



# Prevalence of Sexually Transmitted Infections among Men Who Have Sex with Men in Chennai- A Cross Sectional Study

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## ABSTRACT

**Background:** MSM have a higher rate of sexually transmitted infections (STIs) than women and men who only have sex with other women. The study objective is to find out how common sexually transmitted infections are prevalent among men who have sex with other men.

**Methods:** This is a descriptive cross sectional conducted among MSM visiting the STI clinics of Government Medical Colleges in Chennai district during the period of January 2018 to December 2020 till the required sample size of 600 was reached selected by purposive sampling method. Pre-tested structured questionnaire was used for data collection. Data was entered in MS Excel and analyzed by using SPSS version 22.

**Results:** Around 600 MSM attended the STI clinics, of which 49% were homosexual. Condom usage was 53% and 47% never used condom. Both oral and anal sex are common among MSM population. Unprotected sex is more common among them. STIs were seen in around 22% and HIV positive was 0.9% of MSM. The most common STIs among MSM was Syphilis, wart and genital ulcer.

**Conclusions:** This study reveals a high prevalence of STIs among MSM. This subgroup population of MSM can benefit from access to STI testing center and treatment at close intervals.

**Key words:** Syphilis. Genital warts, MSM, HIV, anal sex

## INTRODUCTION

Men who identify as homosexual or bisexual, transgender men who have sex with men, and men who identify as heterosexual may all be classified as "Men who have Sex with Men" (MSM). Some men who have sex with other men have relationships with women or are married to women. Some of them, regardless of their sexual orientation, sell sex to other men. Some men who have sex with other men don't identify with any specific name, culture, or terminology.<sup>1</sup>

MSM accounted for 64.3% of reported Primary and Secondary syphilis cases among women or men in the year 2018. Multiple factors, including individual behaviors and sexual network characteristics, can contribute to the relatively high rate of Sexually Transmitted Diseases (STD) among MSM. The number of lifetime or recent sex partners, partner exchange rate and frequency of having sex without condoms all influence an individual's risk of contracting STDs.<sup>1</sup> However, STD prevalence, interconnectedness and concurrency of sex partners, and likely inadequate access to healthcare are all factors

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that influence the likelihood of contracting an STD in the MSM network. Many STDs, such as primary and secondary syphilis and antimicrobial-resistant gonorrhoea, are more common in homosexual, bisexual, and other men who have sex with men (MSM) than in women and men who have sex with women only (MSW). Among men exclusively, MSM accounted for 77.6% of reported cases with information on sex of sex partners. Of MSM P&S syphilis cases, 36.0% were White, 29.0% were Black, and 24.0% were Hispanic. In addition to the negative implications of untreated STDs, a high STD burden is worrying since it may imply a high risk of HIV infection in the future. Annual increases in STD cases may be due to a rise in the prevalence of activities that transmit both STDs and HIV, and developing an STD raises the risk of HIV acquisition or transmission.<sup>2-5</sup>

In India, homosexuality is not legal or socially acceptable. As a result, Indian authors have largely ignored this area of research, resulting in a knowledge gap, especially about sexually transmitted infections (STIs) in this high-risk population. In India, the MSM population is estimated to be around 352,000, with 4.3 percent of those infected with the human immunodeficiency virus (HIV) and 65 percent of those infected being aware of their status. HIV prevalence among MSM varies by region, with the highest rates in Maharashtra (4.9%) and Andhra Pradesh and Telangana (10%), as well as newer emerging pockets in Gujarat and Goa (6.8%), West Bengal, Jharkhand, and Orissa (6.7 percent).<sup>5</sup> MSM condom usage is still moderate, with 85.7 percent of them using condoms on their last sex with a casual, male, or hijra partner, but just 54.3 percent were using condoms consistently.<sup>6</sup>

Men who have sex with men (MSM) and those who have anal intercourse without using condoms with casual partners are at a high risk of contracting sexually transmitted infections (STIs), although there is a lack of reliable epidemiological evidence. Hence the present study was undertaken to estimate the prevalence of the STIs among MSM.

## METHODS

This is a descriptive cross-sectional study conducted at STI clinics of Government Medical Colleges in Chennai district.

In a study done by Taru G et al, it was found that the prevalence of syphilis, the most common STI was found to be 24%.<sup>7</sup> Taking this as Prevalence (P) and applying in the formula  $4PQ/L^2$ , with relative precision of 14% of P, the required sample size was found out to be 552. Taking 10% as non-response, the sample size required was rounded off to 600.

The study was done during the period of 2018 to 2020. All the patients who were visiting the STI clinics in Chennai were checked for eligibility for participation in the study. An inclusion criterion was that they must be males who have sex with males and re-

siding in Chennai for a minimum period of 6 months. Exclusion criteria was that they must not be suffering from any psychiatric illness or terminal stage of STIs like AIDS and the male patients must not deny their homosexual behavior. Purposive sampling technique was followed to recruit the 600 required participants based on inclusion and exclusion criteria.

As depicted by the National AIDS Control Organization in the syndromic management of STIs, STIs were divided into different syndromes.

During the three-year study period, all male patients with homosexual or bisexual behavior who visited the STI clinic, including clients referred by National Government Organizations (NGOs), private practitioners and direct patients were included till a sample size of 600 was reached. All male patients who denied a history of homosexual behavior were excluded from the study. Participants details like demographic data, sexual risk factors, and STIs among the MSM, were collected and entered in MS excel and analyzed using SPSS version 22.

## RESULTS

During the three-year study period from 2018 to 2020, a total of 600 MSM who visited the STI clinic was considered to this study. Table-1 shows the socio-demographic profiles of the participants. Majority of them fall in the group of 21-30 with the age range between 21 to 59 years; around 95% were literate.

**Table-1: Baseline characteristics of the participants**

Variables	Participants (%)
<b>Age group</b>	
≤15	85 (14)
16-20	108 (18)
21-30	286 (48)
31-40	56 (9)
41-50	47 (8)
>50	18 (3)
<b>Occupation</b>	
Skilled worker	466 (78)
Unskilled worker	21 (3)
Unemployed	113 (19)
<b>Education</b>	
Illiterate	97 (16)
Literate	503 (84)
<b>Marital status</b>	
Single	234 (39)
Married	302 (50)
Divorce/widower	64 (11)
<b>Sexual pattern</b>	
Homosexual	293 (49)
Heterosexual	308 (51)
<b>Type of sexual behavior</b>	
Oral	129 (21)
Anal	143 (24)
Both	328 (55)
<b>Condom usage</b>	
Yes	374 (53)
No	326 (47)

**Table-2: Prevalence of Sexually transmitted infections among MSM**

Type of STIs among MSM	Cases (%)
Genital warts	12 (2)
Herpes genitalis	64 (10.6)
Primary syphilis	18 (3)
Secondary syphilis	12 (2)
Latent syphilis	3 (0.5)
Gonorrhoea	60 (10)
Candida <i>balanoposthitis</i> and Genital scabies	2 (0.3)
Gonorrhoea	60 (10)
urethral discharge	96 (16)
HIV	3 (0.5)
CA	2 (0.3)

Most of them (81%) were employed, but the only (3%) were working as unskilled workers and 19% were unemployed. Around 39% of MSM were single, while 50 percent were married and living with their female partners. Fifty-five percentages of them are having both oral and anal sex. (Table 1)

The most common STD was syphilis, which was found in 22% of MSM. During routine VDRL screening, 18 patients with syphilis infection had primary syphilis, twelve had secondary syphilis, and three patients had latent syphilis. Six patients had penile warts, two patients had perianal warts, and three patients had both penile and perianal warts. Herpes genitalis was present in 12% of the patients, with 8 patients having their first episode and four having recurrent herpes genitalis. Around 10% of the patients had gonococcal infection, Two of the patients had genital scabies and *Candida balanoposthitis*. Cancer was found in two patients along with herpes genitalis. Around 16% had urethral discharge and genital ulcer. Human Immunodeficiency Virus (HIV) positivity was present in only three cases. (Table 2)

## DISCUSSION

In India, MSM are known as kothis, who are receptive male partners in oral and anal sexual intercourse and have usually feminine characteristics; panthis, who are typically masculine and play the role of insertive male partner in oral and anal sex; and double deckers, who can be both receptive and insertive partners in oral and anal sex.<sup>8</sup> STIs are becoming more common among MSM around the world. High frequency of anal sex, infrequent use of condoms when having anal intercourse, multiple partners, and failure to go for routine health checkups may all be contributing factors. In International studies, there has been a loss of fear of HIV transmission as a result of increased infection manageability, availability of the internet as an efficient way to find sex partners, increased use of erectile dysfunction agents, and use of disinhibiting substances that increase risk-taking behavior; however, these may have limited applicability in India.<sup>9</sup>

This research demonstrates that MSM's socio-demographic characteristics and sexual activity are

compatible with other Indian studies performed by Silan et al, Setia et al, Brahmam et al.<sup>10,11</sup> The majority of MSM were between the ages of 21 and 30; they were unmarried, high literacy level and worked as skilled workers. Syphilis was the most common STD in our sample, followed by herpes genitalis (12%) gonococcal infection (10%). Other infections like genital candida balanoposthitis and genital scabies, cancer and HIV each made up a small percentage of the total. According to studies conducted in India in clinics that only serve MSM, nearly 20% of MSM are infected with STDs, with syphilis, herpes, being the most popular.<sup>12</sup>

Our study had a low prevalence of HIV seropositivity, with only three patients tested positive. The national prevalence rate of HIV seropositivity among MSM is 7.4%, with 11.7 percent of MSM in Delhi displaying HIV positivity.<sup>13</sup> HIV prevalence of 12.3% was registered in a facility-based survey conducted in selected geographical areas of Delhi.<sup>14</sup> A study done by Setia et al. published a cumulative estimate of HIV prevalence among MSM in India of 16.5% based on five separate studies.<sup>15</sup> This shows that, though HIV prevalence was found to be low, practices like having sex without condom and co-existing STI infections are syphilis were found to be predictors of HIV infections.<sup>13</sup>

In order to diagnose an underlying STD, a thorough history and analysis are necessary. The majority of the MSM is socially hesitant to acknowledge their sexual conduct. However, since most of them are bisexual, they play a role in the dissemination of STDs to a significant number of partners. STD profiles can also vary in MSM, making it all the more important to recognize them. As a result, it has been suggested that all MSMs should have a rectal and pharyngeal swab taken, as these sites can harbor silent infection.

## CONCLUSION

This research revealed a high prevalence of STIs among MSM subgroup population. Intensive prevention services aimed at STI screening and care, reducing risky sexual activity, and promoting HIV therapy and testing should be focused. In order to strengthen the availability of biological and medical interventions to screen, treat, and avoid infections, health care providers must take the appropriate steps. To be more successful, it is necessary to target specific sexual networks. This subgroup population of MSM can benefit from access to STI testing centre and treatment at close intervals.

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