

## A study on HIV/AIDS infection and associated risks in young men who have sex with men

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**Abstract:** *Background:* In the global AIDS and HIV epidemic, prostitution has prevailing in discussions from many years. Sex workers generally have a high number of sexual partners. If they do become infected with HIV, they can likely pass it on to multiple customers. Globally it has been identified that the population of men who have sex with men had the high prevalence and incidence burden of HIV. Studies suggested the epidemic had peaked. Hence it is quite necessary to assess the magnitude of HIV infection and its related risk factors among sex workers. *Aim and Objectives:* To assess the Prevalence of HIV infection among STI patients and its associated risks in men who have sex with men. *Methods:* It was cross sectional study. 140 men who have sex with men registered with NGO in Vijayapura city were included. *Results:* The risk of HIV infection among those MSM who were unemployed, had their income less than Rs 5000 and those who had a past history of STD, Use of condoms and HIV prevalence were statistically associated. *Conclusion:* Requires more education about awareness about risk factors of disease of HIV/AIDS. Male sex workers are equally vulnerable to HIV/AIDS.

**Keywords:** MSM, HIV/AIDS, STI.

### Introduction

Sexually transmitted infections (STIs) are an important public health problem in terms of morbidity and mortality in developed and developing countries. For many decades, STIs have ranked among the top five kinds for which adults in developing countries seem for health-care services. After invasion of HIV/AIDS control of STIs became a priority [1].

For many years, prostitution has been a dominant theme in discussions of the global AIDS and HIV epidemic. According to AVERTing HIV and AIDS [2] an important reason for this is high rates of HIV individuals who sell sex. Although the prevalence of HIV amongst STIs found low, but it is higher than the rate found amongst the general adult population. Sex workers generally have a high number of sexual partners. This means that if they do become infected with HIV, they can likely pass it on to multiple customers. Sex workers act as a major vehicle of HIV infection through sexual contacts. This is an efficacious mode of transmission of HIV infection. That is why the HIV infection rate is very sensitive to a change in rate of multi partner sexual activity in the population.

Between HIV and STIs there is a sturdy epidemiological relationship [3-4]. Both STI and infection of HIV have similar type of risk behavior of unprotected sex with multiple Partners. Now in global, AIDS has become a severe public health problem; It has been predicted that, worldwide there were about 35.3 (95% CI 32.2 to 38.8) million people living with HIV in 2012; and amongst 2.3 (1.9 to 2.7) million were found to be newly infected HIV [5]. Globally it has been identified that the population of men who have sex with men had the high prevalence and incidence burden of HIV [6].

Normally prostitution has been associated with women. Without specifying gender, commonly prostitution is assumed to be female only. It has been understood that prostitution means, men who use women to satisfy their sexual needs and pay them for the service. Association between HIV and homosexuality it has been known that, prostitution could also occur in the context of men who have sex with men (MSM). The issue of heterosexual men who are hired by women for sex has not been widely

considered. It is however becoming increasingly noticeable that women do also hire men to satisfy their sexual needs and pay men for their services. During research conducted on female CSWs, It was come to notice that, male partners were also practicing prostitution. This prompted the research on male CSWs which had not previously been seriously considered by the researcher. It was aimed to assess the prevalence of HIV infection among STI patients and its associated risks in men who have sex with men.

**Material and Methods**

*Population for the study:* MSWs were selected as a study population because they are one of the ‘core groups’ for transmission of STI/HIV infection. They repeatedly have high rate of sexual partner change, which is one of the most important factors for transmission of HIV/AIDS infection. Because of lack of signs and symptoms and poorer admittance to health care facilities, and its recurrent nature, the interval of STIs is longer in MSWs. For targeted intervention for prevention of HIV/AIDS priority is given to this group.

Out of 200 MSW140 MSM, who were willingly participated after explaining the study purpose constitute the study subjects. Study population was selected from a registered STD Clinic of Male sex workers organizing by NGO situated in Vijaypur Taluka.

A structured Proforma was completed by the doctor or nurse practitioner contained some socio demographic information at the registration visit, were included. Along with this information and using structured questionnaire which containing some selected socio demographic questions and behavioral characteristics were collected by interview method.

*Statistical Analysis:* Data was analyzed using SPSS V 16.0. Statistical significance was accepted when  $p < 0.05$ . Association between HIV/AIDS and selected features of MSWs were examined using Univariate analysis. To measure the magnitude of the association between HIV and socio-demographic and behavioral factors chi square test/Fishers exact test, and odds ratio with 95% Confidence Interval was used.

**Results**

A total of 140 men reporting same sex partners constituted the study sample population. Among 140 study population, according to age, maximum number of participants i.e. 73% belonged to age of <30 years, followed by 47% in the age group 30-40 years. Most of the study subjects were Hindus (78%). 95% of this population had a high school and college education, and most them were Unemployed (85%). About 106 (76%) had their monthly income less than or equal to Rs.5000 and rest of them (24%) had their income per month more than Rs. 5000.

<b>Variables</b>	<b>No. of Sex workers</b>	<b>% age</b>
<b>Sexually transmitted disease</b>	140	
<b>HIV positive in</b>	19	13.6
<b>Age group (years)</b>		
20-30	73	51.9
30-40	47	33.9
40-50	13	9.2
>50	07	5.0
<b>Religion</b>		
Hindu	109	78
Muslim	31	22
<b>Formal Education level</b>		
Primary	7	4.7
High School	67	48
College	66	47.3
<b>Employment status</b>		
Unemployed	120	85.4
Employed	20	14.6
<b>Income</b>		
≤5000	106	76
>5000	34	24
<b>History of STD</b>		
Yes	35	25
No	105	75
<b>Alcohol Consumption</b>		
Never	45	32
≤1 week	59	42
≥2-7 week	36	26
<b>Number of Partners Per Week</b>		
1	111	79
2-5	22	16
>5	07	05

The past history of STD was reported by 35(25%) of participants. It was seen that among STD patients of sex workers the prevalence of HIV was 13.6% ≈14%. When we interviewed study subjects majority of subjects (79%) were said that, they have one sex partner per week. Only few (5%) were reported more than 5 sex partners per week. And only 42% of sex workers were using condoms regularly. Alcohol consumption ≤1 drinks per week was stated by 59(42%) of subjects, 45(32%) of subjects said that they never had alcohol (Table 1).

Statistically no significant difference was detected in HIV prevalence based on age, religion, formal education, employment status, income and number of partners per week,(p>0.05). However use of condom with partner alone was significantly associated with an HIV positive diagnosis, (P=0.0496) (Fisher’s exact test was applied). Statistical analysis to estimate the risk of HIV infection among MSM showed, age is not a risk factor of acquiring disease, (OR=0.5869 95% CI=0.1725-1.991 young age i.e <30 and OR=0.2791,95% CI=0.06608-1.178 for age>40 years). Similarly prevalence of HIV among STD patients varied

significantly across their educational level. The prevalence of HIV was higher (28%) among the patients those who had their education only up to primary level, as compared to higher education up to high school (15%) and collage (11%). But statistically it has not shown any association with infection. (OR=0.4386; 95%CI =0.0745-2.582 for primary education and OR=1.479 95% CI=0.5266-4.152 for Education up to college.) Risk of HIV infection OR > 1.0, among those MSM who were unemployed (OR=1.485, 95% CI 0.5266-4.152), had their income less than Rs 5000 (OR=1.048, 95%CI= 0.3176-3.460).But it was found insignificant statistically. Similarly the prevalence of HIV infection is high (28%) among the sex workers who had more than one (up to 5) number of sex partners per week. But it has not shown as a risk factor (OR<1.0, 95%CI <1).

Use of condoms and HIV prevalence were statistically associated. Irregular use of condoms was found to be high risk factor of HIV infection, (OR=3.125, 95% CI =0.108-9.967) (Table 2).

**Table-2: HIV Prevalence by Social Characteristics and Sexual Behavior Practices among Men Sex Workers**

Characteristics	No.	HIV positive	OR	95% CI	P value
<b>Age (Years)</b>					
<30	73	10 (12%)	0.5869	0.1725-1.991	0.5619
30-40	47	4 (07%)	1.00		
≥40	20	5 (09%)	0.2791	0.06608-1.178	0.1133
<b>Religion</b>					
Hindu	109	16 (15%)	1.606	0.4359-5.	0.5671
Muslim	31	03 (10%)			
<b>Formal Education level</b>					
Primary	7	2 (28%)	0.4386	0.0745-2.582	0.3168
High School	67	10(15%)	1.00		
College	66	07(11%)	0.7106	0.5266-4.152	0.6048
<b>Employment status</b>					
Unemployed	120	17(14%)	1.485	0.3157-6.990	1.00
Employed	20	02(10%)			
<b>Income</b>					
≤5000	106	13(12%)	1.048	0.3176-3.460	1.00
>5000	34	04(11%)			
<b>No. of Partners per day</b>					
1	111	13(12%)	1.00		
2-5	22	4(1%)	0.5969	0.1747-2.039	0.4824
>5	7	2(28%)	0.3316	0.0582-1.888	0.2174
<b>Condom use with partner</b>					
Irregular	81	15(19%)	3.125	0.9798-9.967	0.0496*
Regular	59	04(07%)			

\*Significant Association

## Discussion

Male CSWs are a reality although this phenomenon is not easily noticeable because the focus is always on female CSWs. Thus most of literature is dominated by female CSWs. For instance, in many countries blame and focus is on females who are involved in commercial sex work increase the vulnerability of female sex workers (FSWs) to the risk of HIV infection. Individual factors are the personal characteristics that increase vulnerability to specific risk situations. The prevalence of HIV detected in our study was 13.6%. It was found to be very near 13.8% in the study conducted in India by Bollinger *et al* [7]. The risk of HIV infection is high among sex workers of younger age group less than 30 years. Study conducted in 2000, among 651 MSM in Bogota, Colombia, the prevalence was found to be 18.4% with an increasing prevalence with age [8]. It was found 7.2% in a large sampled study (n=3492) conducted in US [9]. As our study, the prevalence of HIV among MSM population was high, i.e. ranged from 18 to 67% [10-13].

The results in our survey showed that, the illiterate sex workers are at high risk of contracting HIV infection. But we cannot say that literate people are not at risk; because present study revealed that the sample population with high education level (up to college) had the risk of getting infection (11%). Unemployed and less income (< 5000 Rs) was found to be associated with higher risk of HIV infection. Lack of income is another major feature of sex work. This trend may get worse in the light of the current economic crisis. Irregular use of condom with partner had high risk of infection was seen in the study. Unprotected sex leads to a high risk of HIV transmission.

## Conclusion

These findings data provide a comprehensive analysis of prevalent of HIV infection at high risk at India. Requires more education about awareness about risk factors of disease of HIV/AIDS. The socio demographic behavioral factors from this study had to be considered in developing preventive measures and as well as targeting preventive measures. Male sex workers are probably fewer than their counter parts it should be noted that male sex workers have been less studies by researchers and as a result the existing information is scanty.

## Recommendations

The increase in prevalence of HIV in these high risk groups suggests there is an urgent need for comprehensive and national efforts in India to control sexually transmitted diseases and to provide intensive education on HIV and AIDS targeted at changing high risk behavior. Mobile clinics and outreach programs are likely to offer these men a more user friendly service than the traditional STD clinic model. The activities should include condom support which is suggested as it is the most available preventative method for sexually active people and for those who are more risky to get infected and/or infect others. Male SWs in general should be encouraged to go for HIV Counseling and Testing (HCT). Expanding access to HCT to them could be a critical entryway to HIV prevention as well as to provide appropriate treatment and care for people who are already infected. Those who are HIV positive should have access to Antiretroviral drug (ARV), which in itself could limit the spread of HIV as a public health measure.

## References

1. World Health Organisation. 1991 Progress Report. Global program on AIDS. *World Health Organisation, Geneva* 1992.
2. Averting HIV and AIDS, HIV and Sex Work <http://www.avert.org/prostitution-aids.htm> (accessed on 6 May 2017).
3. Link between HIV and Sexually transmitted Diseases. <http://www.verywell.com/>...>HIV/AIDS> Related Infections and Conditions. (Accessed on 8 Jun 2016).
4. Recharad Steen, Teodora Elvira Wi, Anatoli Kamali, Francis Ndowa. Control of Sexual Transmitted Infection and Prevention of HIV transmission: mending a fractured paradigm. [www.who.int/bulleten/volumes/876/11/08-059212/en/](http://www.who.int/bulleten/volumes/876/11/08-059212/en/)
5. UNAIDS. Global report: UNAIDS 2013 report on the global AIDS epidemic, 2013. [http://www.unaids.org/en/media/unaids/contentassets/documents/epidemiology/2013/gr2013/UNAIDS\\_Global\\_Report\\_2013\\_en.pdf](http://www.unaids.org/en/media/unaids/contentassets/documents/epidemiology/2013/gr2013/UNAIDS_Global_Report_2013_en.pdf) (accessed 5 Jun 2016).

6. Beyrer C, Baral S, Walker D et al. The expanding epidemics of HIV-1 among men who have sex with men in low and middle income countries: diversity and consistency. *Epidemiol Rev.* 2010; 32:137-151.
7. Bollinger R, Tripathy S and Quinn T. The human immunodeficiency virus epidemic in India. *Medicine.* 1995; 74:97-106.
8. Mejia A, Ardila H, De la Hoz F, Calderon J, Velandia M. HIV Prevalence Among Men Who Have Sex With Men (MSM), Bogota, Colombia. *The first IAS Conference on HIV Pathogenesis and Treatment.* July 8–11 2001. Buenos Aires, Argentina. Poster LB-P32.
9. Linda A. Valleroy, Dunean A. Mae Kellar, John M. Karon et al. HIV Prevalence and Associated Risks in Young Men Who Have Sex With Men. *JAMA.* 2000; 284: 7
10. Cahn P, Perez H, Casiro A, Scaglione C, Muchinik G. Análisis de la demanda espontanea de un consultorio externo de SIDA en la Ciudad de Buenos Aires. *Medicina* 1998; 48:125-131.
11. Li.Boxaca M, Belli L, Casco R et al. Anti-HIV Antibodies in Outpatients From a Sexually Transmitted Disease Clinic in Buenos Aires City. *IV International Conference on AIDS, Stockholm, 6/13–14, Poster 5085, 1988.*
12. Muchinik G, Fay O, Cahn P et al. HIV Seropositivity in High Risk Groups in Argentina: Future Impact on Heterosexual Transmission. *IV International Conference on AIDS, Stockholm, 6/13–14, Poster 5062, 1988.*
13. Cahn P, Ben G, Bloch C, San Pedro M, Gonzales S, Perez H. Who is Knocking on the Door for HIV Testing: Study of 9959 Cases. *XI International Conference on AIDS, Vancouver, 7/7–14, Poster Mo.C.1422, 1996.*

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