Clinico-epidemiological study of sexually transmitted infections in males at a rural-based tertiary care center

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Abstract

Background: Sexually transmitted infections (STIs) promote Human immunodeficiency virus (HIV) transmission by augmenting HIV infectiousness and susceptibility. In our society, especially in rural areas, males are common visitors to STI clinic than females who are generally traced as a contact. This difference may be due to the asymptomatic nature of infections in females, lower awareness among women of need for availing medical facilities, or their frequent consultation in gynecological clinics instead of STI clinics.

Aim: To determine the prevalence, clinical profile, and the pattern of STIs in males and the prevalence of HIV infection in them at a rural-based tertiary care center.

Materials and Methods: A retrospective study of male cases attending STI clinic between January 2008 and December 2009 was carried out. Diseases were diagnosed on the basis of clinical morphology of the lesion, and HIV and Venereal disease research laboratory (VDRL) testing was done in all cases.

Results: Of 23 433 male patients presenting at the Skin/VD department, 201 were diagnosed to have STI. Most common age group affected was 25 to 44 years (59.7%). Incidence of STI was high among married individuals (77.2%). Herpes genitalis was most common STI in 49 (24.37%) cases. Viral infections (herpes genitalis, genital warts, and molluscum contagiosum) accounted for 62.2% of cases. Prevalence of HIV in STI was 2.48%.

Conclusions: The persistent and recurrent nature of viral infections is responsible for their increasing trend in the current STI scenario. HIV and STIs are perfect examples of epidemiologic synergy as they are core transmitters of each other. STI being higher in married individuals further underlines the importance of contact tracing, counseling, and prompt management of the partners.

Key words: Bacterial STIs, HIV infection, sexually transmitted infections (STIs), viral STIs

INTRODUCTION

Sexually transmitted infections (STIs) are a loosely defined constellation of infections and syndromes that are epidemiologically heterogeneous but all of which are almost always or at least often transmitted sexually. They show various trends in different parts of the country. During the past decade, there is overwhelming evidence that both ulcerative and nonulcerative STIs promote HIV transmission by augmenting Human immunodeficiency virus (HIV) infectiousness and susceptibility. However, changes in social behavior have altered the pattern of STIs, with certain STIs getting stabilized and certain others showing downhill trend.

As per statistics released by NACO 2008-2009, HIV prevalence rate in the general population in our
country is 0.29% (2008-2009) and STI clinic HIV prevalence is 2.5%.[3]

In our society, especially in rural areas, males are common visitors to the STI clinic than the females who are generally traced as a contact. This difference in presentation may probably be due to the asymptomatic nature of infections in females, less degree of freedom to women to go outdoors, lower awareness among women of need for availing medical facilities, or their frequent consultation in gynecological clinics instead of STI clinics.[4]

The present study aims to understand the pattern of STIs and the HIV prevalence among males in rural-based tertiary care hospital in this part of the country over a period of 2 years.

MATERIALS AND METHODS

A retrospective analysis of data collected from the clinical records of 201 male patients over a period 2 year (January 2008 – December 2009) was carried out.

The data were collected from individuals attending an STI clinic at the Skin and VD department at a rural-based tertiary care center. All individuals above the age of 15 years presenting at the STI clinic were eligible for the present analysis.

Subjects were clinically evaluated by trained physicians for STIs. The diagnosis was made by a specialist based on clinical history, examination, and laboratory investigations. Gram stain was done in urethral discharge cases. Serological tests included HIV antibody testing by Enzyme linked immunosorbent assay (ELISA) and Venereal disease research laboratory (VDRL) by Rapid plasma reagin test (RPR) test was done in all patients after due consent. If VDRL test was positive, it was confirmed by Treponema pallidum haemagglutination (TPHA) test.

Data were collected at the first visit. The following characteristics were used for analysis: (1) Demographic information—age and marital status; (2) Sexual orientation; and (3) Clinical information—complaints at the time of presentation, duration of complaints, and any treatment taken for the complaints. A syndromic and clinical diagnosis was made on the basis of clinical features and laboratory investigations.

Treatment was provided to the patient as per NACO’s guidelines.

RESULTS

During the two-year study, of 23,433 new male patients attending skin department, 201 (0.85%) male patients visited the STI clinic.

Most of the STI cases were in the 25 to 44 years age group accounting for 120 (59.7%) prevalence in males. (Figure 1) 155 (77.2%) patients in the present study were married, while 46 (22.8%) patients were single.

Heterosexual contact was the commonest type of sexual contact seen in 195 patients (97%), followed by bisexual contact in 5 (2.5%) patients and homosexual contact in 1 patient (0.5%).

Among the ulcerative group, herpes genitalis accounting for 24.37% was the most common overall, followed by Chancroid and syphilis accounting, 14.92% and 9.95%, respectively. Donovanosis and Lymphogranuloma Venereum (LGV) constituted 1.5% and 0.49% of all the ulcerative group of STI patients, respectively. Total incidence of ulcerative conditions was 51.25% of all STIs.

Among the nonulcerative group, genital warts accounting for 22.38% were the most common, followed by genital molluscum contagiosum accounting for 15.42%. Total incidence of nonulcerative condition was 37.81% of all STIs.

Among the urethritis group, gonococcal urethritis accounts for 5.97% and non-gonococcal urethritis had an almost equal prevalence of 4.97%. Total incidence of urethritis was 10.94% of the all STI patients [Table 1].

![Figure 1: Age distribution in the study](image-url)
Vora, et al.: Pattern of male STI

Viral infections (herpes genitalis, genital warts, and molluscum contagiosum) accounted for 62.2% of cases.

HIV positivity was seen in 5 (2.48%) of total STI cases. Among HIV-positive patients, four patients had ulcerative STI (herpes genitalis-2, donovanosis-1, and gonococcal urethritis-1), while one patient had nonulcerative STI (genital warts).

Of total 201 patients, 20 (9.95%) patients were VDRL positive, which was further confirmed by TPHA test.

DISCUSSION

The numbers of new STI cases show a gradual decline overall, a common observation in various government health facilities[5-7] which could be attributed to the better diagnostic and management facilities by active NACO intervention.

In our study, 0.85% of the total male skin outpatient department patients had proven STI, whereas Banerjee and Mandal's[8] study and Zamzachin et al.[9] study had a prevalence of 1.8% and 3.3%, respectively.

In the present study, 59.7% of STI cases belonged to 25 to 44 years age group. This is the sexually active group and at a high risk of being behaviorally more vulnerable to STI acquisition, as they generally have higher number of sexual partners and more concurrent partnerships and change partners more often than older age groups.[10] This is also the predominant age group observed to be having STI in other Indian studies.[11-15]

In the present study, 77.2% patients were married as compared with 46.3% in Saikia et al.[12] study, 50% in Jain et al.[13] study, and 47% in Kumarasamy et al.[11] study. In the present study, heterosexual contact was the commonest type of sexual contact accounting for 97%; in accordance to Narayanan’s study, 95.9% and Devi et al.[11] study, 89.6%. The incidence of homosexual contact was 0.5% in our study as compared with 1.2% in Devi et al.[11] study.

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 Ray et al.[6] study, Devi et al.[11] study, Jain et al.[13] study, and Chandragupta et al.[14] study. This denotes an increasing trend of infections due to viral aetiology as compared with bacterial. Marked decline in bacterial STIs, resulting in an apparent increase of the viral STIs, has been reported from various Indian studies.[11,13,14,16] Our study confirmed a similar pattern and showed an increasing trend of herpes and genital warts.

There was an increasing trend of viral STIs with reduction in those of bacterial origin probably due to higher and better antibiotics, empirical treatment provided by general practitioners. The recurrent and unremitting symptoms of viral STIs prompt these patients to report to a higher center for treatment and voluntary testing to rule out HIV disease.

In the present study, VDRL reactivity (confirmed by modified TPHA) was seen in 19.41% of total ulcerative STI patients as compared with 53.3% VDRL reactive in Mewada et al.[17] study.

Common STI associated with HIV was herpes genitalis (2 of 5 HIV positive), consistent with Devi et al.[11] study and Kavina et al.[18] study.
In the present study HIV seropositivity among STI patients was 2.48%, consistent with the national average (2.5%) as per recent NACO estimates.[10] But there was a wide variation for seropositivity for HIV among STI patients, 8.21% in Zamzachin et al.,[9] study, 9.62% in Jaiswal et al.,[7] study, and 17.2% in Saikia et al.[12] study. This difference could be attributed to the high prevalence of HIV infection and intravenous drug abuse in the northeastern part of India.

The persistent and recurrent nature of viral infections is responsible for their increasing trend in the current STI scenario. HIV and STIs are perfect examples of epidemiologic synergy as they are core transmitters of each other. STI being higher in married individuals further underlines the importance of contact tracing, counseling, and prompt management of the partners. More frequent screening may be appropriate depending on individual risk behaviors, the local epidemiology of STIs, and whether incident STIs are detected by screening or by the presence of symptoms.

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