discussion Prevalence of MSM and STI highly occurs in the age of under 30 year old and no marriage status for HIV than syphilis infection. The increase of HIV victims are supported with lack of safe sex awareness and knowledge (Condom using and abnormal sexual behavior). Conclusion Monitoring and therapy are needed for MSM who HIV and syphilis infection. Keywords: Sexual Transmitted infection, HIV, Syphilis, MSM INTRODUCTION STI (Sexual Transmitted Infection) are infections that can be transmitted

from one person to another through sexual contact. STI is one of the causes of major diseases in the world and has provided a serious impact for health, social, and economic development in many countries. Surveillance and specific surveys in several countries have shown a high prevalence of STI in the population of men who have sex with men (MSM), than normal men in population. Various STI can be transmitted to sexual partners, whether between men or women. High HIV risk prevalence among MSM have been reported from countries that ignore the existence of MSM in the population (Indonesian Ministry of Health, 2011). The existence of MSM in high risk groups can be vulnerable with STI transmission. MSM's Lifestyle and sexual aberration behavior tend to have free sex and exchangeable sexual partners in having oral and anal sex. Discomfort, no safe sex implementation, and lack of knowledge about AIDS and syphilis cause a threat to other community groups that it will be the possible uncontrolled spread of STI (Zou, et al, 2014; CDC, 2015). Based on the results of the research showed groups of teenagers and young adults (15-24) are the age group at highest risk for contracting STI and aged 18-29 years as many as 45% have become sexual partners and found 9 % of them with HIV / AIDS (Hirshfield et.al, 2003; WHO, 2011). Based on the risk factors, the highest cases found in heterosexuals of 61.5%, then Injecting Drug Users IDU 15.2% of cases and the third highest was gay and bisexual men by 2.4%, while the remaining risk factors are unknown (Directorate General P2 & PL Indonesia Ministry of Health, 2014). Results Integrated Biological Behavioural Surveillance (IBBS) in 2007 showed MSM in the city of Surabaya HIV infected 33.6%, 5.6% and 5.2% STI rectum urethra (Indonesian Ministry of Health, 2011). It is estimated that the actual incidence is much greater than the numbers exist, this is due to the many cases go unreported. Besides, is not yet even number reporting, diagnostic facilities are lacking, the cases are asymptomatic, and the disease control that are not running makes it difficult to get the exact number of sexually transmitted disease. (Agustini and Arsani, 2013). The purpose of this study was to determine the prevalence of sexually transmitted infection (HIV and syphilis) among men who have sex with men (MSM) in Surabaya. The benefits of this research is expected to provide information on the prevalence of HIV and syphilis infection Among men sex men in Surabaya so that it can be used phak related to monitoring and controlling MSM HIV and syphilis infection. RESEARCH METHOD This study was designed as a cross-sectional survey to MSM in a public health service Surabaya. Peripheral blood samples were collected from each respondent, followed by the ELISA test for anti -HIV and the Veneral disease research laboratory (VDRL) test was used to identify the syphilis antibody in serum, and the spirochaeta antibody haemagglutination (Treponema pallidum haemagglutination/TPHA) test was adopted for confirmation. VDRL Testing Firstly, reseachers spread one drop (0.05ml) of the sample to fill the ring slide. Secondly, reseachers shook the antigen and add one drop (0.02ml) to the sample under test. Reseaches rotated the slide for eight minutes at 100 rev/minute. Reseaches inspected and observed macroscopically in good light view. Weak and reactivetrace shows characteristic small aggregates around the periphery of the liquid. Positive results show large black aggregates. Negative samples give a smooth grey result. TPHA Testing The contents of the diluent in the wells A1 of 100 uL and 25 ul diluent in the well A2-A10 Add 25 ul serum in wells A1 and mix until homogeneous taken 25 uL wells A1 and A2 wells put on later in homogenkan. Thus do the same treatment in wells A2 to A10 Dispose of as many as 25 uL of wells A10. A11 wells were given 25 ul of positive control and the A12 by 25 uL negative control. Adding 75 uL control cells into wells A2. Adding 75 uL of test cells into wells A3-A112. Homogenkan for 1 minute and incubated for 45-60 minutes. Read in reading mirror. Active syphilis was defined by a positive VDRL TPHA with a  $\geq 1:8$ . ANTI-HIV Testing Consider

first well as Blank and add 50 µL of positive (B1-D1) and negative controls (E1-F1) as well as test sera [into appropriate wells](#). Add [100 µL of working conjugate- 1 into each well](#) (A1-H1, A2-H2) except blank. Seal the plate with cardboard sealer tightly. Researches mixed gently for 15 seconds. Leave wells for 45 minutes at 37°C. Researches poured [contents into a waste container and](#) rinse with wash solution 350 µL the microplate wells 5- 6 times. Researches struck the wells sharply into absorbent paper or paper towels to remove all residual water droplets. Researches added 100 µL of enzyme to conjugate incubating the microplate wells [at room temperature](#) and [dark for 10 minutes](#) to develop color. Add 50 µL substrate A and substrate B as wells (A1-H1, A2-H2). Researches incubated the microplate wells at room temperature and darkened for 15 minutes to develop color. Add [100 µL of stop solution](#) in [to the wells to](#) stop reaction. Read absorbance at 450 nm 30 minute by ELISA reader.

**RESULT Data from education to the age of the data obtained as follows:** Most MSM who had high school aged 20-30 years (47.37%), 31-40 years of age as much as 14.04% and 41-50 years of age as much as 7.02%. MSM educated strata 1 most often at the age of 20-30 years is 15.79%. MSM is a Diploma 5.26% at age 20-30 years.

**Table 1. Characteristics HIV and Syphilis prevalence among men who have sex with men in Surabaya**

Marital status	Single	Married
Education	High school	Diploma
Behavioral	Condom use with men during having sex	Always
Sometimes	N (%)	26 (10, 53%)
51 (89, 47%)	6 (10, 53%)	39 (68, 42%)
3 (5, 26%)	15 (26, 32%)	16 (28, 07%)
19 (33, 33%)	Never	Number of having blood transfusion
No	Yes	Number of user drugs
No	Yes	Visits to STI Public Health Service in previous 3 mouths
No	Yes	Number of exchange intercourse
No	Yes	Number intents contact with men having sex
1x weeks	3x weeks	Sexual behavior
Anal	Oral	Anal and Oral
22 (38, 59%)	54 (94, 74%)	3 (5, 26%)
55 (96, 49%)	2 (3, 51%)	32 (56, 61%)
25 (43.85%)	28 (49, 12%)	29 (50, 88%)
35 (61, 40%)	22 (38, 59%)	6 (10, 53%)
17 (29, 82%)	34 (59, 65%)	No
Sample code	VDRL	TPHA
1 A004	1:8	1:32
2 A018	1:8	1:16
3 A036	1:8	1:32
4 A045	1:8	1:16

**Table 3. Results of the examination of anti-HIV**

Sample	OD code	1 A004	0,137	2 A010	0,413	3 A014	1.132	4 A015	0.064
5 A018	0.107	6 A019	0,391	7 A021	0,549	8 A022	1,173	9 A032	1,409
10 A040	1,216	Table 2. Results of the examination							

**Syphilis Among men Who have sex With men in Surabaya**

Sample	OD code	11 A051	0,134
The seroprevalence of HIV infection was 15, 78 % (9/57), Syphilis 3,51% (2/57) and seroprevalence infection HIV and syphilis was 3,51% (2/57)			

**Table 4. Factor risk associated with seroprevalence HIV and Syphilis infection among men who have sex with men in Surabaya**

n	n	Reactive %	HIV Infection n	Non reactive %	n	Positive %
Syphilis Infection n	Negative %	Education	High school	38	6	15,79%
6	15,79%	3	7,89%	35	92,11%	Diploma
3	0	0%	3	100%	0	0%
3	100%	0	0%	3	100%	Postgraduate
16	5	31,25%	5	31,25%	1	6,25%
15	93,75%	Ages	20-30 years	39	7	17,95%
32	82,05%	3	7,69%	36	92,31%	31-40 years
15	3	20%	12	80%	1	6,67%
14	93,33%	41-50 years	3	1	33,33%	2
66,67%	0	0%	3	100%	Status	marriage
Single	51	9	17,65%	42	82,35%	4
7,84%	47	92,16%	Married	6	2	33,33%
4	66,67%	0	0%	6	100%	Using condom during having sex
Always	16	0	0%	16	100%	Sometimes
19	6	31,58%	13	68,42%	2	10,53%
17	89,47%	Never	22	5	22,73%	17
77,27%	2	9,09%	20	90,91%	MSM's Behavior	Anal
6	2	33,33%	4	66,67%	1	16,67%
5	83,33%	Oral	17	1	5,88%	16
94,11%	0	0%	17	100%	Anal and Oral	34
8	23,53%	26	76,47%	3	8,82%	30
88,23%	User drugs	2	1	0,5%	1	0,5%
0	0%	2	100%	Blood tranfusion	2	0
0	0%	2	100%	0	0%	2
100%	DISCUSSION	Based on the research conducted, the number of MSM people at high risk of STI. This study is highly related to the level of knowledge of deviant sexual behavior dangers. Supported groups of MSM in Surabaya are very difficult to detect because of the MSM stigma factor. Besides the closure of brothels in Surabaya by the city				

government for example, "Dolly" sex trade complex, made a number of patients with STI difficult to detect. Data 9 MSM (15.78%) were infected with HIV, 2 MSM (3.51%) infected with syphilis, and 2 MSM (3.51%) were [infected with HIV](#) and [syphilis](#). The [results](#) indicate [the](#) presence of antibodies to the HIV virus in the serum of patients. Positive results show as the patient has experienced a seroconversion length of 2-3 months after HIV infection. Possible factors of transmission can be through sexual contact with a person with HIV / AIDS, because HIV is found in fluids, such as semen or blood through oral and anal. 2 (3.51%) were reinfected with HIV and syphilis. This is due to the possibility of syphilis infection is acquired for the manifestation of AIDS. HIV tests include examination of syphilis in general due to the spread of HIV will increase the spread of disease Syphilis. HIV infection will decrease the immunity of patients and people with the virus is more easily infected with other diseases, one of which is Syphilis. Likewise, if a person has been infected with pathogenic bacteria causing syphilis and there are lesions in the genital area, will further facilitate the transmission of HIV if the person having sexual relations with [people living with HIV](#). The [highest](#) proportion of HIV and syphilis infection in MSM in the age group between 20- 30 years old that year of 17.9% and 7.69%. This shows that the MSM community in the age group 18-39 years had a 2-fold risk compared to the STI affected age group over 40 years (Hirshfield et.al, 2003; WHO, 2011). MSM with HIV-infected high school education 15.79% higher than patients with syphilis is 7.89%. According to Notoatmodjo's (2007) research that the age and education greatly affects a person's knowledge. This shows that in adolescence is still in the process of the search for identity, so that when they are poorly informed about sexual health can lead teens frequent sexual intercourse freely. The consistent data show that the MSM has not been married more than married, infected with HIV (17.65%) and syphilis (7.84%). It is likely to pass on to the couple and their children (Indonesian Ministry of Health, 2011). Based on Table 3 indicate that HIV-infected men more frequently anal sexual intercourse with the number 6 (33.33%), sexual intercourse orally only one person (5.88%) and the use of anal and oral intercourse as many as 8 people ( 23.53%). While MSM infected with syphilis who use anal and oral as many as 3 people (8.82%) and the use of anal alone as many as 1 (16.67%). MSM infected with HIV and sometimes using a condom in sexual intercourse 6 (31.58%) and are not as many as 5 people (22.73%). [Men who have sex with men\(MSM\)](#) are [infected with](#) syphilis who sometimes use condoms as much as 2 people (10.53%) and who have never used a condom as much as 2 (9.09%). This study suggests that sexual intercourse is more potent oral and anal big STI. Condom is contraception also acts as STI prevention. According to Jatmika et al (2010), condoms are widely recommended to prevent STI. The use of condoms correctly and consistently reduce the transmission of HIV by 85%. Ano-genital intercourse is sexual behavior with the highest risk for STI transmission. This is due to the closeness of the rectal mucosa so young once injured when the ano-genital intercourse. The risk of injury is compounded if it occurs in the hand (fisting) anus or rectum. The second risk level is oro-genital including swallowing semen from sexual partners were infected with HIV and syphilis (Indonesian Ministry of Health, 2011; Purwani, 2015). Prevalence of MSM and STI highly occurs in the age of under 30 year old and no marriage status for HIV than syphilis infection. The increase of HIV victims are supported with lack of safe sex awareness and knowledge (condom using and abnormal sexual behavior). Although the results of seronegative HIV and syphilis by 77.19%, however, the behavior of [MSM are at](#) high [risk of HIV](#) infection [and](#) syphilis. [In](#) addition seronegative [is](#) likely the person during the window period or an immunocompromised.

#### CONCLUSION AND RECOMMENDATION

The prevalence of HIV infection was 15.78% (9/57), Syphilis 3.51% (2/57)

and prevalence of HIV and syphilis infection was 3.51% (2/57). Monitoring and treatment are needed for the HIV and syphilis-infected MSM. Religious approach, the use of condoms, single partner intercourse effectively reduce STI spread. REFERENCE Agustini, Ni Nyoman Mestri dan Arsani, Ni Luh Kadek Alit, 2013. Infeksi Menular Seksual dan Kehamilan. Seminar Nasional FMIPA UNDDIKSHA III tahun 2013. Centers of Disease Control (CDC). 2015. "Sexually Transmitted Diseases Treatment Guidelines". Ditjen PP & PL Indonesia Ministry of Health. 2014. Statistik Kasus HIV/AIDS di Indonesia s/d September 2014. Jakarta Efrida. 2011. "Imunopatogenesis Treponema pallidum dan Pemeriksaan Serologi" Hartono, Aput. 2009. Faktor Risiko Kejadian Penyakit Menular Seksual (Pms) Pada Komunitas Gay Mitra Strategis Perkumpulan Keluarga Berencana Indonesia (PKBI) Yogyakarta. [Skripsi] Surakarta : Fakultas Ilmu Kesehatan Universitas Muhammadiyah Surakarta Hirshfield. D. et,al. 2003. Risk Factors Men who have Sex with Men. Library of Medicine. Vol 7. No 30 Indonesian Ministry of Health, 2003. Pedoman Nasional Perawatan, Dukungan dan Pengobatan bagi ODHA. Virus HIV dalam Buku Pedoman untuk Petugas Kesehatan. Jakarta: DEPKES RI Indonesian Ministry of Health, 2011. Pedoman Nasional Infeksi Menular Seksual. Dirjen PPPL Indonesian Ministry of Health. 2014. Pusat Data Dan Informasi. Jakarta Selatan. Jatmiko Andri, et al. 2010. Peranan Kondom pada Penderita HIV (The Role of Condoms in HIV Infection). Surabaya: Staf Medik Fungsional Ilmu Kesehatan Kulit dan Kelamin Fakultas Kedokteran Universitas Airlangga. Jawetz, Melnick, & Adelberg's. 2013. Medical Microbiology. North America : The Mcgraw-Hill Companies, Inc Laksana, Agung Saprasetya Dwi. Lestari, Diah Woro Dwi. 2010. Faktor-Faktor Risiko Penularan HIV/AIDS Pada Laki-Laki Dengan Orientasi Seks Heteroseksual Dan Homoseksual Di Purwokerto. Mandala Of Health. Volume 4, Nomor 2. Nasronudin, 2014. HIV & AIDS Pendekatan Biologi Molekuler Klinis Dan Sosial Edisi 2. Surabaya : Airlangga University Press. Notoatmodjo, S. 2007. Promosi Kesehatan dan Ilmu Perilaku. Jakarta : Rineka Cipta Purwani, Winda. 2015. Pengakuan Diri Seorang Gay Di Dalam Lingkungan Gay (Studi Deskriptif Cafe Shop Di Kota Medan). [Skripsi] Medan : Fakultas Ilmu Sosial Dan Ilmu Politik Universitas Sumatra Utara Russel, Dorothy M. 2011. Bebas dari 6 Penyakit Paling Mematikan. Yogyakarta : Media Pressindo. Simbolon, Eirene. 2010. Pola Kelainan Kulit Pada Pasien HIV/AIDS di Rumah Sakit Umum Pusat Haji Adam Malik Medan. Medan : Fakultas Kedokteran Universitas Sumatera Utara. Siswosudarmo, HR. 2007. Teknologi Kontrasepsi. Gadjah Mada University Press. Yogyakarta WHO, 2011. HIV/AIDS in The South East Asia Region. Zou Yunhua, Dongliang Li, Dabing Lu, Yuhua Ruan, Xiao Qi, Ge Gao. 2014. Prevalence of HIV and Syphilis Infection among Men Who Sex With BioMed Research In ternational Volume Men in China : A Meta-Analysis. 2014. Hindawi Publishing Corporation 449 450 451 452 453 454