

Changing Trends in Sexually Transmitted Infections at a Rural-based Tertiary Health-care Center in Gujarat: An 8-Year Study

Sir,

Sexually transmitted infections (STIs) are dynamic and show variable prevalence in different parts of the country depending on various epidemiological factors prevailing in that respective geographic area.^[1] In the past, tropical infections such as chancroid, gonorrhoea, and syphilis were considered as most important STIs in developing countries. However, with the effective management of bacterial STIs, scenario is now changing very rapidly. A proper understanding of the patterns of STIs prevailing in different geographic regions of a country is necessary for proper planning and implementation of STI control strategies.

STI patients, presenting to the Departments of Skin and VD, Obstetrics, and Gynaecology at a rural-based tertiary care center of Gujarat from January 2008 to December 2015, were studied to understand the trends and profile. Diagnosis was made clinically, and whenever needed, appropriate investigations were done. Sera of all consenting patients were tested for antibody to HIV using a commercially available immunocomb test. Subsequently, seropositivity was confirmed by Western blot assay.

A total of 5274 patients, 4338 (82.2%) females and 936 (17.7%) males, consented and were studied. Females outnumbered males (1:0.21) as a large number of patients were referred from gynecology department. Married patients were 4275 (81.1%) while 999 (18.9%) were single. Most common age group affected was between 25-44 years (55.13%) in both

males and females which was similar to many other studies.^[1-8] Twenty-one (0.4%) patients were homosexual, 40 (0.8%) were bisexual, and rest 5213 (98.8%) were heterosexual. These findings were similar to study conducted at Puducherry.^[4]

In patients presenting with vaginal discharge, candidal vulvovaginitis was most common 1723 (32.7%), followed by bacterial vaginosis 425 (8.1%) and trichomonal vaginitis 402 (7.6%). Incidence of candidal vaginitis showed an increase from 2008 to 2015 while trichomonal vaginitis and bacterial vaginosis did not show any specific trend. Lower abdominal pain and other uncommon STIs were more or less same from 2008 to 2010, thereafter, there was an increasing trend in 2011 and 2012, and later showed a decreasing trend [Table 1].

Among ulcerative STIs, herpes genitalis was the most common in both males and females accounting for 6.5% and 3.6% of patients, respectively. Percentage of patients with herpes genitalis ranged from 2.3% to 32.8% in various studies across India.^[1-3,5-9] Chancroid was the second most common ulcerative STI in our study in 79 (1.5%) patients. Although there was a rise in number of patients of chancroid and syphilis from 2008 to 2010, a declining trend was seen thereafter till 2015. Donovanosis and lymphogranuloma venereum were less commonly seen and followed declining trend from 2008 to 2015 [Table 1]. These findings were similar to findings of studies at Rohtak, Imphal, and Kottayam^[4,5,9] while in contrast with findings of study at Davangere.^[9]

Table 1: Profile of sexually transmitted infections from 2008 to 2015

	Total, n (%)	2008, n (%)	2009, n (%)	2010, n (%)	2011, n (%)	2012, n (%)	2013, n (%)	2014, n (%)	2015, n (%)
Candidal vaginitis	1723 (32.7)	157 (32.3)	174 (34.1)	185 (34.8)	202 (35.8)	220 (36.4)	247 (39.3)	267 (40.8)	271 (40.5)
Trichomonal vaginitis	402 (7.6)	61 (9.3)	57 (8.2)	54 (7.5)	53 (6.8)	47 (5.7)	44 (5.1)	42 (4.7)	44 (4.7)
Bacterial vaginosis	425 (8.1)	57 (6.5)	54 (5.7)	55 (5.7)	54 (5.1)	50 (4.4)	49 (4.1)	46 (3.6)	60 (5.3)
Herpes progenitalis	534 (10.1)	42 (7.3)	46 (7.7)	49 (8)	61 (9.5)	66 (9.7)	83 (11.8)	91 (12.6)	96 (12.9)
Chancroid	79 (1.5)	11 (1.9)	15 (2.5)	16 (2.6)	13 (2.0)	11 (1.6)	6 (0.9)	4 (0.6)	3 (0.4)
Syphilis	77 (1.5)	15 (2.6)	16 (2.7)	14 (2.3)	10 (1.6)	11 (1.6)	5 (0.7)	4 (0.6)	2 (0.3)
Donovanosis	7 (0.2)	2 (0.4)	0	2 (0.3)	2 (0.3)	1 (0.2)	0	0	0
LGV	5 (0.1)	2 (0.4)	1 (0.2)	0	1 (0.2)	1 (0.2)	0	0	0
Molluscum contagiosum	249 (4.7)	19 (3.32)	21 (3.5)	25 (4.1)	29 (4.5)	32 (4.7)	36 (5.1)	39 (5.4)	48 (6.5)
Anogenital warts	354 (6.7)	39 (6.8)	43 (7.2)	41 (6.7)	42 (7)	45 (6.6)	47 (6.7)	48 (6.6)	49 (6.6)
Gonococcal urethritis	99 (1.9)	18 (3.1)	18 (3.0)	13 (2.1)	13 (2.0)	11 (1.6)	10 (1.4)	8 (1.1)	8 (1.2)
Nongonococcal urethritis	530 (10.1)	66 (11.5)	65 (10.9)	67 (11.7)	68 (10.5)	66 (9.7)	65 (9.3)	69 (9.5)	64 (8.6)
Other uncommon STI such as LAP	722 (13.7)	71 (12.4)	73 (12.3)	79 (12.9)	87 (13.5)	112 (16.5)	105 (15)	98 (13.6)	97 (13.1)

STI: Sexually transmitted infection, LGV: Lymphogranuloma venereum, LAP: Lower abdominal pain

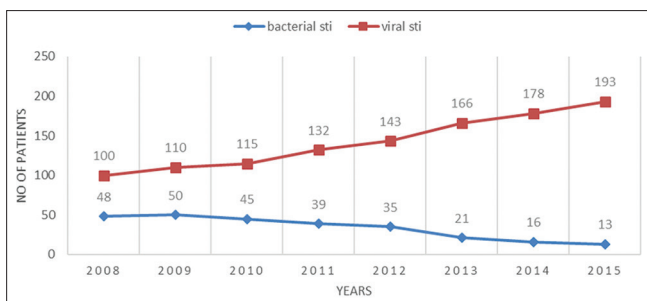


Figure 1: Changing trends of bacterial and viral sexually transmitted infection

Among nonulcerative STIs, anogenital warts was the most common 6.7% followed by molluscum contagiosum (MC) 4.7%. Occurrence of genital warts ranged from 3.9% to 27.3%^[2-7,9] and that of MC from 0.9% to 2.9% in various studies across India.^[2,5,7,8] In our study, overall occurrence of genital warts remained the same from 2008 to 2015. In case of males, there was more or less same frequency of occurrence from 2008 to 2010; thereafter, there was a rising trend. In case of females, genital wart occurrence showed a decreasing trend from 2011. There was an upward trend in the occurrence of MC [Table 1].

Nongonococcal urethritis (NGU) 530 (10.1%) was more common than gonococcal urethritis (GU) 99 (1.9%). There was a constant decreasing trend in the occurrence of GU in both men and women. The occurrence of gonococcal and NGU ranged from 1.8% to 12.1%^[2-9] and 3.5% to 14.1%^[2-6,8,9] respectively, in various studies across India.

During the past decade, there is overwhelming evidence that both ulcerative and nonulcerative STIs promote HIV transmission by augmenting HIV infectiousness and susceptibility. In our study, 32 (0.6%) patients attending STI clinic were found to be HIV positive. HIV positivity among STI clinic attendees ranged from 0.6% to 37.6% in various studies conducted across India.^[1,3,4,7,9] In our study, HIV was most commonly associated with anogenital warts 9 (59.4%) followed by candidal vaginitis 6 (18.8%).

Over the years, there was decrease in STI caused by bacteria such as bacterial vaginosis, GU, chancroid, syphilis. Availability of over the counter medicines, self-medications and syndromic approach adopted by general physicians, and primary health center doctors could be the probable reasons that have greatly reduced the bacterial infections. On the contrary, the viral diseases are known to persist or recur in spite of treatment and are widely spreading in the community, thus contributing to more number of viral STIs [Figure 1]. Similar continuous ongoing studies at different levels can help in detecting changes in the trends of STI and are prove resourceful in modifying the existing strategies and interventions for the control of STIs and diseases.

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Conflicts of interest

There are no conflicts of interest.

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