



## CLINICO-EPIDEMIOLOGICAL STUDY OF SEXUALLY TRANSMITTED INFECTIONS IN A TERTIARY CARE CENTRE OF NORTH INDIA

V.K Sonkar, Amardeep Kumar and Y.S Chahar\*

Department of Dermatology, Venereology and Leprosy SN Medical College, Agra India

### ARTICLE INFO

#### Article History:

Received 18<sup>th</sup> October, 2017

Received in revised form 10<sup>th</sup>

November, 2017

Accepted 06<sup>th</sup> December, 2017

Published online 28<sup>th</sup> January, 2018

#### Key words:

Sexually transmitted infections, Candidiasis, Genital herpes, HIV infection.

### ABSTRACT

**Background:** Sexually transmitted diseases (STDs) including AIDS are becoming a major public health problem in developing countries worldwide.

**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 tertiary urban hospital.

**Methods:** A retrospective analysis of records of patients attending the STD clinic during the period of April 2015 till April 2017 was done.

**Results:** A total of 2190 patients attended the STD clinic, out of which 1248 were males and 942 were females with the male: female ratio of 1.32:1. Maximum patients (52.3%) belonged to the age group of 20-30 years. Candidiasis (vulvovaginal candidiasis in women and candidal balanitis/balanoposthitis in men) was the most common (non-ulcerative) STI in 37.9% patients Herpes genitalis was the most common (ulcerative) STI, 590 (27.0%) out of 2190 patients had herpes genitalis. Followed by Genital wart in 13%, Gonococcal urethritis in 8.9%, Genital molluscum in 5.4%, Non gonococcal urethritis 4.8%, Syphilis in 0.5%, chancroid in 0.3%, LGV in 0.2% HIV seropositivity was seen in 55 patients. ie 2.57%.

**Conclusion:** The present study showed Genital Candidiasis was the most common nonulcerative STI and Herpes genitalis was the most common ulcerative 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.

Copyright©2018 V.K Sonkar, Amardeep Kumar and Y.S Chahar. This is an open access article distributed under the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.

## INTRODUCTION

Sexually transmitted infections (STIs) are a group of communicable diseases that are transmitted mainly by sexual contact. Many people with common STIs remain asymptomatic and without diagnosis or even after diagnosis do not continue treatment.

In order to perform a proper clinical assessment it is important to take a good sexual history and undertake a thorough genital examination. The history should include questions concerning symptoms, recent sexual history, sexual orientation, type of sexual activity (oral, vaginal, anal sex), the possibility of pregnancy (females), use of contraceptives.

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 non-ulcerative 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. It is important to understand the profile of the people with STI in a particular region in order to devise appropriate control measure.

## METHODS

A retrospective analysis of data collected from the clinical records of 2190 patients over a period of 2 year (April 2015 – April 2017) was carried out at S.N Medical College, Agra.

The data were collected from individuals attending STI clinic of the Skin OPD in S.N 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 history, clinical 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

\*Corresponding author: Yatendra Singh Chahar

Department of Dermatology, Venereology and Leprosy SN Medical College, Agra India

venereal disease research laboratory (VDRL) test was done in all patients after due consent. If VDRL test was positive, it was confirmed by *Treponemapallidum*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 2190 patients attended the STI clinic. Out of the 2190 patients, 1248 (57%) were males and 942 (43%) were females. The STIs were more common in males with the male: female ratio of 1.32:1.

The age of the patients ranged from 18 years to 65 years. Maximum number of patients was in the age group of 21-30 (Table 1).

**Table 1** Age distribution of sexually transmitted infections patients (n=2190).

Age in years	No of Patients		Total	Percentage
	Male	Female		
18-20	110	82	192	8.8
21-30	680	465	1145	52.3
31-40	365	268	633	28.3
41-50	90	75	165	7.5
>50	35	20	55	2.5

The mode of transmission in most cases was heterosexual (2058 out of 2190, 94%) followed by homosexual (87 out of 2190, 4%) and bisexual (45 out of 2190, 2%). History of unprotected sexual contact with commercial sex worker (CSW) was elicited in 899 (72.0%) male patients. Out of 2190 patients, 1248 (56.9%) were married.

Candidiasis (vulvovaginal candidiasis in women and candidalbalanitis/balanoposthitis in men) was the most common (non-ulcerative) STI in 37.9% patients Herpes genitalis was the most common (ulcerative) STI, 590 (27.0%) out of 2190 patients had herpes genitalis. Followed by Genital wart in 13%, Gonococcal urethritis in 8.9%, Genital molluscum in 5.4%, Non gonococcal urethritis 4.8%, Syphilis in 0.5%, chancroid in 0.3%, LGV in 0.2% HIV seropositivity was seen in 55 patients. ie 2.57%.

**Table 2** Shows the distribution of various STIs among males and females.

STD	No of Patients	Percentage
Candidiasis (vulvovaginal candidiasis in female and candidalbalanitis/ balanoposthitis in male)	832	37.9
Herpes genitalis	590	27.0
Genital wart	285	13.0
Gonococcal urethritis	197	8.9
Genital Molluscum	118	5.4
Non-gonococcal urethritis	105	4.8
Syphilis	10	0.5
Chancroid	7	0.3
Lymphogranulomavenerum	4	0.2
Other	42	2.0

Editor's note: Genital candidiasis is not a sexually transmitted disease, unless transmitted in conjugal relationship.

HIV infection was present in 55 (2.5%) 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 (31 out of 55), followed by genital warts (17 out of 55) and genital molluscum contagiosum (7 out of 55). (Table 2).

## 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, 1145 (52.3%) out of 2190 patients belonged to the age group of 21-30 years. This is the sexually active group which is at a high risk of being behaviorally more 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, 57.0 % 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 (94%) 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 candidiasis was the commonest in nonulcerative STI, this corroborates the finding of Arakkal *et al.*<sup>16</sup> who also observed that the most common STI in males was balanoposthitis (candidial). Patel *et al.*<sup>18</sup> concluded that the current scenario has changed with fungal infections (54%) being the most common STI.<sup>18</sup> Upward trend of fungal infection was also recorded by Zamzachin G *et al.*<sup>17</sup>. 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> Declining level of bacterial infections may be due to the increasing sexual health awareness, indiscriminate use of antibiotics and syndromic management of the infections by the physicians.

Gonococcal urethritis was seen in 8.9 % 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 4.8 % of cases which is comparable with Vora *et al.*<sup>9</sup> study. Common STIs associated with HIV was herpes genitalis (38 of 590 HIV positive), which is consistent with many studies.

In the present study, HIV seropositivity among STI patients was 2.57 %, which is comparable 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. History of exposure to the commercial sex workers (72.0%) were the main source of infection in the males similar to the finding of Kavina *et al.*<sup>15</sup> This may be attributed to the regional variation on account of higher number of people belonging to high risk sexual behaviour in the area, like students, migrant workers, taxi drivers and truck drivers.

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 behavior's, 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 Transm Dis.* 1996; 17:8-10.
2. Talsania NJ, Rathod D, Shah R *et al.* STI/HIV prevalence in SakhiSwasthyaAbhiyan, Jyotisingh, Ahmedabad: A clinicoepidemiological study. *Indian J Sex Transm Dis.* 2007; 28:15-8.
3. Alder MW. STI control in developing countries. *GenitoUrin 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 DermatolVenereolLeprol.* 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 DermatolVenereolLeprol.* 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 DermatolVenereolLeprol.* 2002; 68;65-6.
15. Kavina BK, Bilimoria FE, Rao MV. The pattern of STDs and HIV seropositivity in young adults attending STD clinic of civil hospital, Ahmedabad. *Indian J Sex Transm Dis.* 2005; 26:60-4.
16. Arakkal GK, Damarla SV, Kasetty HK, Chintagunta SR. Changing trends in sexually transmittedinfection (STI) clinic attendees - Current scenario. *IntJ Med SciPublic Health.* 2014; 3:1215-8.
17. ZamzachinG, Singh NB, Devi TB. STD trends in regional institute of medical sciences, Manipur. *Indian J DermatolVenereolLeprol.* 2003; 69:151-3.
18. Patel N, Pitroda H, Rathod Y, Suthar H. Clinical and demographic trends in a sexually transmitted infection clinic in Ahmedabad (2003-2012): An epidemiologic analysis. *IntJ MedSciPublic Health.* 2013; 2:1077-80.

### How to cite this article:

V.K Sonkar, Amardeep Kumar and Y.S Chahar (2018) 'Clinico-Epidemiological Study of Sexually Transmitted Infections in A Tertiary Care Centre of North India', *International Journal of Current Advanced Research*, 07(1), pp. 8857-8859.  
DOI: <http://dx.doi.org/10.24327/ijcar.2018.8859.1443>

\*\*\*\*\*