

## Original Research Article

# A clinicoepidemiological study of sexually transmitted infections among men who have sex with men from a tertiary care centre in South India

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### ABSTRACT

**Background:** The prevalence of men who have sex with men (MSM) is showing an increasing trend in general population. MSM being a high risk population are more prone to develop sexually transmitted infections (STIs).

**Methods:** With the help of Sevana, a nongovernmental organization (NGO), we were able to mobilize 81 MSM for detailed evaluation. All MSM, after an informed consent were given a behavioural questionnaire, followed by detailed history taking, clinical examination, pre-test counselling and specimen collection.

**Results:** All of them were clinically asymptomatic. Of the total 81 MSM in our study, 27 (33.3%) had STIs as evidenced by laboratory investigations. Out of these, 3 (3.7%) had multiple STIs. The most common STI in our study group was asymptomatic herpes genitalis (12.4%), followed by latent syphilis (9.9%) and non gonococcal urethritis (8.6%).

**Conclusions:** The high incidence of asymptomatic STIs among MSMs in our study points to the need for strengthening targeted intervention including condom usage and a compulsory medical check-up and serological screening at least once in six months for early detection and treatment of STIs. This in turn would help us in preventing the transmission of STIs including HIV.

**Keywords:** Sexually transmitted infections, MSM, Syphilis, HIV, Herpes genitalis, NGU

### INTRODUCTION

Sexually transmitted infections (STIs) lead to considerable morbidity and also increase the risk of contracting human immunodeficiency virus (HIV). National AIDS control organisation (NACO) introduced targeted interventions (TIs) amongst high risk groups for the control of STIs. Men who have sex with men (MSM) constitute a high-risk population as indicated by the rising rates of STIs including HIV among them.<sup>1</sup> Also, MSM are more prone for depression, suicide and drug abuse with less treatment seeking behaviour. STIs in general, tend to have more prevalence among MSM. Even declining STIs like syphilis is now showing an increased trend among MSM.<sup>2</sup> Clinical studies among MSM are

difficult to carry out due to various social reasons. This study attempts to quantify the burden of STIs among MSM in South India by clinical and serological methods.

### METHODS

In Trivandrum, South India, with the help of an NGO (nongovernmental organization) named Sevana, which provides health check-up, awareness and prevention services for the MSM population; it has been possible to identify more than 500 people. This was the first attempt for an evaluation of common STIs among this population in Kerala. After obtaining clearance from ethical committee, those MSMs who were willing to undergo detailed evaluation were mobilized with the help of

Sevana. The study was conducted from January 2004 to January 2005.

Eighty one MSMs who consented for the study were given a behavioural questionnaire, followed by detailed history taking, clinical examination, proctoscopy, pretest counselling and specimen collection. Privacy and confidentiality were protected. STIs screened and the

laboratory methods adopted is included in Table 1. If erosion or ulcers were present, dark ground microscopy from the discharge, Tzanck smear and gram stain were done. Culture swabs taken from urethra, rectum and pharynx were directly inoculated in modified Thayer Martin medium for gonococci in all MSM. Serological tests for Chlamydia could not be done due to non-availability and financial constraints.

**Table 1: STIs screened and the laboratory methods adopted.**

STD	Test performed
<b>Syphilis</b>	1) Nonspecific-VDRL test
	2) Specific-TPHA
<b>Herpes genitalis</b>	HSV type II IgM and Ig G (EIA)
<b>Hepatitis B</b>	HBsAg
<b>Hepatitis C</b>	Anti- HCV IgG (Immunocomb II rapid test; EIA)
<b>HIV</b>	HIV ELISA 3 <sup>rd</sup> generation
<b>Gonorrhoea and non-gonococcal urethritis</b>	i) Gram staining-urethral discharge
	ii) Culture of swabs from 3 sites-pharyngeal, rectal, urethral
	iii) Urine microscopy of centrifuged deposit after holding urine for 4 hours
<b>Trichomoniasis and candidiasis</b>	Wet mount microscopy of urethral discharge/ urinary deposit

VDRL - Venereal disease research laboratory test, TPHA- Treponema pallidum hemagglutination assay, HSV- Herpes simplex virus, HBsAg- Hepatitis B surface antigen, EIA- Indirect solid-phase enzyme immuno assay.

Data were entered in MS excel and statistical analysis was done using SPSS version 22. Categorical variables were expressed as proportions and percentage.

**RESULTS**

81 MSM were studied with mean age 25.9 years (range 15-58), with 59 (72.8%) in the age group of 21-30. Seventy eight (96%) had only homosexual contact while 3 (4%) were bisexuals. Majority (88.9%) had both oral and anal sex. Sixty MSMs (74.1%) practiced sex for both money and pleasure. 37 (45.7%) of the MSM always used condoms during sexual act and 33 (40.7%) used condoms only occasionally. Condom use was not present in 11 (13.6%). Awareness regarding HIV/STD was present in 58 (72%) and 61% who were aware of HIV, used condoms consistently. Treatment seeking behaviour was present in 49 (60%) of them.

All of them were asymptomatic. There was no history of genital ulcers or recurrent erosions of the genitalia or perianal skin in any of our patients. There was no history of urethral or rectal discharge. General and systemic examinations were within normal limits.

Twenty seven (33.3%) MSMs were diagnosed to have asymptomatic STIs. Twenty four (29.6%) MSMs were having only one STI and three (3.7%) had more than one STIs. Asymptomatic herpes genitalis was the most common STI followed by latent syphilis. All were negative for anti-HCV antibodies. Results of the laboratory test are shown in Table 3.

**Table 2: Patients characteristics.**

Characteristics	N=81, (%)
<b>Age group</b>	
11-20	11 (13.6)
21-30	59 (72.8)
31-40	7 (8.6)
41-50	2 (2.5)
>50	2 (2.5)
<b>Occupation</b>	
Students	3 (3.7)
White collar job	5 (6.2)
Skilled labourer	6 (7.4)
Hotel worker	13 (16.1)
Others	21 (25.9)
Unemployed	33 (40.7)
<b>Behavioral pattern</b>	
Active partner	12 (14.8)
Passive partner	41 (50.6)
Both	28 (34.6)
Always use condom	37 (45.7)
Occasionally use condom	33 (40.7)
Never use condom	11 (13.6)

**Table 3: STIs found among MSM.**

Disease	N=81, (%)
<b>Asymptomatic herpes genitalis</b>	10 (12.4)
<b>Latent syphilis</b>	8 (9.9)
<b>NGU (urine pus cells &gt;10/HPF)</b>	7 (8.6)
<b>Hepatitis B</b>	4 (4.9)
<b>HIV</b>	1 (1.2)
<b>Gonorrhoea (pharyngeal)</b>	1 (1.2)

## DISCUSSION

STIs are very common among MSM. During 2009, it was estimated that there were 4.21 lakh MSM and transgender (TG) people in India.<sup>3</sup> Also in the background of declining trends of HIV epidemic, MSMs are emerging as an important high risk group in many states and are hence included in the highest priority in the intervention programmes of NACP III (National AIDS control programme).<sup>3</sup>

In China, prevalence of HIV infection was found to be increasing among MSM.<sup>4</sup> There were reports of 140 fold higher risk of newly acquired HIV and syphilis in MSM compared to heterosexual men in US.<sup>5</sup> A recent meta-analysis from China shows increasing incidence of Syphilis in MSM population which in turn may lead to higher rates of spread of other sexually transmitted infections (STIs) including HIV.<sup>6</sup>

In our study, 9.9% of the MSM had latent syphilis as indicated by VDRL and or TPHA reactivity. Increased incidence may be due to decreased use of condoms, the introduction of antiretroviral therapy free of cost which has resulted in loss of fear of acquiring and transmitting HIV and resurgence of gonorrhoea and syphilis and asymptomatic nature of the disease.<sup>7,8</sup>

Serological positivity for HSV type II was present in 12.4% of the MSM. None of them were having clinical disease. This is in concordance with a study in which subclinical HSV infection was frequent among MSM.<sup>9</sup> In another study by Turner et al, the prevalence of HSV infection was 24.1% among MSM.<sup>10</sup>

There is increased prevalence of gonorrhoea and chlamydial infections in MSM population which can be a risk factor for STIs and HIV transmission.<sup>11</sup> These can remain asymptomatic, undetected and transmissible if swabbing is not offered routinely.<sup>12</sup> In our study, there was a case of pharyngeal gonorrhoea detected by throat swab and culture in an asymptomatic MSM.

Of the 7 cases with asymptomatic non gonococcal urethritis five had demonstrated fungal spores. However the exact causative agent for NGU could not be ascertained due to lack of availability of kits for nucleic acid amplification test (NAAT) or serological tests.

Prevalence of Hepatitis B (HBV) infection in MSMs and among those who had a high rate of unprotected penetrative sexual practices was upto 37%.<sup>13,14</sup> High risk sexual behavior was not predominant in our group, accounting for the low rate of HBV infection. None of the MSM in our study group had HCV infection. It has been found that the sexual transmission of this virus appears to be very inefficient.<sup>15</sup> Among MSM, HCV infection risk was high with injection drug users, who were absent in our study population.<sup>16</sup>

ELISA for HIV was positive in one MSM (1.2%) in the present study. In the study conducted in Chennai slums, MSM were more likely to be HIV positive, if they had history of STIs or discharge from the penis and engaged in other high risk behaviour including use of illicit drugs, which were absent in our study.<sup>17</sup> High prevalence of HIV among MSM was found in receptive partners of both oral and anal sex rather than penetrative partner.<sup>18</sup>

In another Indian study among MSM, significant association of HIV infection was noted with increasing age, greater than five episodes of anal sex in past six months and positivity for syphilis and HSV-II.<sup>3</sup> The most striking feature in our study is that all the MSM were asymptomatic. None of them had genital ulcer or discharge disease. This might have contributed to the low incidence of HIV infection in this population.

Limitation of our study was the inability to ascertain actual etiological agents causing NGU. However through our study we could ascertain the pattern of asymptomatic STIs prevalent among MSMs. The fact that one third of the MSM were having asymptomatic STIs points to the need for strengthening targeted interventions in this group. So it is desirable to provide regular health check-up and serological screening at least once in six months for early detection and prevention of STIs among this population.

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