

A Retrospective Study of the Pattern of Sexually Transmitted Infections in Males: Viral Infections in Emerging Trend

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ABSTRACT

Introduction: Sexually transmitted infections (STIs) continue to be a major public health problem with significant burden on the society even after so many health care programmes being organized by the governmental and non-governmental organizations and awareness created among general public about STIs. Male patients are common visitors to STI clinic than females who are generally traced as a contact in our society.

Aim: The aim of this study was to give an overview of the pattern of STIs among males at a tertiary care teaching hospital over a period of 5 years.

Materials and Methods: A retrospective chart review of the data collected from the clinical records of all male patients, who had attended the STI clinic of Chengalpattu Medical College Hospital, Chengalpattu, Tamil Nadu, for various complaints during the 5 year period from 2010 to 2014 was carried out. All male patients with confirmed STIs were included in the study

and those patients without any evidence of STIs either clinically or serologically were excluded from the study.

Results: Out of the 4454 male cases who had attended the STI clinic, 175 (3.93%) patients had STIs. Genital wart accounted for the maximum number among the STIs with 61 cases (34.86%), followed by genital herpes 56 (32%), urethral discharge 19(10.86%), non-herpetic genital ulcerative diseases 17(9.71%) and serological test for syphilis (RPR) was reactive in 22 (12.57%) patients. HIV was positive in 68 (1.53%) among the total 4454 male patients attended the clinic.

Conclusion: Viral STIs occur significantly more than the bacterial STIs because of its incurable and recurrent nature. Health programmes should be still more focused on creating awareness about the minor STIs and to remove the stigma so that the patients attend the proper health care facilities in the early stage itself for treatment thereby, complications and further transmission of the STIs can be avoided.

Keywords: Genital wart, Genital herpes, Syndromic management, Stigma

INTRODUCTION

Sexually transmitted infections (STIs) are loosely defined constellation of infections and syndromes that are epidemiologically heterogeneous but all of which are almost always or at least often transmitted through sexual route [1]. In the present scenario there is a considerable decline in the major STIs like syphilis and gonorrhoea, chancroid is almost on the verge of disappearance [2] and STIs like lymphogranuloma venereum and donovanosis are rarely seen. The common problems among male STI clinic attendees include balanoposthitis, non-venereal genital dermatoses, sexual dysfunction and venereophobia. Vaginal cervical discharge was the common problem in females and in that endogenous infections like vulvovaginal candidiasis and bacterial vaginosis were frequently seen. In females, STIs occur particularly in the core group people like female sex workers and among the general population, it mainly occurs through their spouses particularly in the rural and semi-urban areas. Various epidemiological studies had reported a diminishing prevalence of bacterial STIs and a rising trend in viral STIs [3-11].

AIM

The aim of the study was to give an overview of the pattern of STIs among the male patients who had attended the STI clinic at a tertiary care teaching hospital for various complaints over a period of 5 years.

MATERIALS AND METHODS

A retrospective chart review of the data collected from the clinical records of all male patients who had attended the STI clinic of Chengalpattu Medical College Hospital, Chengalpattu, Tamil Nadu, for various complaints during the 5 year period from 2010 to 2014 was carried out. In this study all the patients who had either clinical evidence of STIs as per the NACO's syndromic management

guidelines [12] or serological evidence of STIs were included. Patients who had visited the STI clinic with problems like sexual dysfunction, prostaticorrhea, spermatorrhea, phimosis, paraphimosis, non-venereal genital dermatoses like pearly penile papule and who did not have any evidence of STIs were excluded from the study. All patients were clinically evaluated by qualified venereologists, details of the epidemiological features i.e., age, marital status, sexual behaviour etc. were recorded and diagnosis were made based on the clinical history, examination and available lab tests. Serological tests for syphilis (Rapid plasma reagin –RPR) and rapid tests for HIV were done for all patients after counseling. Gram stain was done for urethral discharge and for genital ulcer Tzanck smear and Gram stain were done. Darkfield examination was not done due to non-availability. STIs were categorized in different syndromes as depicted by National AIDS Control Organization (NACO) in the syndromic management of STIs. Syndromic management was given as per NACO guidelines [12].

RESULTS

The total number of male patients attended the STI clinic were 4454 during the study period of 5 years from 2010 to 2014. Among that STIs were seen 175 (3.93%) cases and 68 (1.53%) were found to be HIV positive [Table/Fig-1,2].

The remaining patients had visited the STI clinic for candidial balanoposthitis, normal skin variants like pearly penile papules and other non-venereal genital dermatoses, sexual dysfunction, venereophobia and for screening.

The occurrence of STIs was found to be common in the age group 25 to 44. Promiscuous behaviour was present among the patients with STIs but few patients denied it.

Among the 175 patients who had STIs, genital warts was common followed by genital herpes. Genital wart was seen in 61 (34.86%),

Year	Total number of cases	Genital herpes	Genital wart	Genital ulcerative diseases- Non-Herpetic	Urethral discharge	RPR-reactive	HIV - positive
2010	899	9	12	3	5	4	20
2011	812	16	11	2	5	4	15
2012	755	11	12	3	3	9	8
2013	712	9	13	5	3	3	13
2014	1276	11	13	4	3	2	12
Total	4454	56	61	17	19	22	68

[Table/Fig-1]: Year wise distribution of male cases attended the STI clinic.

Year	Total number of STI clinic attendees - males	STI cases	HIV
2010	899	33 (3.67%)	20 (2.2%)
2011	812	38 (4.68%)	15 (1.85%)
2012	755	38(5.03%)	8 (1.05%)
2013	712	33 (4.63%)	13 (1.83%)
2014	1276	33 (2.59%)	12(0.94%)
Total	4454	175 (3.93%)	68 (1.53%)

[Table/Fig-2]: Total number of STI and HIV cases among males.

GUD-Herpetic	GUD-Non herpetic	Urethral Discharge	Genital wart	RPR reactive	Total
56 (32%)	17 (9.71%)	19(10.86%)	61(34.86%)	22(12.57%)	175 (100%)

[Table/Fig-3]: Number of STI cases in males during the 5 year period.

genital herpes in 56 (32%), VDRL reactive syphilis (latent and secondary syphilis) in 22 (12.57%), urethral discharge in 19 (10.86%) and non-herpetic genital ulcerative diseases in 17 (9.71%) patients [Table/Fig-3]. Lymphogranuloma venereum and donovanosis was not seen during the study period.

Among the 68 HIV positive patients, seven patients had genital herpes, six patients had genital wart, one patient had primary chancre and in seven patients RPR was found to be reactive.

During the five year study period the total number of STI cases was found to occur at a constant rate (33 to 38 cases) every year. This consistency was also observed among various STIs [Table/Fig-1,2].

DISCUSSION

Sexually transmitted infections (STIs) remain a major public health challenge. There is substantial progress in preventing, diagnosing and treating STIs because of the various programmes by NACO and other non-governmental organizations but new infections keep occurring at a constant rate. In addition to the physical and psychological consequences of STIs, these diseases also lead to a tremendous financial burden in the country.

World health organization had estimated that more than one million acquire a sexually transmitted infection (STI) every day. Every year an estimated 500 million people become ill with one of the four STIs: Chlamydia, gonorrhoea, syphilis and trichomoniasis. More than 530 million people have herpes simplex virus type 2 (HSV2) and more than 290 million women have human papilloma virus (HPV) infection [13].

In India around 6% of adult population has one or more STI/RTI (Reproductive tract infection) which amounts to occurrence of about 30-35 million episodes of STI/RTI every year [2].

Even though, the estimated burden of STIs are so high, stigmatization at the individual and community levels results in reluctance of the patient to seek early treatment. Patients prefer to seek treatment in the private sector provided either by qualified or traditional practitioners who are perceived to offer greater

accessibility and confidentiality and to be less stigmatizing than public sector facilities. Stigma also leads to difficulty in partner notification and treatment [14].

A number of epidemiological studies have been done on the pattern and changing trends of STIs in India. Studies which were carried out in the past by Narayanan B, Jaiswal AK et al., and Nair TG et al., have shown an increased prevalence of bacterial STIs [15-17].

Viral STIs, genital wart and genital herpes was the commonest STIs seen in this study which is comparable to the other studies done in the recent years by Vora et al., Devi et al., Jain et al., Chandragupta et al., and Choudhry et al [10,18-21]. Marked decline in bacterial STIs, resulting in an apparent increase in the viral STIs has been reported from various other Indian studies [3,5,7,8].

The low prevalence of bacterial STIs seen could be attributed to the better diagnostic and management facilities at the primary care itself, broad spectrum antibiotics, empirical treatment provided by general practitioners and the syndromic management advocated by the National AIDS control organization (NACO). The high prevalence seen in viral STIs is due to the recurrent and persistent nature of the disease which drives the patient to the tertiary care centre after the initial consultations at the primary care level.

CONCLUSION

Viral STIs occur significantly more than the bacterial STIs because of its incurable and recurrent nature. Health programmes should be still more focused on creating awareness about the minor STIs and to remove the stigma so that the patients attend the proper health care facilities in the early stage itself for treatment thereby, complications and further transmission of the STIs can be avoided.

REFERENCES

- Marfatia YS, Sharma A, Joshipura SP. Overview of Sexually Transmitted Diseases. In: Valia RG, Valia AR, editors. IADVL Textbook of Dermatology. 3rd ed. Vol.59. Mumbai: Bhalani Publishing House; 2008.pp.1766-78.
- National Guidelines on Prevention, Management and Control of Reproductive Tract Infections and Sexually Transmitted Infections, Department of AIDS Control, Maternal Health Division, NACO, Ministry of Health and Family welfare. New Delhi: Government of India; 2014. pp.2.
- Mohanty J, Das KB, Mishra C. Clinical profile of sexual transmitted diseases in Cuttack. *Indian J DermatolVenereol Leprol.* 1995;61:143-44.
- Arakal GK, Damarla SV, Kasetty HK, Chintagunta SR. Changing trends in sexually transmitted infection (STI) clinic attendees –Current scenario. *Int J Med Sci Public Health.* 2014;3(10):1215-18.
- Hassan I, Anwar P, Rather S, Sameem F, Majid I, JabeenY, et al. Pattern of sexually transmitted infections in a Muslim majority region of North India. *Indian J Sex Transm Dis.* 2015;36:30-34.
- Karn D, Amatya A, Aryal ER, KCS, Timalisina M. Prevalence of Sexually Transmitted Infections in a Tertiary Care Centre. *Kathmandu Univ Med J.* 2011;34(2)44-48.
- Sarkar S, Shrimal A, Das J, Choudhury SR. Pattern of Sexually Transmitted Infections: A Profile from a Sexually Transmitted Infections Clinic of a Tertiary Care Hospital of Eastern India. *Ann Med Health Sci Res.* 2013;3(2):206-09.
- Thappa DM, Singh S, Singh A. HIV infection and sexually transmitted diseases in a referral centre in south India. *Sex Trans Infect.* 1999;75:191.
- Thappa DM, Kaimal S. Sexually transmitted infections in India: Current status (except human immunodeficiency virus/acquired immunodeficiency syndrome). *Indian J Dermatol.* 2007;52:78-82.
- 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;32:86-89.
- Gyawalee M, Pokhrel DB. Pattern of sexually transmitted infections and sexual behaviour in patients with genital symptoms. *NJDVL.* 2014;12(1):20-27.
- Operational guidelines for Programme Managers and Service Providers for Strengthening STI/RTI services, National AIDS Control Organization, Ministry of Health and Family Welfare. New Delhi: Government of India; 2007. p.18.
- World Health Organization. Sexually Transmitted Infections. Fact sheets no. 110. Updated on Nov 2013. Cited on July 22 2015. www.who.int/mediacentre/factsheets/fs110/en.
- World health organization. Global strategy for the prevention and control of sexually transmitted infections:2006-2015. 2007; pp.13. Available from: [www.who.int/hiv/pub/toolkits/stis_strategy\[1\].en.pdf](http://www.who.int/hiv/pub/toolkits/stis_strategy[1].en.pdf).
- Narayanan B. A retrospective study of the pattern of sexually transmitted diseases during a ten-year period. *Indian J Dermatol Venereol.* 2005;71:333-37.
- Jaiswal AK, Banerjee S, Matety AR, Grover S. Changing trends in sexually transmitted diseases in North Eastern India. *Indian J DermatolVenereol.* 2002;68:65-66.

- [17] Nair TG, Asha LK, Leelakumari PV. An epidemiological study of sexually transmitted diseases. *Indian J Dermatol/Venereol Leprol.* 2000;66:69-72.
- [18] Devi SA, Vetrichevvel TP, Pise GA, Thappa DM. Pattern of sexually transmitted infections in a tertiary care centre at Puducherry. *Indian J Dermatol.* 2009;54:347-49.
- [19] Jain VK, Dayal S, Aggarwal K, Jain S. Changing trends of sexually transmitted diseases at Rohtak. *Indian J Sex Trans Dis.* 2008;29:23-25.
- [20] Chandragupta TS, Badri SR, Murty SV, Swarnakumari G, Prakash BVS. Changing trends of sexually transmitted diseases at Kakinada. *Indian J Sex Transm Dis.* 2007;28:6-9.
- [21] Choudhry S, Ramachandran VG, Das S, Bhattacharya SN, Mogha NS. Pattern of sexually transmitted infections and performance of syndromic management against etiological diagnosis in patients attending the sexually transmitted infections clinic of a tertiary care hospital. *Indian J Sex Transm Dis.* 2010;31:104-08.

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