

## PROFILE OF SYPHILIS PATIENTS ATTENDING THE DERMATOLOGY VENERELOGY OPD AT A GOVERNMENT TERTIARY HOSPITAL

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### ABSTRACT

#### BACKGROUND

Syphilis is one of the major sexually transmitted infections, which is showing a raising trend across the globe.

The aim of the study is to study the prevalence of syphilis among Sexually Transmitted Infection (STI) clinic attendees of a tertiary care hospital of south India.

#### MATERIALS AND METHODS

This was a cross-sectional study of one year duration conducted at STI clinic of a government tertiary hospital in South India. Patients who have been diagnosed to have syphilis were analysed with respect to demographic profile and their sexual behaviour pattern.

#### RESULTS

40 were persons diagnosed to have syphilis among a total of 1790 STI clinic attendees. The mean age of patients with syphilis found to be 31 years. Male-to-female ratio is 7:1. 80% of patients with syphilis had higher school level and college level education. Homosexual behaviour pattern was predominant and it was found among 60% of them (p value 0.011). 62.5% of them were alcoholic. Safe sex practices were minimal in spite of knowledge about condom.

#### CONCLUSION

There was a raising trend of syphilis among STI clinic attendees during 2016. Early infectious stage of disease is more and was found more commonly among Men Having Sex with Men (MSM).

#### KEYWORDS

Syphilis, Men Having Sex with Men, Sexually Transmitted Infection.

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#### BACKGROUND

Sexually Transmitted Infections (STI) are important in the context of complications and transmission risk of untreated STI. STI are proven risk factor for Human Immunodeficiency Virus (HIV) transmission also. The epidemiological profile of STI is not uniform and static always. There are country wise and regional variations and variations according to the time period found in the epidemiology of STI. World health organisation estimates approximately 340 million new case of sexually transmitted infections occur every year, 75-85% of them in the developing countries.

Syphilis is one of the most important STI due to its prevalence, infectivity, complications of untreated disease and impact on the healthcare systems. An increase in the prevalence of syphilis has been recognised worldwide since

the year 2000. True prevalence of syphilis in India is not known because of several reasons. The reasons maybe the stigma associated with the STI, poor health seeking behaviour of people with respect to STI, lack of reporting of STI by healthcare personnel and syndromic management, which hides many asymptomatic cases.<sup>1</sup>

#### Aim of the Study

To study the prevalence of syphilis among sexually transmitted infection clinic attendees of a tertiary care hospital of South India during the year 2016 January to December.

#### MATERIALS AND METHODS

This was a cross-sectional study of one year duration conducted at STI clinic of a government tertiary hospital in South India. As a routine, all STI clinic attendees were given counseling and clinical examination was done. STI screening was done with rapid plasma regain test, HbsAg and HIV antibody tests. Syndromic management was given. Syphilis diagnosis was made with history, clinical examination and rapid plasma regain test. All cases of RPR reactivity were confirmed with Treponema pallidum haemagglutination assay. TPHA was also done for suspected cases of syphilis

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infection coming with reactive RPR reports done from private hospitals and also for sexual partners with negative RPR reports. As per hospital protocol, all cases diagnosed to have syphilis were admitted as inpatient for treatment with Injection Benzathine-Penicillin. For patients who refused to get admitted and who are allergic to penicillin and those who were not willing for Inj. Penicillin, Blue kit was given.

In this study, we analysed the prevalence of syphilis among STI clients. We analysed the sociodemographic profile, sexual behaviour pattern and substance use of patients diagnosed to have syphilis.

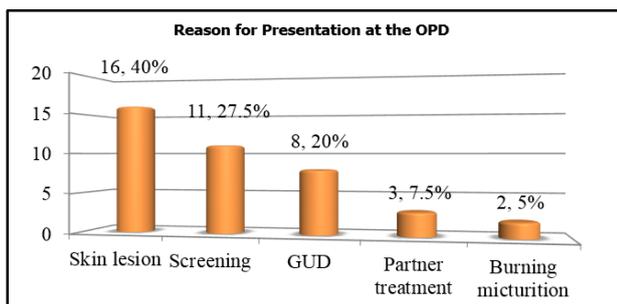
**RESULTS**

The total number of STI clients attending OPD was 1790 during the year 2016. Among this, forty patients have been diagnosed to have syphilis showing a prevalence of 2.2%. 35 were males and 5 were females. Male-to-female ratio is 7:1. The mean age of the study population was 31.

Educational Status and Occupation- About 17.5% had primary school level education, 52.5% had high school and higher secondary school level. 11 (27.5%) patients had college level education with graduation and postgraduation. Illiteracy was found in only one patient. Most of them (35%) were semiskilled workers by occupation. Next predominant occupation was unskilled labourers constituting 32.5%. 52.5% of patients were married and 47.5% of patients were unmarried.

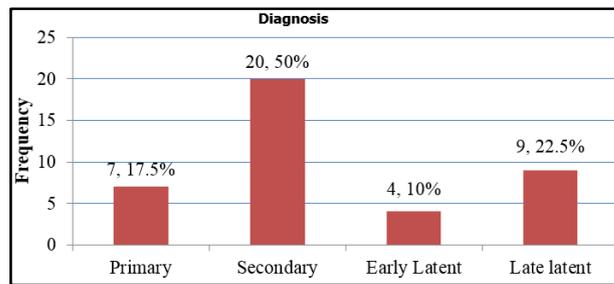
Sexual Behaviour- Among 40 patients with syphilis, 14 (35%) were heterosexuals, 20 (50%) were homosexuals, 4 (10%) were bisexuals and in spite of proven infection 2 cases (5%) denied sexual exposure. The chances of other modes of transmission like blood transfusion have been ruled out in these 2 persons making sexual transmission as more probable. Among 38 cases accepting sexual exposure, all had practiced unsafe sex.

Clinical Profile- The major presenting complaint of these patients was skin rashes (40%) (Figure 1). Among 40 cases, various stages of syphilis have been diagnosed (Figure 2). Among this, early syphilis constitutes about 77.5%. Secondary syphilis with skin rashes constituted major proportion of patients.



**Figure 1. Reason for Presentation at the Dermatology OPD**

Among the early syphilis cases, homosexual and bisexual practices predominates and was seen in 24 cases (Table 1) (p value 0.011).



**Figure 2. Diagnosis of Stage of Syphilis**

Stage of Syphilis	Homosexual	Heterosexual	Denies
Primary syphilis	5	1	1
Secondary syphilis	15	4	1
Early latent syphilis	3	1	0
Late latent syphilis	1	8	0

**Table 1**

Regarding other STI association, 4 cases (10%) of syphilis had HIV infection also. Among this, 3 were newly-detected HIV patients and one patient was on antiretroviral therapy while he acquired syphilis. This study also revealed that 62.5% patients were alcoholic. No intravenous drug abusers were found among this study group.

Regarding treatment profile, 31 patients (77.5%) were treated with Injection Benzathine penicillin and 9 (22.5%) patients received Blue kit. 60% of patients were willing for adoption of better sexual practices. Regular treatment and follow up were seen in 87.5% of patients. Only 15 cases (37.5%) brought their partners for screening and treatment, among the rest, partner evaluation failed.

**DISCUSSION**

A raising trend in the prevalence of syphilis is reported worldwide, since the year 2000. As per CDC 2015, sexually transmitted diseases surveillance report in United States, the primary and secondary syphilis rates have increased every year since 2000-2001. In U.S., there was a 19% increase in reports of syphilis in 2015 when compared to 2014. Since 1996, syphilis has been on the increase in many European countries.<sup>2</sup> Since early 2000, a dramatic increase in syphilis among MSM has been reported in Dublin, Ireland.<sup>3</sup> An epidemiological study for a 10 years period from Singapore showed a resurgence of syphilis from 1999.<sup>4</sup> In India also, the incidence of bacterial STI was comparatively low during 1995-2000 when compared with the rates of the years 1986-1990.<sup>5</sup> After the year 2000, the raising trend in the prevalence of syphilis has been noted in other Indian studies also.<sup>6-8</sup> The prevalence of syphilis in our present study was 2.2% during the year 2016. Our institutional statistics showed a statistically significant increased seroprevalence rate of syphilis when compared to previous years (2014-1.8%, 2015-1.9%). In a study conducted at tertiary care centre Kerala, for the period of 10 years from 2003-2012, the later years of the study witnessed a rise in the number of syphilis cases.<sup>8</sup>

These changing trends in the prevalence of STI, syphilis in particular could be interpreted as a change in the sexual behaviour pattern. The increase in prevalence of syphilis is attributable to increased cases among men especially men having sex with men. There was a clear male predilection observed in our study too. This finding also correlates with the above study done at Kerala. In the present study, among male infected persons, almost 60% (p value 0.011) of the patients were men having sex with men (homosexuals 50%, bisexuals constituting another 10%). Similar higher prevalence of syphilis among MSMs has been observed in other studies from India.<sup>6,8-10</sup> In a study from Dublin, 86.8% of syphilis cases occurred in MSM.<sup>3</sup> Importantly, early syphilis cases were more among MSMs in this study. This was an important fact epidemiologically owing to the infective nature of early syphilis and also the behaviour pattern of MSMs where the number of partners, rate of partner change and anonymity of the sexual partners are usually more. The female patients of our study were married women acquired the infection from the husbands.

The mean age of syphilis infected patients in our study is 31 years. Similarly, in studies conducted at India, the mean age of infected patients was between 25-35 years.<sup>11</sup>

Among the 40 cases diagnosed, incidence of late latent syphilis was 22.5% indicating that a substantial proportion of syphilis cases were not diagnosed within one year of infection. In a 5 years hospital-based study from India, the proportion of latent disease was found to be 32%.<sup>11</sup> Spontaneous resolution of symptoms of early disease even without treatment, a characteristic nature of syphilis and the widespread use of potent antibiotics for common infections, which might produce a partial cure of symptoms might be the reasons for significant proportion of latent syphilis, which is observed in other studies also.<sup>8</sup>

In this cross-sectional study of syphilis patients, coinfection with HIV was found in 10% of patients. The association of syphilis with HIV seropositivity was high as seen in other studies.<sup>7,12</sup>

Though literacy level and low socioeconomic status are traditionally explained risk factors for STI, our study group had 27.5% of participants with college level education and 52.5% with higher school level education showing that literacy level is not a limiting factor in risk taking behaviour. 60% of patients were willing for adoption of better sexual practices. Alcoholism and substance abuse are proven associated risk factors to sexually transmitted infections. In a study done at Sikkim showed that the addiction like alcoholism, smoking and drugs were also found in significant number with more than 50% individuals with at least one of these addictions.<sup>13</sup> In our study, 62.5% were alcoholic.

Regarding condom use in our study population in spite of knowledge about safe sex, almost the entire study group practiced unsafe sex. Condom promotion is an integral part in HIV/STI prevention services. After HIV/AIDS epidemic, there were nationwide intensive campaigns on condom and HIV/AIDS prevention making our people to know more about condoms. But, making use of knowledge about condom to practice safe sex is difficult yet. In a study from

Cameroon, in spite of 97.8% of study group having knowledge about condom, nearly 34.5% of them failed to use. In a study from Karnataka, India, the level of knowledge and practices towards condom among the participants was low.<sup>14</sup>

## CONCLUSION

There is a raising trend of syphilis seen among STI clinic attendees. Primary and secondary syphilis were more and more commonly seen among men having sex with men. This fact is important epidemiologically. HIV coinfection with syphilis was also prevalent. Knowledge about STI and safe sex practices should be disbursed among young people.

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