

# Clinico-epidemiological study of sexually transmitted infections in a tertiary centre at Aligarh

Tulika Rai, S. Suhail Amin

Department of Dermatology, JNMCH, Aligarh Medical University, Aligarh, India

**Abstract** *Objective* To highlight the pattern of sexually transmitted infections (STIs) and the profile of patients with HIV infection in STI patients as seen at our hospital.

*Methods* A retrospective analysis of records of patients attending the STD clinic during the period of September 2013 till August 2014 was done.

*Results* A total of 90 patients attended the STD clinic, out of which 63 were males and 27 were females with the male: female ratio of 2.3:1. Maximum patients belonged to the age group of 20-30 years. Herpes genitalis was the most common ulcerative STI, 19 (21.1%) out of 90 patients had herpes genitalis. Genital warts were the most common non-ulcerative STI, 25 (27.8%) out of 90 patients had genital warts. HIV seropositivity was seen in 7 patients.

*Conclusion* Herpes genitalis was the most common ulcerative STI, while genital warts was the most common nonulcerative STI in our study. The prevalence of HIV among STI clients in India has been on the rise, which was also seen in our study.

**Keywords**

Sexually transmitted infections, herpes genitalis, HIV infection.

## Introduction

Sexually transmitted infections (STIs) are a group of communicable diseases that are transmitted mainly by sexual contact. STIs are a global problem of great magnitude.<sup>1,2</sup> Approximately 5% of the Indian population suffers from one or the other form of STIs other than human immunodeficiency virus (HIV) infection every year.<sup>3</sup> During the past decade, there is overwhelming evidence that both ulcerative and nonulcerative STIs promote HIV transmission by enhancing Human immunodeficiency virus (HIV) infectiousness and susceptibility.<sup>4</sup> The major mode of HIV

transmission reported in India is heterosexual contact (85%).<sup>5</sup>

STIs show various trends in different parts of the country. The present study was conducted to know the pattern of STIs and the HIV seropositivity among the patients attending the STI clinic at our hospital.

## Methods

A retrospective analysis of data collected from the clinical records of 90 patients over a period of 1 year (September 2013 – August 2014) was carried out at Jawaharlal Nehru Medical College (J.N.M.C.), Aligarh Medical University, Aligarh.

The data were collected from individuals attending STI clinic of the Skin OPD in

---

### Address for correspondence

Dr. Tulika Rai,  
Department of Dermatology, JNMCH,  
Aligarh Medical University, Aligarh, India  
Email: raitulika@gmail.com

Jawaharlal Nehru Medical College Hospital. All individuals above the age of 18 years presenting at the STI clinic were included for the present analysis.

All the subjects were clinically evaluated for STIs. The diagnosis was based on clinical history, examination, and laboratory investigations. Gram stain was done in all urethral discharge cases. Serological tests included HIV antibody testing by enzyme-linked immunosorbent assay (ELISA) and venereal disease research laboratory (VDRL) test was done in all patients after due consent. If VDRL test was positive, it was confirmed by *Treponema pallidum* haemagglutination (TPHA) test.

The following data were collected from all patients and were used for analysis. Demographic information like age, sex, address and marital status were noted for all patients. Sexual orientation and clinical information like complaints at the time of presentation, duration of complaints, similar complaints in partner and any treatment taken were noted for all patients. A syndromic and clinical diagnosis was made on the basis of clinical features and laboratory investigations.

## Results

A total of 90 patients attended the STI clinic. Out of the 90 patients, 63 (70%) were males and 27 (30%) were females. The STIs were more common in males with the male: female ratio of 2.3:1.

The age of the patients ranged from 18 years to 67 years. Maximum number of patients was in the age group of 21-30 (**Table 1**). The mode of transmission in most cases was heterosexual (81

**Table 1** Age distribution of sexually transmitted infections patients (n=90).

Age groups (years)	Males N (%)	Females N (%)
<20	5 (5.6%)	2 (1.1%)
20-30	29 (32.2%)	14 (15.6%)
31-40	14 (15.6%)	7 (7.8%)
41-50	9 (10%)	3 (3.33%)
>50	4 (4.4%)	1 (1.1%)

out of 90, 90%) followed by bisexual (3 out of 90, 3.3%) and homosexual (6 out of 90, 6.7%). History of unprotected sexual contact with commercial sex worker (CSW) was elicited in 38 (60.3%) male patients. Out of 90 patients, 73 (81.1%) were married.

Herpes genitalis was the most common ulcerative STI. 19 (21.1%) out of 90 patients had herpes genitalis. Genital warts were the most common non-ulcerative STI. 25 (27.8%) out of 90 patients had genital warts. **Table 2** shows the distribution of various STIs among males and females.

HIV infection was present in 7 (7.8%) cases with a male: female ratio of 2.5:1. All the affected men had contact with CSW. Patients with HIV seropositivity presented with herpes genitalis (3 out of 7), followed by genital warts (2 out of 7) and genital molluscum contagiosum (2 out of 7).

## Discussion

The number of new STI cases is showing a gradual decline overall, a common observation in various government health facilities<sup>6,7</sup> which can be attributed to the better diagnostic and management facilities by active NACO intervention.

In the present study, 43 (47.7%) out of 90 patients belonged to the age group of 20-30 years. This is the sexually active group which is at a high risk of being behaviorally more

**Table 2** Clinical profile of sexually transmitted infections patients (n=90).

Diagnosis	Male	Female	Total
	N (%)	N (%)	N (%)
Genital warts	20 (22.2%)	5 (5.6%)	25 (27.8%)
Genital molluscum	16 (17.8%)	6 (6.7%)	22 (24.4%)
Herpes genitalis	14 (15.6%)	5 (5.6%)	19 (21.2%)
Gonococcal urethritis	5 (5.6%)	1 (1.1%)	6 (6.7%)
Nongonococcal urethritis	4 (4.4%)	1 (1.1%)	5 (5.6%)
Vulvovaginal candidiasis	0	4 (4.4%)	4 (4.4%)
Bacterial vaginosis	0	3 (3.3%)	3 (3.3%)
Chancroid	1 (1.1%)	1 (1.1%)	2 (2.2%)
Lymphogranuloma venereum	2 (2.2%)	0	2 (2.2%)
Non-specific ulcer	0	1 (1.1%)	1 (1.1%)
Syphilis	1 (1.1%)	0	1 (1.1%)

vulnerable to STI acquisition, as they generally have higher number of sexual partners and change partners more often than the older age groups.<sup>8</sup>

In this study, 81.1% patients were married which is comparable to the study conducted by Vora *et al.*<sup>9</sup> In the present study, heterosexual contact was the commonest mode of transmission (90%) which is in accordance with many Indian studies.<sup>9,10</sup>

In the present study, herpes genitalis was the commonest ulcerative STI observed, while genital warts was the commonest in nonulcerative STI, which is comparable with Vora *et al.*<sup>9</sup> study, Devi *et al.*<sup>10</sup> study. This shows an increasing trend of infections due to viral etiology as compared with bacterial. Marked decline in bacterial STIs has resulted in an apparent increase of the viral STIs as has been reported from various Indian studies.<sup>9-11</sup>

Gonococcal urethritis was seen in 6.7 % of cases as compared with 7% and 12% in studies by Saikia *et al.*<sup>12</sup> study and Jain VK *et al.*,<sup>11</sup> respectively. Nongonococcal urethritis (NGU) was seen in 5.6% of cases which is comparable with Vora *et al.*<sup>9</sup> study. Common STIs associated with HIV was herpes genitalis (3 of 7 HIV positive), consistent with Vora *et al.*<sup>9</sup> and Devi *et al.*<sup>10</sup>

In the present study, HIV seropositivity among STI patients was 7.7%, which is higher as compared with the national average (2.5%) as per recent NACO estimates.<sup>13</sup> But there was a wide variation in seropositivity for HIV among STI patients, 2.48 % in Vora *et al.*<sup>9</sup> study, 9.6% in Jaiswal *et al.*<sup>14</sup> study and 17.2% in Saikia *et al.*<sup>12</sup> study.

The persistent and recurrent nature of viral infections is responsible for their increasing trend in the current STI scenario. The viral STIs have become more common than the bacterial STIs. STIs increase the risk of HIV transmission so adequate treatment is important to reduce the load of HIV infection in the community. The high incidence of STI in married individuals indicates the importance of contact tracing, counselling, and prompt management of the patient and the partners. More frequent screening may be appropriate depending on individual risk behaviours, the local epidemiology of STIs, and whether incident STIs are detected by screening or by the presence of symptoms and signs.

## References

1. Sharma AK, Chubey D. Risk factors in STI. *Indian J Sex Trans Dis.* 1996;17:8-10.
2. Talsania NJ, Rathod D, Shah R *et al.* STI/HIV prevalence in Sakhi Swasthya Abhiyan, Jyotisingh, Ahmedabad: A

- clinicoepidemiological study. *Indian J Sex Transm Dis.* 2007;**28**:15-8.
3. Alder MW. STI control in developing countries. *Genito Urin Med.* 1996;**72**:85-8.
  4. Shafii T, Burstein GR. An overview of sexually transmitted infections among adolescents. *Adolesc Med Clin.* 2004;**15**:201-14.
  5. National AIDS Control Organization, Monthly updates on AIDS, Facts and figures, September 30, 2004.
  6. Narayanan B. A retrospective study of the pattern of sexually transmitted diseases during a ten-year period. *Indian J Dermatol Venereol Leprol.* 2005;**71**:333-7.
  7. Jaiswal AK, Banerjee S, Matety AR, Grover S. Changing trends in sexually transmitted diseases in North Eastern India. *Indian J Dermatol Venereol Leprol.* 2002;**68**:65-6.
  8. Wellings K, Nanchahal K, Macdowall W *et al.* Sexual behaviour in Britain early heterosexual experience. *Lancet.* 2001;**358**:1843-50.
  9. Vora R, Anjaneyan G, Doctor C, Gupta R. Clinico-epidemiological study of sexually transmitted infections in males at a rural-based tertiary care center. *Indian J Sex Transm Dis.* 2011;**32**:86-9.
  10. Devi SA, Vetrichevvel TP, Pise GA, Thappa DM. Pattern of sexually transmitted infections in a tertiary care centre at Puducherry. *Indian J Dermatol.* 2009;**54**:347-9.
  11. Jain VK, Dayal S, Aggarwal K, Jain S. Changing trends of sexually transmitted diseases at Rohtak. *Indian J Sex Transm Dis.* 2008;**29**:23-5.
  12. Saikia L, Nath R, Deuori T, Mahanta J. Sexually transmitted diseases in Assam: An experience in a tertiary care referral hospital. *Indian J Dermatol Venereol Leprol.* 2009;**75**:329.
  13. NACO. Department of AIDS control- Ministry of health and family welfare. Current epidemiological situations of HIV/AIDS. Annual report 2009–2010. Available from: [http://nacoonline.org/upload/AR%202009-10/NACO\\_AR\\_Englishcorrected.pdf](http://nacoonline.org/upload/AR%202009-10/NACO_AR_Englishcorrected.pdf).
  14. Jaiswal AK, Banerjee S, Matety AR, Grover S. Changing trends in sexually transmitted diseases in North Eastern India. *Indian J Dermatol Venereol Leprol.* 2002;**68**:65-6.