

## ORIGINAL ARTICLE

## A Retrospective Study of Sexually Transmitted Infections among Rural Population of Western Maharashtra

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**Abstract:**

**Background:** Sexually transmitted infections (STIs) and sexually transmitted diseases (STDs) are a major public health problem worldwide, affecting the quality of life and causing serious morbidity and mortality. Greater understanding of local STI/ STD burdens can assist in the development of more effective STI/ STD and HIV prevention strategies. **Aim:** To estimate the prevalence of STIs at tertiary care hospital and to study the clinical patterns. **Material and Methods:** A retrospective review of the data of patients seeking services at STD speciality clinic of dermatology OPD of tertiary care hospital catering to rural population of Western Maharashtra. It is 9 years observational study from June 2012 to May 2021. All patients diagnosed clinically as STI/ STD were included in the study. **Results:** The prevalence of STI/ STD at our tertiary care hospital was 0.8/10,000. Candidial balanitis being most common accounting for 126 cases (38.18%), followed by Molluscum contagiosum. **Conclusion:** The high prevalence of fungal and viral infection was observed.

**Keywords:** Sexually transmitted infection, Sexually transmitted disease, Venereal disease.

**Introduction:**

The term STI/ STD refers to infection which is caused by pathogen, acquired or communicated from sexual contact. STIs/ STDs are also known as venereal diseases (VD) which are transmitted from single infected person to other non-infected person during unprotected sexual intercourse which includes genital, oral and anal.

STI means Sexually Transmitted infection, are infections that have not yet developed into diseases, whereas STD means Sexually Transmitted Disease,

that result from STIs. STI differs from STD in that STD resulting in clinical disease, while STI may not cause clinical disease but transmitted by sexual interaction [1]. Clinically, patient may present with complaints of burning micturition, penile or vaginal discharge, pustule, itching, genital ulcer or growth. Some nonsexual routes of transmission of infection are blood transfusion, IV drug abuse, breastfeeding, or during childbirth. More than 30 pathogens including bacteria, viruses and parasite are able to cause STIs/ STDs [2]. STIs/ STDs being chief community health problem, there were an estimated 357 M new curable STI cases among people aged 15–49 years in 2012 worldwide: 131 M cases of chlamydia, 78 M cases of gonorrhea, 6 M cases of syphilis, and 142 M cases of trichomoniasis [3]. Some viral STIs also shows similar high prevalence, with approximated 417 M people infected with herpes simplex virus Type 2 (HSV-2), and estimated 291 M women harboring human papilloma virus at any point in time [4]. In India, around 6% of the adult population has one or more STI which amounts to the occurrence of about 30–35 million episodes of STI every year [5]. Gujarat state estimated 1.8 M STI episodes in state per annum [6]. STI caused by gram negative Neisseria gonorrhoea if left untreated, spreads systemically to other parts of the body, specially joints and heart valves causing serious complications [7,8]. The human immunodeficiency virus (HIV) is a lentivirus subgroup of retrovirus, over time it causes acquired immune deficiency syndrome (AIDS) that affects human immune response cells like dendritic cells, macrophages and helper T cells (CD4+

T cells) [9,10]. Wide variations were observed in national seroprevalance rates of HIV infections such as, 0.1% in China, 0.4% to 1.3% in India, 3% in Cambodia and 7% in Sub-Saharan African countries. High risk populations (drug users, sex workers) display seroprevalance rates of 60-75% in some areas [11]. Herpes genitalis is life-long, viral infection caused by HSV-2.

### Material and Methods:

The study was conducted at the dermatology OPD of tertiary care hospital, Ahmednagar, Maharashtra, India. This was a retrospective observational study. The data of the patients acquired over a period of 9 years (June 2012- May 2021) were collected and analyzed. Total 330 patients diagnosed with various STI's/ STDs were included in the study. The data was collected from the STD specialty clinic of dermatology OPD and medical record department. Ethical clearance was obtained from the institutional ethics committee before starting this study.

Data was entered in Microsoft excel 2013. Various parameters employed in the study were statistically analyzed using Statistical Package for the Social Sciences (SSPS) Version 24. Frequencies and percentages of the qualitative variables is shown, various study parameters are presented in tables.

### Results:

Prevalence of STIs/ STDs at our tertiary care hospital was 0.8/10,000, while dermatology OPD prevalence was 1.01/1000. 330 patients included in the study who visited STD specialty clinic of dermatology OPD, most of the patients were of Candidial balanitis 126 (38.18%), followed by 45 (13.63%) patients of Mollusum contagiosum, 30 (9.09%) patients of genital wart, 25 (7.57%) patients of vaginal discharge, 22 (6.66%) patients of herpes genitalis, 19(5.75%) patients of genital ulcers, 11(3.33%) patients of scabies, 10 (3.03%) patients were VDRL+(Table 1). Out of 330 patients, 54 tested positive for HIV accounting for 16.36% of the total study population and 42 (13.03%) others includes pruritic papular eruption of HIV, macular rash (secondary syphilis), seborrheic dermatitis, HIV with Hansen disease, herpes zoster

with HIV and hepatitis B with psoriasis etc.

Out of 330 patients, 230 (69.7%) patients were laborers, 29 (8.79%) were housewives, 25 (7.58%) were farmers, 17 (5.15%) were in private jobs, 12 (3.64%) were drivers, 8 (2.42%) were unemployed, 5 (1.51%) had government jobs and 4 (1.21%) were students (Table 2). On the evaluation of complaints noted, 98 (29.7%) had genital growth, 79(24.1%), patients having itching followed by 59(17.8%) patients who had burning micturition, 48(14.5%) patients had burning micturition and ulcers, 46(13.9%) patients had burning micturition and itching. Out of 330 patients, 248(75.1%) patients were males while 82(24.9%) were females. Majority of the patients 109 (33.1%) belonged to the 21-30 year age groups followed by 91 (27.6%) of 31- 40 years of age, 55 (16.7%) of age 41-50 years, 26 (7.87%) were above 60 of age, 25 (7.6%) in the age group of 51-60 and 24 (7.2%) of between the age of 11-20 years.

Table No. 1: Diagnosis of Patients

Diagnosis	No. of Patients	Percentage (%)
Candidial Balanitis	126	38.18
Scabies	11	3.33
Genital Ulcer	19	5.75
Herpes Genitalis	22	6.66
Wart	30	9.09
Genital Mollusum	45	13.63
VDRL+	10	3.03
HIV+	54	16.36
Vaginal discharge	25	7.57
Others	42	13.03

\*As some of the patients were found to have more than one positive finding, so the total number of patients exceeded the total of 330.

Table No. 2: Occupation of Patients

Occupation of Patients	No. of Patients	Percentage (%)
Student	4	1.21
Farmer	25	7.58
Housewife	29	8.79
Labour	230	69.7
Driver	12	3.64
Private Job	17	5.15
Govt. Job	5	1.51
No Job	8	2.42
Total	330	100

**Discussion:**

Sexually transmitted infections/ diseases (STIs/ STDs) are the major community challenges. Though National AIDS Control Organization (NACO) and other non-governmental programs have set some guidelines for prevention, diagnosis and treatment of these infections, new infections keep evolving. Along with the infections they also affect the physical, psychological and national economy [12].

Though the estimated burden of STIs/ STDs is high, stigma at social and individual level make patient seek early treatment. Patients prefer seek to private hospital or practitioner who offers great confidentiality and less stigma as compared to public sectors. A number of studies have been carried out on the changing trend and pattern of disease that showed increased prevalence of bacterial STIs/ STDs [13-16].

In our study males were most commonly affected throughout the year like other studies. The major source of infection in females was their spouses while pre and extra marital exposure were the major cause of infection in males. The minimum age infected in this study was 19 years and maximum of 75 years. In this study, STIs like Candidial balanitis, viral wart, herpes genitalis were commonest which were comparable to recent studies done [17-20].

Out of 3,24,000 patients who visited STD specialty clinic of dermatology OPD, 330 patients had STIs/ STDs in which, Candidaial Balanitis was seen in maximum patients 126 (38.18%) which was then followed by 45 (13.63%) patients of Mollusum

contagiosum, 30 (9.09%) patients of genital wart, 25 (7.57%) patients of Vaginal discharge, 22 (6.66%) patients of herpes genitalis, 19(5.755) patients of genital ulcers, 11(3.33%) patients of scabies and 10 (3.03%) patients were VDRL+. Out of 330 patients 54 patients tested positive for HIV accounting for 16.36% of the total population and 42 (13.03%) others includes pruritic papular eruption of HIV, macular rash suggestive of secondary syphilis, seborrheic dermatitis, HIV with Hansen disease, herpes zoster with HIV and hepatitis B with psoriasis etc. The most common complaints with which females presented was genital discharge. Majority patients attending STI clinic were laborer and women were housewives. STIs caused by bacteria like balanitis, vaginal discharge, viral STIs like genital wart and herpes genitalis were most common in our study. Higher prevalence of STIs due to recurrent and persistent nature brigs patients to tertiary hospital from primary health care centers.

**Conclusion:**

To reduce the burden of STIs/ STDs, efforts are needed in health care facilities as well as in the community. Health programmers directed towards the awareness about the minor STIs/ STDs are required to remove the social stigma and to make people attend the proper treatment at early stage which will reduce the complications and further transmission. Public education and outreach are needed to promote infection prevention, use of health care facilities and to reduce further community transmission.

**Conflict of Interest - Nil**

**Sources of Support - Nil**

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