

**PATTERN OF SEXUALLY TRANSMITTED
INFECTIONS AMONG MEN HAVING SEX WITH
MEN
– A PROSPECTIVE STUDY**

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LEPROLOGY
(BRANCH XII A)**



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CHENNAI**

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CERTIFICATE

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INTRODUCTION

In the wake of HIV/AIDS epidemic in India, the sexual behavior and related risk factors among various vulnerable populations have caught the imagination of the researchers and policy programmers. It is more and more felt that some sections of population are especially vulnerable because of their marginality, lack of social support and other factors. Of all the vulnerable population towards HIV/AIDS, males having sex with males [MSM] occupy a special niche. MSM are a diverse and often hard to reach group. This diversity is explained by the fact that the MSM incorporate youths experimenting sex with their same sex since male partners perhaps are more available than females and may be not dearer than commercial sex workers.

Bisexual men who are married with or without kids but have sex with same sex partners and a closely knit group of men also identify with MSM. In fact MSM is a general term to encompass wide range of different sexual orientations and not merely refer to homosexuals alone, atleast in Indian context.

In this study, the term MSM has been used to refer male individuals who are having sexual experience with their same sex irrespective of the fact whether they have any experience of having sex with opposite sex or not, and at times, it has also referred to the particular act of having sex between two men. In the era of AIDS epidemic, the study of MSM receives higher importance as this community is at a

greater risk of contracting STI/HIV/AIDS. But the paucity of data on the socio-psychological behaviors of MSM in India seriously jeopardizes our understanding about the contexts and situation as factors in which MSM sub population resides and builds up their own network.

MSM activity is tabooed and highly stigmatized. Anti-sodomy law 1861 prohibits sexual relations with same sex partner. Therefore MSM are harassed by police and others. As a result of the all round hostility, MSM tend to hide their behaviour from others, even from their families. Owing to this, it can be safely assumed that the number of MSM in this society is larger than meet our eyes. According to one estimate, five percent of the sexually active adult male population of India falls into the category of MSM. Following the estimate, the number of MSM runs into a staggering 13 million if not more. This enormity of number itself is a matter of serious concern considering their elevated risk of contracting the infection of

HIV /STI as well as their potentiality in spreading the infection to others. Since the pattern of sexual behaviours and relationships of Indian MSM are simply different from their western counterparts because of unique aspects of Indian marital, sexual and family norms, this subpopulation lags behind in terms of treatment seeking as well as in terms of being communicated about how they can safeguard themselves from the potential threat of AIDS. The widespread stigma and taboo complicate their woes.

In this study, efforts have been made to assess the pattern of STIs among MSM

as well as to document their sexual behavior, who attended the out patient clinic of the Institute of Venereology, Govt. General Hospital, Chennai from Jan 01 2005 to 31 august 2006.

REVIEW OF LITERATURE

SEXUALLY TRANSMITTED INFECTIONS

Sexually transmitted infections [STI] represent a major public health problem. STIs are the cause of acute illness, long term disability and death in men, women and infants, with tremendous economic consequences at individual and community level.¹

STIs were previously known as Venereal diseases. Due to the stigma attached to this group of diseases in the 1970s, the name was changed to Sexually Transmitted Diseases. Recently, it has been discussed that ‘disease’ is not the most appropriate term to describe infections, which may remain asymptomatic for many years or would never develop symptoms. Therefore, the World Health Organization has recommended instead the use of sexually transmitted infections for the group of infectious diseases transmitted by sexual activity.²

ORIGIN AND NATURE:

Sexually transmitted infections have an interesting history because they are believed to have existed since earliest times. Their transmission is related to human nature and frailties and they can have devastating effects on the body, on the mind and psyche and on the ability to procreate.³

A wide variety of microorganisms (Bacteria, Virus, Fungi and Protozoa) and a

few ectoparasite arthropods (Pediculosis, *Sarcoptes scabiei*) have evolved to depend in whole or in part, upon the human genital tract and human sexual behaviour for their survival. Because sexual behaviour is essential to preservation of species, instinctual and driven by highly developed, neurochemical pleasure reward system, it offers both a reliable ecological niche for infectious agents as well as a daunting challenge to modern day practitioners.⁴

The subject of sexually transmitted infections is made even more complex because of much different sexually related behaviour which runs the gamut from traditional reproductive vaginal intercourse with ejaculation to Anogenital and orogenital intercourse, various Anogenital manipulations, kissing and skin to skin contact.

MEN WHO HAVE SEX WITH MEN⁵

Heterosexual persons are those who usually prefer a sex partner of opposite sex. Bisexual persons may choose persons of both sexes. Homosexual persons usually choose a sexual partner of the same sex.

A man who considers himself homosexual may also have sex with women and men who consider themselves heterosexual may also have sex with men. Thus a man who identifies psychologically as preferring same sex partner may be considered as homosexual and men who identify psychologically as preferring opposite sex partners are referred to as heterosexual. But if the heterosexual persons have sex with a same sex

partner, they are referred by the broader term “MEN WHO HAVE SEX WITH MEN” and “WOMEN WHO HAVE SEX WITH WOMEN”. Thus, MSM includes both Homosexuals and Bisexuals⁶

HISTORY OF HOMOSEXUALITY:

Homosexual practices played an important role for man in ancient Greece and other cultures, whereas Homosexual acts have been ritualized and prohibited in various societies.

The origin of modern view of Homosexuality can be traced to the second half of the 19th century. The term homosexual was first coined by the Hungarian physician Karoli Maria Kertbeny in 1869 and was later adopted by the influential German psychiatrist Richard Von Kraft Ebing in his classic *Psychopathia Sexualis*.⁷

Homosexuality is as old as the human race. It is often thought that the Greeks were liberal in their attitudes to homosexual and bisexual behavior.

The roman also seemed to have accepted homosexuality as a inevitable part of man's sexual life. Julius Caesar was called as the husband of all women and the wife of all men. Priapus the God of gardens, with a human face was associated with fertility and thus inimical to homosexual rites.

Kamasutra written by sage vatsayana in 4th to 5th century A.D. contains an entire chapter on homosexuality⁸

Homosexuality is defined differently across cultures and across time. In western countries, in 18th century, homosexual subcultures arose, that allowed people to consider themselves as being homosexual or Gay such subcultures allowed them to exclusively access male partners. These subcultures allow gay people to live in almost exclusively gay context with gay doctors, lawyers, accountants, churches and other businesses catering to them.⁹ In Asian and Indian subcontinent, such subcultures also exist but they represent only tip of the iceberg. Much has to be explored. Due to stigmatization and unacceptability of the society, such subcultures are not represented as openly as in western countries.

In the Asian context, it must also be noted that unlike many western countries where sexuality and reproduction are not considered separate issue, the duty of reproduction and issue of sexual preferences are often entirely separate. Thus while some persons may consider themselves homosexual, they are still likely to married because of family obligations and traditions. As a consequence, the vast majority of homosexual people are likely to be married and seek their homosexual contacts clandestinely outside the marriage.¹⁰ Male-to-male sex work is also a significant factor in India cities, where *kothis/hijras*,¹¹ 'massage boys', male youth and other males will sell sex to men because of poverty and unemployment. Without a welfare system, and with significant levels of unemployment or low level incomes, male sex work can be a way out in terms of supporting the self and family. This is not to imply that males involved in sex work do not enjoy the sex

with other males. Often they may also have a regular male partner, and/or a wife or girlfriend.

All urban areas appear to have sexualized spaces, such as parks, toilets, railway and bus stations, specific bazaars, streets, and other public areas where *kothis* and *hijras* would go to meet potential *giryas/panthis*¹¹, often marketing sexual availability through their feminized social behaviours.

Many 'real men' also go to these sites, not only to meet such accessible males, but often for quite legitimate purposes, where they can get caught up "in the heat of the moment" and access *kothis* and *hijras* there at the time. Such activities play a very important role in the transmission of sexually transmitted infections and HIV/AIDS in this society.

Sexual behavioural studies in India have classified homosexual as anything from 1% of the sexually active male population to nearly 28% of the 'occasionally homosexually behavioural males'.

Quantitative studies conducted in India include:

- A survey at Patna medical college in India in 1992 revealing that 25% of male medical students and doctors had had same-sex relationships¹²
- A postal survey of the readership of 'Debonair', an English men's magazine from Mumbai revealing that of 1500 men who replied, 29.5% had sex with another man, before the age of 20 years in 80% of the cases¹³

- A major study conducted in Pune cities, where only 1.2% of men interviewed said they had homosexual relations although the authors did add, “we do feel it is extremely difficult to get an accurate estimation of homosexual experience in a general survey like we did”. The researchers agree that a completely different kind of questionnaire has to be designed to get more information on the prevalence of homosexual behaviour¹³

- A survey of 527 truck drivers in northeast India revealing that 15% had sex with men ¹⁴

- A postal survey of rural and semi-rural men in Tamil Nadu to which 1200 men replied found that 8% had sex with other men¹⁵

- According to a report on MSM in developing countries, the prevalence of MSM behaviours in the Indian male population range from 8 to over 50% ¹⁶

- In a study of sexual behaviour among 1600 college students in Chennai¹⁷, it was found that approximate 20% of male students reported having had sex at least once in their lifetime and among these, 35% had their first experience with another male.

STI TRENDS IN MSM IN DEVELOPED COUNTRIES

Prior to HIV, sexually active urban homosexual men in the developed world experienced increased incidence rates of gonorrhoea¹⁸, syphilis, and

hepatitis B that were 20-40 times greater than for their heterosexual counterparts. During the 10-15 years after the emergence of AIDS and owing mainly to fear of AIDS, rates of gonorrhoea, syphilis, Hep-B and HIV declined by 80-95% or more. However for the past 7-9 years, STI rates in homosexual men again are raising modestly.¹⁹

Sex between men remains an important transmission route for HIV in several countries, while recently becoming a more prominent mode of HIV transmission in others, such as Japan. There the number of HIV infections detected in MSM has risen in recent years.²⁰

In Australia, Canada, USA, and countries of Western Europe, an apparent increase in unsafe sex is triggering higher rates of STD, and in some cases, higher HIV incidence among MSM. A syphilis outbreak in LOS ANGELES, among MSM, reported in 2001, confirmed warnings that the safe sex was on the decline in the city. In a French study, in 200, 38% of surveyed HIV positive MSM said they had recently practiced unsafe sex, compared to 26% in 1997. The reasons for this are debatable. Part of the explanation could lie in the perceived life saving effects of ART introduced in high income countries in 1996.²¹

STD prevalence among MSM in India

Only limited data are available about STD prevalence among MSM in India. A preliminary analysis of STDs gonorrhoea (among these 2 were culture-

positive and remaining 2 were smear-positive), 4 had perianal warts, 3 had Gonococcal urethritis, one case each of secondary syphilis, genital molluscum contagiosum and genital scabies. The point prevalence of HIV in this population was 15% and VDRL reactivity was 16% ²²

In a 2001 study from Chennai, analysis of 51 MSM who attended a community-based clinic over a period of three months showed the following. Thirteen (26%) MSM were clinically diagnosed to have one or more STDs.

Clinically the following pattern of STDs was found: Perianal warts - 4 (8%), Genital Herpes - 4 (8%), Perianal herpes - 1 (2%), Secondary syphilis - 1 (2%), Gonococcal urethritis - 1 (2%), Molluscum contagiosum - 1 (2%), Proctitis - 2 (4%), Scabies - 1 (2%) and Prostatitis - 1 (2%). Genital dermatoses like Candidal intertrigo - 4 (8%), Candidal balanoposthitis - 1 (2%), Perianal candidiasis - 1 (2%) and Tinea cruris were also found. Serological testing for syphilis (VDRL) was not routinely conducted due to financial constraints. Seven (14%) self-reported as HIV-positive ²³

SEXUALLY TRANSMITTED INFECTIONS AMONG MSM

Even before the first AIDS cases among homosexual men were diagnosed, the homosexual community was already in the midst of an epidemic of STDs²⁴. During the 1970s infection with STD carried no stigma within homosexual community. The ritual of repeated infection and treatment had become part of the homosexual lifestyle. A

recent policy paper outlines a list of diseases contacted and spread thro the lethal lifestyle of homosexuality²⁵.

It includes,

1. Syphilis
2. Gonorrhoea- oral, genital,
Pharyngeal Gonorrhoea
3. Chlamydia
4. Chancroid
5. Lympho Granuloma Venereum
6. Granuloma inguinale
7. Herpes- oral, genital, perianal.
8. Molluscum contagiosum
9. Warts-oral, genital, perianal
10. Hepatitis A, B, C (others)
11. HIV/AIDS
12. CMV infection
13. Scabies
14. Pubic lice
15. Urethritis due to STIs
16. Enteric infections
17. Bites
18. Physical abrasions
19. Epididymitis
20. Proctitis

BACTERIAL INFECTIONS

SYPHILIS²⁶

After being a common infection in MSM in the late 1970s, the prevalence of syphilis declined during the early AIDS epidemic to levels consistent with disease elimination by the mid-1990s. The recent resurgence in sexual behaviors that increased STD transmission in MSM has led to out-breaks of syphilis in Boston , Chicago , Los Angeles , New York , Philadelphia , San Francisco , southern California , and Seattle . Currently, in San Francisco, approximately two thirds of cases have occurred in HIV-positive men with a mean age of 38 years. ²⁷

Substantial debate has occurred regarding how HIV infection affects the presentation and management of syphilis infection. Recent studies have documented that HIV-infected patients are more likely to present with multiple chancres and overlap of primary and secondary manifestations²⁸

Since HIV-infected patients might be more likely to have a previous history of syphilis infection, these findings might be confounded by previous syphilis infection. Perhaps for the same reason serologic titers observed in HIV-infected patients have been higher at initial presentation and have had a slower decline²⁹ .

The diagnosis of syphilis in both HIV-uninfected and non-HIV- infected

persons is reliably made by the use of dark field microscopy of exudates from primary or secondary lesions or serology. Both the rapid plasma reagin (RPR) and the venereal disease research laboratory (VDRL) tests are commercially available. Early case reports suggesting the unreliable nature of syphilis serology in HIV-infected patients have not been substantiated. HIV-infected patients with syphilis should undergo close follow-up at 3, 6, 9, 12, and 24 months. A fourfold decline in titer at 6 months in patients with early infection and at 12 months in patients with late infection is usually consistent with adequate response to treatment.

The development of alternative therapies to penicillin are among the treatment advances for syphilis. Long acting Benzathine penicillin G is still the recommended standard therapy for the treatment of syphilis. The only recommended alternative therapy for penicillin-allergic patients is doxycycline. Data have shown that 1 g Azithromycin is efficacious in the prevention of syphilis in persons exposed. A recent pilot study has shown that a single dose of 2 g Azithromycin is efficacious in the treatment of early syphilis³⁰. Azithromycin offers the advantage of a non-injection antimicrobial and use in patient-delivered partner therapy. In addition, Azithromycin-targeted mass chemoprophylaxis has been used to control syphilis in endemic and outbreak situations³¹. The use of treatments other than penicillin require close follow-up.

GONORRHEA

Neisseria gonorrhoeae causes infections of the pharynx, urethra, and rectum (uncomplicated gonococcal infection), classically presenting as pharyngitis, urethritis, and proctitis, respectively. Asymptomatic infection with gonorrhea has been increasingly recognized as important, although the natural history of asymptomatic infections is largely unknown. Increases in rectal and urethral gonorrhea among MSM have been reported in Boston, Denver, Los Angeles, San Francisco, and Seattle since the mid-1990s in MSM aged 30 to 40 years and in those who are HIV infected³². In other studies, researchers documented the high prevalence of asymptomatic pharyngeal gonorrhea by nucleic acid amplification testing (NAAT): 6% among MSM seeking anonymous HIV testing and 11% among MSM seen in an STD clinic in San Francisco³³

The diagnosis of gonorrhea continues to be predominantly by culture, particularly for pharyngeal and rectal infections. Current studies document improvement in the detection of rectal gonococcal infections by NAAT.

The recommended treatment for uncomplicated gonococcal infection is cefixime 400 mg orally as a single dose, ceftriaxone 125 mg intramuscularly as a single dose, or in regions where fluoroquinolone resistance has been documented to be less than 3%, ciprofloxacin 500 mg or levofloxacin 250 mg (or 500 mg) . With these regimens, treatment success is about 95%; therefore, a follow-up test-of-cure is not necessary. In patients in whom coinfection with chlamydia has not been ruled out, chlamydia therapy is indicated. Recent data

in MSM demonstrate a 15% chlamydial coinfection rate in gonococcal urethritis and proctitis ³⁴. Sexual partners within the previous 60 days of patients diagnosed with gonorrhea should be evaluated and treated for gonorrhea. In circumstances where it might be unlikely that sexual partners return for evaluation and treatment, patient-delivered partner therapy is recommended. Treatment of recent sexual partners prevents reinfection and might decrease continued transmission in the community.

CHLAMYDIA

Chlamydia Trachomatis causes infections of the pharynx, urethra, and rectum in MSM. Chlamydia is often an asymptomatic or minimally symptomatic infection. Recent data regarding rectal chlamydial infections in MSM ³⁵ document increases over the previous 5 years and a 10% prevalence of asymptomatic infection. Additionally, studies regarding MSM demonstrate that chlamydia might cause up to 20% of cases of nongonococcal urethritis (NGU), similar to the proportion of NGU attributable to chlamydia in heterosexual men. In asymptomatic populations of MSM undergoing urine screening for urethral chlamydial infection at anonymous HIV testing sites, 3% had chlamydial infection in San Francisco and 0.5% had chlamydial infection in Denver. Before the advent of NAAT for the diagnosis of rectal Chlamydial infection, the role of

chlamydia in proctitis was underappreciated. One study using NAAT demonstrated that 17% of MSM attending an STD clinic with clinical Proctitis had chlamydial infection. Another recent study demonstrated that 20% of MSM with rectal symptoms were infected with chlamydia. In a research cohort of MSM, 4.2% had rectal chlamydia using the polymerase chain reaction (PCR) assay, whereas only 0.5% of this population had urethral chlamydia.

The recommended treatment of uncomplicated chlamydial infection is Doxycycline 100 mg orally twice daily for 7 days or Azithromycin 1 g orally once. Doxycycline is substantially less expensive than Azithromycin, equally efficacious, and offers the patient a continuous reminder to abstain from sexual activity until treatment is completed. Azithromycin can be given under directly observed therapy to assure adherence, and because of its excellent safety profile, is easily amenable to patients to give to recent sexual partners, either through prescription or by directly providing additional doses. In an effort to augment the control of chlamydia in California, as of January 2001 state law authorized medical providers to dispense additional chlamydial therapy for partners of patients with chlamydial infection.

NONGONOCOCCAL URETHRITIS/URETHRITIS

Since chlamydia or gonorrhea is recovered in only approximately 40% of

cases of urethritis in MSM, nongonococcal, nonchlamydial urethritis (NGC/NCTU) is the most common diagnosis³⁶. Overall, NGC/NCTU in MSM is poorly studied and data can only be extrapolated from heterosexual populations. Because exposures in MSM are primarily oral or rectal, whereas in heterosexuals exposures are oral or vaginal, the limitations of these extrapolations are obvious. In heterosexual men, common etiologic agents recovered in NGC/NCTU include *Trichomonas vaginalis*, *Mycoplasma genitalium*, *Ureaplasma urealyticum*, herpes simplex viruses, adenoviruses, *Streptococcus* species, *Haemophilus* species, and anaerobes. The most recent studies have implicated *M. genitalium* in heterosexuals with NGC/NCTU, but the role this agent plays in MSM is unknown.³⁷

Although most causes of NGC/NCTU are not specifically determined, most cases respond to traditional therapy for NGU: Doxycycline 100 mg orally twice a day for 7 days or Azithromycin 1 g orally once. After 7 days, a small proportion of patients might present with persistent symptoms. These patients should be re-evaluated for urethritis with microscopic examination of urethral discharge or urine sediment, be questioned about treatment adherence, be assessed for the possibility of reinfection, and be retreated with a different antimicrobial effective against NGU. Persistent urethritis after retreatment warrants referral to a urologist, along with Metronidazole for possible *T.vaginalis* or anaerobes.

VIRAL INFECTIONS

Herpes genitalis

Herpes simplex virus infection is endemic through out the world. The change in behaviour patterns and the emergence of the HIV epidemic followed by further behaviour change have resulted in significant alterations in the pattern of the STI epidemic. The relative importance of genital herpes has increased in developing countries. In Asian countries, increased condom use and reduction in sexual contact with sex workers is responsible for reduced prevalence of bacterial STDs. In Chandigarh, India, a four fold increase in genital herpes was observed in STD clinic attenders from 1977 to 1990.³⁸

Genital Herpes is the most common cause of genital ulceration in the developed world³⁹. Ambhore et al⁴⁰ reported a very high prevalence (40.22%) of HSV 2 antibodies in Indian patients with genital ulcers.

Most cases of Genital Herpes are caused by Hsv-2; however the incidence of genital herpes caused by Hsv-1 is increasing⁴¹. The recent increase in the isolation of Hsv-1 from genital lesion of Herpes is probably because of greater frequency of practice of fellatio and cunnilingus.⁴²

GENITAL HERPES AND HIV

Genital herpes is the most common STD in HIV seropositive individuals. The frequency of HIV seropositivity in genital herpes patients has varied from

0.5% [1995] to 20% [1999] in various parts of India.⁴³

Genital herpes in immunocompromised HIV patients tend to be more severe, extensive, difficult to treat, and for most of them, recurrences are also more frequent.

Patients with recurrent genital herpes may experience shame and guilt or withdrawn from social interaction and intimate relationship because of concerns about undesirability, disapproval and rejection, leading to increased isolation and withdrawal.⁴⁴

Genital herpes infections cause a substantial amount of morbidity in MSM, with symptoms ranging from recurrent itchiness, redness, or burning sensation, to blisters and sores and genital neuropathic pain. These manifestations can involve the penis, scrotum, perineal area, anus, or rectum.

Definitive diagnosis is often difficult because it requires isolation by culture of HSV from the affected area. Laboratories will routinely identify the subtype using direct fluorescent type-specific antibody if HSV is isolated in a clinical specimen. Serologic testing might be helpful to rule out infection because the seropositivity of HSV-1 and HSV-2 in the general population is about 70% and 22%, respectively. A negative antibody test for both subtypes thus makes infection unlikely. Recent data demonstrate that asymptomatic viral shedding is common in HSV-2 infected MSM, similar to previous data in women, occurring in more than 50% of men an average of 1 day a month⁴⁵. With the recent advent of type-

specific serologic assays for the determination of herpes simplex virus type 1 (HSV-1) or type 2 (HSV-2) antibody and the role that genital and rectal herpes infections play in HIV transmission, a renewed interest has developed in the epidemiology of HSV among MSM.⁴⁵

Recent studies have documented higher prevalence levels of HSV-2 antibody in MSM compared with heterosexual men (31% vs 18%)⁴⁶, and a higher proportion of initial genital herpes infections attributable to HSV-1 infection among MSM compared with women and heterosexual men (47% vs 21% vs 15%, respectively)⁴⁷.

In one study in Canada, 54% of genital herpes infections were attributable to HSV-1⁴⁸ whereas in San Francisco approximately 30% of genital herpes infections among MSM STD clinic attendees were attributable to HSV-1.⁴⁹

The most important recent advances in the treatment of genital HSV have been the US Food and Drug Administration (FDA) approval of valacyclovir, 500 mg orally twice daily for 3 days for recurrent infections, and the recent demonstration of the efficacy of acyclovir, 800 mg orally three times per day for 2 days⁵⁰

Hepatitis A, B, and C

Viral hepatitis infections are a major concern for MSM because both hepatitis A virus (HAV) and hepatitis B virus (HBV) are sexually transmitted via oral-anal sex and anal intercourse. Current Centers for Disease Control and Prevention (CDC) guidelines for preventive care in MSM recommend routine vaccination against HAV and HBV, though vaccination coverage of this population is low⁵¹. The recently FDA-approved combination HAV/HBV vaccine provides a simpler delivery system for vaccination; it is given over several months in three separate doses. Various vaccination schedules of 0, 1, 4 months and 0, 2, 6 months have been documented to be equally immunogenic, and data demonstrate that even after one dose more than 50% of patients have demonstrable seroprotection. HAV is most often a self-limited infection with rare fatalities. The morbidity, however, can be substantial, and recently HAV immunization in MSM has been shown to be cost saving⁵².

Treatment for chronic active hepatitis B is evolving. Recent clinical data indicate that therapy with antiviral agents such as Lamuvidine 100 mg orally every day and interferon-r 10,000,000 U subcutaneously three times per week can suppress viral replication in 30% to 40% of patients. The recent FDA approval of the drug Adefovir, 10 mg everyday, is a promising new addition to treatment options for chronic HBV.⁵³

Hepatitis C virus (HCV) was once thought to be an important infection for

MSM, since population based prevalence data indicated a higher risk of infection than in the general population ⁵⁴. More recent data accounting for previous injection drug use reveals that MSM might not be at an increased risk, and the sexual transmission of HCV is rare. Since coinfection with HAV or HBV may accelerate the course of HCV, it is imperative that persons with HCV receive immunizations for HAV and HBV ⁵⁵

HUMAN PAPILOMAVIRUS AND ANOGENITAL WARTS.⁵⁶

Anogenital warts have been recognized as a disease entity for many centuries. They were certainly recognized by early Greek and Roman physicians, such as Hippocrates and Galen. The term Condyloma is derived from ancient Greek, meaning 'a round swelling adjacent to the anus'. The addition of the suffix acuminata is a relatively new feature, appearing towards the end of the 19th century. The perception that anal warts were a manifestation of homosexual life style is evident from writings of the first century; writings from the sixth century suggest that cautery was used as a treatment and that surgeons had little sympathy for their patients with anal warts.⁵⁷

Anogenital warts are the most common manifestation of sexually transmissible infection caused by Human Papilloma Virus. The infectivity of HPV between sexual partners is estimated to be 60%⁵⁸ In MSM; these infections can cause asymptomatic infection, external genital warts, internal rectal warts and anal carcinoma. Exposure to HPV through sexual activity is common, and

population based prevalence studies document that more than 80% of sexually active persons have been exposed to HPV. A clear relationship exists between the number of sexual partners and increased prevalence of HPV and increased number of HPV subtypes.

External genital warts are a common reason why MSM present for clinical care and evaluation. Men may present with warts on various areas of the penis and anus. Anal condylomata acuminata should be a clinical cue to receptive anal sex and should prompt further discussion of risk behaviors and appropriate screening. Most external genital warts can be adequately diagnosed by visual inspection, but if the diagnosis is uncertain, biopsy may be indicated. Patients might also complain of internal rectal warts either self-diagnosed or diagnosed by a sexual partner. It is not our current practice to treat these warts unless there is rectal obstruction or substantial bleeding.⁵⁹

Treatment for external genital warts includes provider or patient-applied therapy such as liquid nitrogen, podophyllin 25%, trichloroacetic acid, Imiquimod 5%, or Podofiloxgel. Patient-applied topical applications appear more efficacious on mucosal sites and other areas that are less keratinized. One advantage of Imiquimod 5% is that it might be associated with a reduced recurrence rate because it activates host immunologic mechanisms to clear infection rather than simply ablate the wart.⁶⁰

Parasitic/Enteric Infections

Giardia lamblia, *Entamoeba histolytica*, *Shigella* species, and *Cryptosporidium parvum* are important causes of gastroenteritis, particularly colitis characterized by cramping, tenesmus, and diarrhea in the former three and voluminous, loose, watery diarrhea in the latter⁶¹. Recent studies have documented continued population-based outbreaks of shigellosis in MSM related to oral-anal or digital-anal contact⁶². Bacterial stool culture for enteric pathogens and ova and parasitic examination with *Giardia* antigen testing of stool should be performed on MSM presenting with abdominal pain and diarrhea. Whereas one stool specimen might be sufficient to rule in infection, three stool specimens collected on different days are usually required to obtain adequate sensitivity to rule out infection. Giardiasis is treated with Metronidazole 250 mg three times a day for 5 days, whereas Amebiasis is treated with 500 mg three times a day for 10 days. Amebiasis treatment is followed by treatment with a luminal agent like Paromomycin or Iodoquinol for 7 to 21 days to eradicate amebic cysts. Successful therapy for cryptosporidiosis is limited, and most infections in immunocompetent hosts resolve without treatment. Treatment with supportive care includes fluid and electrolyte replacement along with an antimotility agent.

Recent reports of treatment include the use of Paromomycin and Azithromycin, alone or in combination with other antibiotics. Nitazoxanide, a broad-spectrum Antihelminthic drug, is effective in reducing clinical symptoms

and oocyte shedding in cryptosporidiosis⁶³. Shigella and other bacterial causes of gastroenteritis are also important to rule out. Shigellosis often presents in MSM as abdominal pain and diarrhea with or without blood.

Diagnosis is by stool culture and treatment is with a fluoroquinolone antibiotic for 3 days. Recent reports of Shigella species resistant to Trimethoprim-Sulfamethoxazole and Ampicillin make these antimicrobials less useful in routine management⁶⁴.

PARASITES (CRABS, SCABIES)

Pubic lice (*Pthirus pubis*) and scabies (*Sarcoptes scabiei*) are commonly encountered in clinical practice. Symptoms of pubic lice include itching in the pubic area and often patient identification of lice or nits on the hair shaft. Diagnosis is made by visual inspection and identification of the lice or by finding small red macules in the skin around the hair follicles. Treatment is with several different topical shampoos, including Permethrin (1%) cream, Pyrethrins, or Piperonyl butoxide applied to the affected area. Scabies can cause more morbidity than pubic lice. Often patients complain of itching around the waist, wrist, and in the webbed area between the fingers. Raised papular lesions can also occur on the scrotum or penis, mimicking secondary syphilitic lesions or epidermoid cysts. Often warmth exacerbates the symptoms such that patients

complain of worse itching at night associated with being under the bed covers or after a hot shower.

The diagnosis of scabies is made by history and physical findings. Rarely, lesions can be scraped and mite or mite feces identified by microscopy under oil immersion.

Treatment is with Permethrin cream 5% applied overnight. Rare complications include seizures. Some experts recommend repeat treatment at 1 week.⁶⁵

PREVENTION OF SEXUALLY TRANSMITTED DISEASES

IN MEN WHO HAVE SEX WITH MEN

Prevention of STDs in MSM can take two basic approaches primary or secondary. Primary prevention focuses on decreasing the exposure of MSM to infection through promotion of partner reduction, increased condom usage, oral sex, and nonpenetrative sex play. Primary prevention was successfully adopted by MSM in the mid and late 1980s. These behavioral changes resulted in profound declines in the incidence of new STDs and HIV. One of the public health consequences of successful HIV therapy, however, has been a reversal in safer sex practices, in particular for HIV-infected MSM. A substantial proportion of this population has abandoned primary prevention strategies. Thus, secondary prevention focused on increased health care seeking behavior, increased screening, early detection of infection, treatment, and partner

treatment are strategies that intervention programs and affected communities have embraced. The following screening tests should be performed at least annually or more often based on the number of new sexual partners for sexually active MSM: 1) HIV serology, if HIV-negative or not previously tested; 2) syphilis serology by VDRL or RPR; 3) urine nucleic acid amplification test for gonorrhea; 4) urine nucleic acid amplification test for chlamydia; 5) pharyngeal nucleic acid amplification test or culture for gonorrhea in men with oral-genital exposure; 6) rectal gonorrhea and chlamydia nucleic acid amplification test or culture in men who have had receptive anal intercourse; and 7) vaccination against HAV and HBV⁶⁶. Pre-vaccination serologic testing might be cost effective in MSM, among whom the prevalence of HAV and HBV infection is likely to be high

(> 25%). More frequent STD screening (eg, at 3- to 6-month intervals) might be indicated for MSM at highest risk (eg, those who acknowledge having multiple anonymous partners or having sex in conjunction with illicit drug use, and patients whose sex partners participate in these activities). Screening tests usually are indicated regardless of a patient's history of consistent use of condoms for insertive or receptive anal intercourse. Providers also should be knowledgeable about the common manifestations of symptomatic STDs in MSM (eg, urethral discharge; dysuria; anorectal symptoms, such as pain, pruritus, discharge, and bleeding; genital or anorectal ulcers; other mucocutaneous

lesions; lymphadenopathy; and skin rash). If these symptoms are present, providers should perform appropriate diagnostic tests.

HUMAN IMMUNODEFICIENCY VIRUS

In June 1981, an alarming report appeared in the pages of the morbidity and mortality weekly report of the United States centre for disease control in which were described five cases of pneumocystis carinii pneumonia occurring in previously healthy men in Los Angeles area⁶⁷. In the succeeding months similar cases were reported from other cities, including outbreaks of other immune deficiency associated conditions such as Kaposi's sarcoma, mucosal Candidiasis, disseminated CMV infection and chronic herpes simplex virus infection. There was evidence of T-lymphocyte dysfunction and in particular, there was marked depletion of CD4+ lymphocytes. The initial cases were occurring in homosexual men but soon other cases appeared in intravenous drug users and others. The causative agent of these cases was later identified as HIV type 1.

The arrival of this new infection has had a profound effect on modern life. Initial infections that occurred exclusively in homosexuals lead to the stigmatization of homosexual men.⁶⁸

TRANSMISSION OF HIV⁶⁹

HIV infection is predominantly a sexually transmitted disease worldwide. Although in the United States approximately 42% of new HIV infections are among men who have sex with men and approximately 33% of new HIV infections are by heterosexual transmission, the most common mode of infection worldwide, particularly in developing countries, is clearly heterosexual transmission.

There is a strong association of transmission of HIV with receptive anal intercourse, probably because only, a thin, fragile rectal mucous membrane separates the deposited semen from potentially susceptible cells in and beneath the mucosa and trauma may be associated with anal intercourse. Anal douching and sexual practices that traumatize the rectal mucosa also increase the likelihood of infection. It is likely that anal intercourse precedes at least two modalities of infection:

- 1) Direct inoculation into blood in cases of traumatic tears in the mucosa
- 2) Infection of susceptible target cells, such as Langerhans cell. In the mucosal layer in the absence of trauma.

Oral sex is a much less efficient mode of transmission of HIV than is receptive anal intercourse. A number of studies have reported that the incidence of transmission of infection by oral sex among couples discordant for HIV was extremely low. Indeed, one study reported no cases among 239 men whose only risk was receptive oral intercourse where 28% knew that their partner was HIV infected. However there have been several reports of documented HIV transmission resulting solely from receptive fellatio and

insertive cunnilingus.

There are probably many more cases that go unreported because of the frequent practice of both oral sex and receptive anal intercourse by the same person. Therefore the assumption that receptive oral sex is completely safe is not warranted. HIV prevalence and incidence in United States of new infections among men, the CDC estimates that approximately 60% were infected through homosexual contact, 25% through IDU and 15% through heterosexual sex.

HIV/AIDS in INDIA

Next to South Africa, India has the second largest number of persons living with HIV/AIDS in the world. According to the data on the National AIDS Control Organization, as of 30 November 2003, the cumulative total for AIDS cases in India was 57781, whilst the estimated numbers of HIV infection was almost 4.5 million. It is also estimated that 85% of HIV transmission is sexual, where NACO states that “The predominant mode of transmission of infection in the AIDS patients is through heterosexual contact...”⁷⁰

HIV/AIDS and MSM

The contribution of MSM to the HIV/AIDS epidemic in India was officially set at 1 percent in 2001. But these estimates may seriously underestimate the

significance of MSM behaviours to the epidemic in India, especially since global estimates suggest that 5 percent to 10 percent of HIV prevalence is attributable to sexual transmission between men. Truck drivers are a group known to have higher levels of homosexual behaviour than the general public. Therefore, the high rates of HIV infection among truck drivers may be an indicator of the importance of homosexual transmission in the India epidemic because homosexual behaviour also takes place outside of this particular group.

In the 1998 data of NACO, it was stated that among the 5204 AIDS cases reported until March 1998, heterosexual transmission constituted 74.15% and homosexual transmission constituted 0.58%, Recipients of blood constituted 7.05%, injecting drug users - 7.3% and “others” - 10.92% ⁷¹. Thus according to the NACO, homosexual transmission contributed to only 0.58% among the reported AIDS cases until 1998.

Current data does not distinguish between vaginal or anal transmission (i.e. heterosexual or homosexual), but produces a single figure for sexual transmission. Data on AIDS cases provide a picture of HIV infection approximately ten years old. It is contended that in order to estimate recent trends in HIV infection, NACO should rely on data on HIV testing, HIV prevalence and incidence reports, and risk behaviours among men who have sex with men from centres that deal with MSM. Unfortunately, there is little

reliable data on these.

The reliability of HIV infection data among MSM is influenced by:

- (i) the lack of knowledge and understanding of MSM behavioural patterns as many MSM do not have a sexual conscious sexual identity/orientation;
- (ii) many do not consider reporting on their same sex behaviours even when asked;
- (iii) many do not identify their sexual behaviour as MSM since their partners are not perceived as men;
- (iv) many gay-identified men as well as others who have developed a sexual identity, are reluctant to identify themselves and disclose their same-sex behaviours or sexual orientation to health care providers, fearing stigma, discrimination and exclusion. Similarly, confusion arises in how infections among *hijras* and their sexual partners are defined, and at the same time ignorance about same-sex behaviours and discrimination against MSM along with stigmatization and social exclusion, affects the extent and reliability of data on HIV infection in this population, contributing to the paucity of studies among MSM and almost no funding, until recently, for HIV prevention programs for MSM.

There is no nation-wide data on the prevalence of HIV infection among MSM in India. National AIDS Control Organization (NACO) of India says, "On HIV among MSM groups, little reliable data is available. Informal estimates suggest rapid increases may be taking place in this particularly vulnerable community"⁷². Only a few studies from Mumbai have reported HIV seroprevalence among MSM. The prevalence of HIV infection among gay-identified men attending STD clinics in Mumbai metro was studied by the National Institute of Virology over a 6-month period in 1992 in collaboration with *Bombay Dost* (India's first gay newsletter). HIV prevalence was found to be 20.67%, which was very high given the fact that this studied cohort was of educated middle class and hence had the means and material to be adequately aware of the transmission routes of HIV. It therefore implies that HIV prevalence amongst MSM without a conscious self-identity of their sexual orientation would be higher⁷³

A Mumbai study published in 1994 showed that about 16% (among 63 blood samples) of MSM attending STD clinics of Mumbai were seropositive for HIV ⁷⁴. HIV prevalence of 15% among MSM in Mumbai was been reported from the STD clinic of a non-governmental organization (Humsafar Trust) working with MSM⁷⁵. Data from NACO of 232 HIV sentinel serosurveillance sites across India, 2 of which targeted MSM, suggested HIV seroprevalence rates among MSM of 23.94% in Mumbai (in Maharashtra State) and 4% in Tamil Nadu State [in

Chennai]⁷⁶. Naz Foundation International conducted Social Assessments among MSM in Bangalore, Hyderabad, and Pondicherry in 2000. One of the questions in the study was about HIV+ve status, where 200 MSM (primarily feminized males – *kothi* identified) in each city were interviewed.

	Hyderabad	Bangalore	Pondicherry.
No. tested	25	38	4
No. tested +ve	1	6	1

HIV and Sexually Transmitted Diseases

Over the previous decade substantial evidence has described the relation between STDs and HIV transmission. Early epidemiologic studies documented increased risk for HIV acquisition among those with ulcerative STDs ⁷⁷.. Over the previous year, studies have further elucidated the role that immunologic mechanisms, including local cytokine production, might play in increasing HIV viral replication after induction by bacterial infection ⁷⁸. Because most of the studies on STD and HIV interactions have been conducted in the primarily heterosexual epidemic in Africa, there are limited data regarding MSM. Because most HIV infections in MSM are acquired through receptive anal intercourse, the role of rectal Gonococcal infections has been most studied. One study documented a threefold increased risk for HIV seroconversion in MSM with

rectal gonorrhoea⁷⁹. A second more recent study documented that gonococcal infection increases the risk of recent HIV infection by a similar magnitude. Data regarding rectal chlamydial or herpes infection also document increased risk of HIV seroconversion, but intervention studies and biologic studies are lacking. In a cross-sectional population-based random sample survey in 2001⁸⁰, 774 randomly selected residents of 30 slums in Chennai were interviewed for behavioural risk factors and 46 (5.9%) of them reported sex with other men. MSM were 8 times more likely to be seropositive for HIV and over twice more likely to have a history of STD than non-MSM. Risk behaviour assessment of 10,785

Men attending 3 STI clinics in Pune from 1993 to 2002 indicated that 708 (6.6%) were MSM. Hence specific interventions targeting MSM should also be included in the control of HIV and STDs.⁸¹

AIMS OF THE STUDY

1. To study the pattern of sexually transmitted infection among high risk group (MSM) attending a STD referral centre.
2. To compare the pattern of STI in Homosexuals and Bisexuals.
3. To study the prevalence of HIV infection in MSM.
4. To study the pattern of STI in MSM affected with HIV.
5. To study the Age wise distribution of STIs in MSM.

MATERIALS AND METHODS

STUDY DESIGN

Prospective observational study

SAMPLE

The study population comprised of patients attending our OPD with history of homosexual and bisexual behaviour. They are registered during the period from 1st January 2005 to 31st August 2006 in the Institute of Venereology, Madras Medical College, Chennai.

During the study period, a total of 620 patients with MSM behaviour were registered and observed.

Methods

The study patients were interviewed for their presenting complaints, sexual history, past history of venereal diseases and other systemic illnesses and treatment taken. All the patients were counseled on STD/HIV and genital hygiene, sexual practices and regular treatment and follow up. They were given pre and post test counseling.

All the patients underwent a complete physical and genital examination. All these

patients were clinically analyzed for the genital manifestation and supported by laboratory diagnosis.

Screening for sexually transmitted diseases were done. Serological tests for syphilis including blood VDRL and TPHA was performed. Patients were sent to VCTC for screening for HIV. Positive patients were registered in Well Health Clinic and investigations for Opportunistic infections were done.

In the case of genital ulcers, the following tests were done.

1. Dark ground examination for *Treponema pallidum*
2. Gram's stain for *Haemophilus ducreyi* and *Candida*
3. Tissue smear and Leishman stain for *Klebsiella granulomatis*.
4. Tzanck test for Giant multinucleated epithelial cells.
5. Ziehl-Neelson staining for *Mycobacterium tuberculosis*.

In the case of genital discharge, the following tests were done.

1. Wet film for *Trichomonas vaginalis*
2. 10% potassium hydroxide preparation for *Candida albicans*
3. Gram's stain to identify *Neisseria gonorrhoeae*.

In addition the examination of urine, culture of *Neisseria gonorrhoeae*

from specimens of urethral discharge and urine were done.

In case of genital growth, histopathological examination of biopsy specimen was done for appropriate cases. Pus and discharge from ulcers were subjected to culture and sensitivity in needed cases.

Routine baseline laboratory analysis including complete blood count, renal function tests, liver function tests, random blood sugar, chest X-ray, ultrasonogram abdomen were done for all patients. Sputum smear for AFB, Mantoux test, Sputum culture and sensitivity, Blood and Urine Culture and sensitivity, peripheral blood smear for Malaria, blood Widal were also done for the need.

In needed symptomatic patients, opinion from concerned specialists like dermatology, dental, ophthalmology, chest clinic, cardiology, neurology and gastroenterology were obtained. They were offered standard treatment according to clinical condition and prophylaxis for opportunistic infections.

RESULTS

Total number of patients attended our OPD during the period of study:6500

Patients with MSM behavior: 620

1) AGE GROUP

AGE	HOMOSEXUAL	BISEXUAL	TOTAL	PERCENTAGE
10-20	52	23	75	12
21-30	124	159	283	45.6
31-40	80	103	183	29.7
41-50	22	57	79	12.7
TOTAL	278	342	620	

Most patients who presented to our study with high risk behavior belonged to sexually active age group.[75.3%]

2) DOMICILE

AGE	HOMOSEXUAL	BISEXUAL	TOTAL	PERCENTAGE
RURAL	83	154	237	38.3%
URBAN	195	188	383	61.7%
TOTAL	278	342	620	100%

Patients from Chennai and surrounding areas outnumbered(61.7%) when compared to those coming from rural areas(38.3%)

3) EDUCATIONAL STATUS

LITERACY	HOMOSEXUAL	BISEXUAL	TOTAL	%
ILLITERATE	53	114	167	27%
PRIMARY	126	131	257	41.4%
SECONDARY	64	72	136	22%
COLLEGE	35	25	60	9.6%
TOTAL	278	342	620	100%

Most of the patients with high risk behavior had basic primary education.(73%)

4) HIGH RISK SEXUAL BEHAVIOR

EXPOSURE	HOMOSEXUAL	BISEXUAL	TOTAL	%
ORORECEPTIVE	6	17	23	3.7
ORO,ANORECEPTIVE	87	54	141	22.7
OROINSERTIVE	3	48	51	8.3
ORO-ANOINSERTIVE	182	223	405	65.3
TOTAL	278	342	620	100%

About 65% of patients practiced penetrative sexual behaviour which plays a major role in the transmission of sexually transmitted infections

5) CONDOM USAGE

CONDOM USAGE	HOMOSEXUAL	BISEXUAL	TOTAL	%
NEVER	119	183	302	48.7
OCCASIONALLY	144	124	268	43.3
MOSTLY	12	28	40	6.4
ALWAYS	3	7	10	1.6
TOTAL	278	342	620	100

Though majority of our patients had primary basic education, still, when it comes to sexual behavior, most of them practiced unsafe sex. (92%)

6) MARITAL STATUS

STATUS	HOMOSEXUAL	BISEXUAL	TOTAL	%
MARRIED	0	224	224	36.13
UNMARRIED	278	118	396	63.87
TOTAL	278	342	620	100

Most of the bisexuals are married (65.5%) which plays an important role in the spread of HIV/STI in the community

7) PRESENTING COMPLAINTS.

COMPLAINTS	HOMOSEXUAL	BISEXUAL	TOTAL	PERCENTAGE
ULCER	13	23	36	6

DISCHARGE	4	8	12	2
GROWTH	18	24	42	6.8
BURNING MICTURITION	26	34	60	9.6
OTHERS	60	107	167	27
SCREENING	157	146	303	48.6
TOTAL	278	342	620	100

Many patients, who came for routine screening (48.6%) when completely examined with appropriate investigations, were found to have significant sexually transmitted infections.

SEXUALLY TRANSMITTED INFECTIONS

PRIMARY CHANCRE IN MSM

AGE	HOMOSEXUAL	BISEXUAL
10-20 YEARS	-	-
21-30 YEARS	1	2
31-40 YEARS	-	1
41-50 YEARS	-	-
TOTAL	1	3

SECONDARY SYPHILIS IN MSM

AGE	HOMOSEXUAL	BISEXUAL
10-20 YEARS	0	0
21-30 YEARS	2	2
31-40 YEARS	0	1
41-50 YEARS	0	0
TOTAL	2	3

LATENT SYPHILIS

AGE	HOMOSEXUAL	BISEXUAL
10-20 YEARS	1	1
21-30 YEARS	15	11
31-40 YEARS	6	11
41-50 YEARS	0	2
TOTAL	22	25

Patients who had sex with men and women (31) showed more incidence of syphilis when compared to men who had sex with men alone.(25)

GONOCOCCAL INFECTION

AGE	HOMOSEXUAL	BISEXUAL
10-20	-	-
21-30	1	2

31-40	-	-
41-50	-	-
TOTAL	1	2

Acute gonococcal urethritis is seen only in 3 patients

CHANCROID

AGE	HOMOSEXUAL	BISEXUAL
10-20	-	-
21-30	1	-
31-40	-	-
41-50	-	-
TOTAL	1	-

VENEREAL GRANULOMA

AGE(YEARS)	HOMOSEXUAL	BISEXUAL
10-20	-	-
21-30	-	-
31-40	-	1
41-50	-	-
TOTAL	-	1

NON GONOCOCCAL URETHRITIS (NGU)

AGE(YEARS)	HOMOSEXUAL	BISEXUAL
10-20	-	-
21-30	2	4
31-40	1	4
41-50		2
TOTAL	3	10

In patients presented with burning micturition only few patients showed evidence of infection in urine culture. Bisexuals outnumbered homosexuals in urethral infections.

NONSPECIFIC URETHRITIS (NSU)

AGE(YEARS)	HOMOSEXUAL	BISEXUAL
10-20	1	-
21-30	8	10
31-40	5	4
41-50	1	5
TOTAL	15	19

ANOGENITAL HERPES

AGE	HOMOSEXUAL	BISEXUAL
10-20 YEARS	-	1
21-30 YEARS	3	4
31-40 YEARS	-	2
41-50 YEARS	-	1
TOTAL	3	8

Herpes genitalis is found to be on rise in MSM population. In our study bisexuals showed increased incidence and the recurrence is also quite significant in them.

ANOGENITAL WART

AGE	HOMOSEXUAL	BISEXUAL
10-20 YEARS	4	-
21-30 YEARS	4	5
31-40 YEARS	-	7
41-50 YEARS	-	1
TOTAL	8	13

In our study majority of the patients presented with genital warts. Only 3

with receptive sexual exposure presented with perianal warts. Two patients presented with both anal and genital warts. One patient presented with oral and perianal wart

BALANOPOSTHITIS

AGE(YEARS)	HOMOSEXUAL	BISEXUAL
10-20	1	-
21-30	3	3
31-40	1	3
41-50	-	1
TOTAL	5	7

Among patients who presented with genital discharge, only 6 patients showed evidence of Candida. 2 patients when screened, was found to be diabetic

HUMAN IMMUNODEFICIENCY VIRUS

AGE	HOMOSEXUAL	BISEXUAL
10-20	1	0
21-30	9	17
31-40	2	13
41-50	0	3
TOTAL	12	33

Patients who practiced sex with both men and women (73.3%) were found to be more affected with HIV compared to MSM alone.

HEPATITIS B SURFACE ANTIGEN POSITIVITY

AGE	HOMOSEXUAL	BISEXUAL
10-20	-	-
21-30	7	5
31-40	2	3
41-50	-	1
TOTAL(n=383)	9	9

All 620 patients were motivated for HBSAg testing. But only 383 patients were willing for the test. Among them 18 patients showed positive result (4.7%)

OTHERS

DISEASE	HOMOSEXUAL	BISEXUAL
MOLLUSCUM CONTAGIOSUM	1	1
SCABIES	1	2

AGE WISE PREVALENCE OF STI

AGE (YEARS)	HOMOSEXUAL	BISEXUAL
10-20	8	2
21-30	51	63
31-40	15	47
41-50	1	15
TOTAL	75	127

Sexually transmitted infections in men having sex with men

INFECTION	HOMO SEXUAL	BISEXUAL	TOTAL	%
PRIMARY SYPHILIS	1	3	4	0.6
SEC.SYPHILIS	2	3	5	0.8
LATENT SYPHILIS	22	25	47	7.5
GONORRHEA	1	2	3	0.5
CHANCROID	1	0	1	0.14
VENEREAL GRANULOMA	0	1	1	0.14
NGU	3	10	13	2.1
HERPES GENITALIS	3	8	11	1.8
ANOGENITAL WARTS	8	13	21	3.4
NSU	15	19	34	5.5
BALANOPOSTHITIS	5	7	12	2
MC	1	1	2	0.3
SCABIES	1	2	3	0.5
HIV	12	33	45	7.3
TOTAL(n=620)	75	127	202	32.58
HBSAG+COINFECTION(N=383)	9	9	18	4.7%

Sexually transmitted infections in HIV infected MSM

INFECTION	HOMO SEXUAL	BISEXUAL	TOTAL	%
PRIMARY SYPHILIS	1	0	1	2.2
SEC.SYPHILIS	2	1	3	6.7
LATENT SYPHILIS	2	1	3	6.7
GONORRHEA	0	1	1	2.2
CHANCROID	0	1	1	2.2
NGU	1	1	2	4.4
HERPES GENITALIS	2	6	8	17.8
ANOGENITAL WARTS	2	4	6	13.4
NSU	2	3	5	11.1
SCABIES	1	1	2	4.4
MC	0	1	1	2.2
TOTAL(n=45)	13	20	33	73.3
HBsAg+coinfection(n=45)	2	3	5	11.1

DISCUSSION

In the highly emerging HIV pandemic, most common mode of transmission in developing countries like India remains heterosexual only. But due to westernization and industrial development in urban areas, there is a change in trend of the sexual behaviour. As more and more young people remain away from home, due to unemployment, there is more chance of having sex with same gender. Knowingly or unknowingly they will transfer their infections to their innocent partners after marriage. Hence education of this young people remains a major challenge in the prevention of sexually transmitted infections and HIV/AIDS.

Our study highlights the importance of surveillance, early diagnosis and combined strategies to control and manage the STIs in the high risk group. STI clinics in India are important places where patients can be educated about the condom usage, safe sexual behaviour, prevention and treatment of sexually transmitted infections.

Demographics

Approximately 9.5%(620/6500) of the total out patients who attended our OP during January 2005- Aug 2006 had high Risk MSM behaviour. Most of the patients (75.3%) were in the Age group of 20-40 years. Most of these persons were residing in urban area (61.3%). Homosexuals remained unmarried when compared to Bisexuals. In due course these persons will get married, due to our social customs, and seek sex clandestinely outside the marriage. As a result of this, this high risk population was more prone to get sexually transmitted infections and got more chance to spread this infection in the society.

Most patients in our study were literate(73%). Atleast they were able to read. This remains a positive factor in educating the patient about the risk of sexual behaviour, STI/HIV AIDS. Even Media has got a big role in the bringing a great behavioural modification in this high risk population.

But in spite of the literacy status, most patients who attended our study revealed that they are practicing unsafe sexual behaviour (92%). Only 8% were using condoms in contrast to 12% reported in one study⁸². Most MSM were using condoms occasionally only, due to the fear of rejection by their partners. This places them at a higher risk for acquiring STI/HIV AIDS. So counseling is most needed in these patients to bring a change in the condom usage among these patients.

Regarding sexual behaviour, most of the respondents in our study had performed penetrative intercourse (anal, oral) (73.6%) compared to 65% in

another study⁸³ which provides a good nidus for the growth of sexually transmitted infections. In spite of this, only one third have developed significant overt STI(32.58%) and the remaining may be in incubatory period. Hence screening of this MSM population regularly atleast once in 6 months will be a better option in the prevention, early diagnosis and treatment of STI/HIV AIDS.

Bisexual behaviour is more seen in our patients(55%), similar to the two studies conducted among MSM in Chennai (Chakrapani et al.). Many of them have had sex with commercial sex worker. They transmit the infections from females and males to their life partners. They remain the major precipitating factor in the spread of silent epidemic of STI/HIV infection. It is inferred that Bisexual behaviour is more risky when compared to Homosexual behaviour.

PATTERN OF SEXUALLY TRANSMITTED INFECTIONS AMONG MSM

Most of STIs were seen in younger age persons(87%) and majority of them had bisexual behaviour(54%). Hence in bisexual persons, multiple factors are involved in the transmission of STIs.

33% of our patients with high risk behaviour had atleast one significant STI when compared to 41% in another study⁸².

Among the STIs, Bacterial STIs were seen in 11.78% of patients. The following pattern is seen in Bacterial STIs in decreasing order of frequency –

Latent Syphilis (7.5%), Non Gonococcal Urethritis (2.1%), Secondary Syphilis (0.8%), Primary Syphilis (0.6%), Gonorrhoea (0.5%), Chancroid (0.14%).venereal Granuloma(0.14%)

Viral STIs were seen in 12.8%. Among the viral infections HIV is the most common (7.3%), followed by Anogenital warts (3.4%), Anogenital Herpes (1.8%), molluscum contagiosum(0.3%). out of the 383 patients who consented for Hepatitis B infection screening, 23 patients showed HBsAg positivity. Out of these patients 5 patients were also HIV positive. These viral infections were very difficult to cure. After treatment of these infections asymptomatic carrier state exists in the patient, which in turn helps in the spread of infection to the community.

Other infections encountered in our study include Non specific urethritis(5.5%), balanoposthitis(2%), scabies(0.5%).

Among the Bacterial STIs, latent Syphilis remain the commonest encountered in the study. This awakens us about the importance of screening of the patients with VDRL and ELISA for HIV.

Among patients presenting with burning micturition, the cause is identified in only 20 % cases. More sophisticated investigations like Nucleic acid Amplification test and Polymerase Chain Reaction are needed to rule out other causes.

PATTERN OF STI IN HIV INFECTED MSM

Majority of the HIV infected MSM showed evidence of sexually transmitted infection (73.3%), when compared to the sexually transmitted infection in non HIV infected MSM (32.58%).

Among these, again viral infection(33.4%) topped the list followed by the bacterial STIs(24.4%).The following pattern is seen, primary syphilis(2.2%), secondary syphilis(6.7%), latent Syphilis(6.7%), gonorrhoea(2.2%), non gonococcal urethritis(4.4%) Chancroid (2.2%), herpes genitalis(17.8%), Anogenital wart(13.4%) molluscum contagiosum(2.2%), non specific urethritis(11.1%)scabies(4.4%). These HIV infected MSM concealed their HIV status and have unsafe sexual behaviour with their partners. When it comes to the receptive partner affected with HIV, the situation is still getting worse. They intentionally conceal their HIV status, to earn their livelihood. They sell sex for money along with free subscription of HIV. Sometimes even if they resist, they were forced by the partners to have unsafe sex.

Hence educating MSM alone would not help in the control of STI/HIV. The whole community should be educated regarding the benefits of safe sexual behaviour and consequences of unsafe sex like STIs/HIV.

We found difficulties in treating the partners of these patients. Even if they have regular sex partners, the patients never concealed their partner either for screening or treatment. Hence partner notification is one area, which has to be explored in detail among MSM population.

CONCLUSION

1. Viral sexually transmitted infections (12.8%) are on the rise compared to the bacterial infections (11.78%) in the Men having Sex with Men. Among viral infections, HIV is the commonest, and among bacterial infections, Latent Syphilis is the common infection. Hence regular screening with VDRL and ELISA for HIV is a must in MSM
2. Bisexual men showed more STI prevalence (63%) when compared to the homosexual men (37%), implying the multifactorial role of transmission of STI/HIV/AIDS.
3. 45 patients(7.3%) of the total MSM were HIV positive
4. HIV infection is more seen in Bisexual men(73.3%) than Homosexual men(26.7%). Overall, the prevalence of HIV is common in this high risk group (MSM), when compared to the general population.
5. Sexually transmitted infection is more common in HIV infected MSM (73.3%) when compared to non HIV infected MSM (32.58%).viral STIs are more in HIV

infected(33.4%) in comparison to non HIV infected MSM(12.8%). Hence prevention of STI plays an important role in the prevention of HIV.

6. Sexually transmitted infections among MSM are more seen in younger adult in sexually active reproductive group (87%) ..Hence, the main target population among MSM, which needs to be focused in order to prevent STI/HIV, is this young population.
7. Sexually transmitted disease management in MSM requires the expert clinician to be conversant with risk assessment, the clinical presentation, and current diagnosis of certain infections, and to be familiar with new therapeutic agents. Successful STI care of MSM can be achieved because many infections are easily diagnosed and curable with simple single dose therapy. The current challenges lie in effective risk reduction and optimizing preventive care in a cost-effective manner. New molecular-based diagnostic studies will offer insights into the etiology of several clinical syndromes, but the basis of care will always rely on the same critical components of medicine: listening and talking to patients.

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PROFORMA

Aim: To study the pattern of sexually transmitted infections
in Men who have Sex with Men.

Name of Institution : Institute of Venereology,
Madras Medical College,
Chennai.

STD Identification OP/IP No. :

D.O.A. :

D.O.D. :

Name :

Age :

Marital Status :

Occupation :

Income :

Referred by :

Complaints :

Duration

Genital Ulcer

Genital Discharge

Bubo

Skin Rash

Others

Treatment taken :

Sexual Orientation :

Recent exposure with Dates :

Premarital contact :

Extramarital contact :

H/O previous STD with dates :

Treatment taken :

Contact History :

H/O Blood Transfusion :

H/O Previous Surgery :

H/O smoking / Alcoholism :

H/O IV Drug abuse :

Genital Examination :

Systemic Examination :

Provisional Diagnosis :

Blood Investigations

- Blood VDRL :
- Blood TPHA :
- ELISA for HIV :

Bed Side Investigations

- DF for TP
- Smear for Gonococci
- Tissue smear for DB
- Leishman's for GEC
- Gram's for DUC
- Ziehl Neelson's for AFB
- Wet film for TV
- KOH for Candidiasis
- Culture for GC
- Urine - alb
 - sugar
- Urine Culture & Sensitivity

Other Blood Investigations :

Diagnosis :

Treatment :

i. Counselling

ii. Management of Disease

iii. Contact Treatment

iv. Follow up

CONSENT FORM

I, _____, hereby agree that I shall get myself involved in the study of Pattern of Sexually Transmitted Infections in Men Having Sex With Men and give my consent for Blood Investigations, Biopsy, Scrapings and other

investigations, be performed on me.

Signature of the Patient (or)

Thumb Impression

Date:

Signature of Witness with Name

Signature of Investigator