Print ISSN: 2321-6379
Online ISSN: 2321-595X

Original Article

Retrospective Study of Pattern of Sexually Transmitted Infections in a Tertiary Care Center in South India

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Abstract

Introduction: Sexually transmitted infections (STIs) continue to be the major social and economic problems leading to considerable morbidity, mortality, and stigma in the developing world. Unprotected sex with an infected partner is the major risk factor for STIs and it further increases the risk of human immunodeficiency virus (HIV) infection. There is an immense need to understand the patterns of STIs prevailing in various regions of a country for proper planning and implementation of STI control strategies.

Aims and Objectives: The aims of the study were to the pattern of various STI in patients attending the sexually transmitted disease (STD) clinic of a tertiary care hospital in South India.

Materials and Methods: A retrospective study was done with the case records in the STD outpatient department, Coimbatore Medical College, Coimbatore, during the period from January 2014 to December 2018. The patient's data and laboratory results were compiled and studied.

Results: Of 2455, STI cases studied, there were 1127 male STI and 1281 female STI, and the male to female ratio is (1.1:1.2). There was 47 transgender with STIs. The most common complaint was vaginal and cervical discharge (27.04%) followed by syphilis (20.17%) and the least common complaint was non-herpetic ulcer (5.7%). In our study, 105 cases (4.27%) were found to be HIV positive.

Conclusion: In our study, the common STI found was cervical and vaginal discharge followed by syphilis. The combined approach of mass screening and behavioral changes in the population can decrease spread of STIs and HIV rapidly.

Key words: Cervical and vaginal discharge, Human immunodeficiency virus, Sexually transmitted infections, Syphilis, Transgender

INTRODUCTION

Sexually transmitted infections (STIs) continue to be the major social and economic problem leading to considerable morbidity, mortality, and stigma in the developing world.[1] Unprotected sex with an infected partner is the major risk factor for STI/human immunodeficiency virus (HIV) infection.[2,3] STIs are infections that are commonly spread by sexual activity, especially vaginal intercourse, anal sex, and oral sex.[4,5] Some STIs can be spread by non-sexual contact with donor tissue, blood, breastfeeding, or during childbirth.[1] Many times STIs initially do not cause symptoms and are carried having a greater risk of passing the disease on to others.[6,7] Symptoms and signs of STIs may include vaginal discharge, ulcers on or around the genitals, and lower abdominal pain. STIs can be transmitted to an infant before or during childbirth and may result in poor outcomes for the baby.[1] More than 30 different bacteria, viruses, and parasites can be transmitted

Access this article online

www.ijss-sn.com

Month of Submission : 08-2019
Month of Peer Review : 09-2019
Month of Acceptance : 10-2019
Month of Publishing : 10-2019

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through sexual activity. Bacterial STIs include chlamydia, gonorrhea, and syphilis. Viral STIs include genital herpes, HIV/acquired immunodeficiency syndrome (AIDS), and genital warts. Parasitic STIs include trichomoniasis.[1] Depending on the disease, some untreated STIs can lead to infertility, chronic pain, or death.[8] However, the availability of baseline information on the epidemiology of STIs and associated risk behaviors is a bottleneck in designing, implementing, and monitoring targeted interventions.[9-11]

MATERIALS AND METHODS

A retrospective study was done with analysis of the data collected from outpatient cards and laboratory records in our sexually transmitted disease (STD) outpatient department from January 2014 to December 2018. This study was done in the Department of Dermatology, Venereology, and Leprosy, Coimbatore Medical College, Coimbatore. It included persons having STI complaints, referral from integrated counseling and testing center and antiretroviral therapy center, referral from target intervention and nongovernmental organization. The recorded clinical history (sociodemographic features – age, sex, occupation, education, and marital status) and clinical examination findings were compiled. The results of rapid plasma reagin, Treponema pallidum hemagglutination assays, and HIV test were scrutinized in all cases. STIs were categorized into cervical and vaginal discharge, syphilis, genital ulcer disease herpetic and non-herpetic, lower abdominal pain, and genital wart. Other STIs are molluscum contagiosum, balanoposthitis, and scabies which were detected clinically. The data collected was analyzed statistically to know the clinic epidemiological profile.

RESULTS

A total of 2455 cases were found to have STIs in the 5 years study period from January 2014 to December 2018. The gender-wise distribution was analyzed in 2455 cases. There were 1127 male STI, 1281 females STI, male to female ratio is (1.1:1.2), and 47 transgender STI [Figure 1]. The majority of patients attending STI clinic was in the age group of 25–44 years. The most common STI found in our study [Figure 2] was cervical and vaginal discharge syndrome (27.04%), followed by syphilis (20.17%), other STI (14.41%), pelvic inflammatory disease (11.93%), herpetic ulcer (11.73%), genital wart (8.3%), and non-herpetic ulcer (5.7%).

Among the male patients [Figure 3], syphilis 32.12% (362/1127) was the most common STI, followed by other STI 25.90% (292/1127), herpetic ulcer 18.45% (208/1127), genital wart 12.59% (142/1127), and non-herpetic ulcer 10.91% (123/1127).

Among the female patients [Figure 4], the most common STI was cervical and vaginal discharge 51.83% (664/1281), followed by pelvic inflammatory disease 22.87% (293/1281), syphilis 8.73% (112/1281), herpetic ulcer 6.245 (80/1281), genital wart 4.83% (62), other STI 4.05% (52/1281), and non-herpetic ulcer 1.40% (18/1281) cases.

Among the transgender [Figure 5], syphilis 76.59% (36/47) was the common STI followed by other STI 21.27% (10/47) and non-herpetic ulcer 1.1% (1/47).

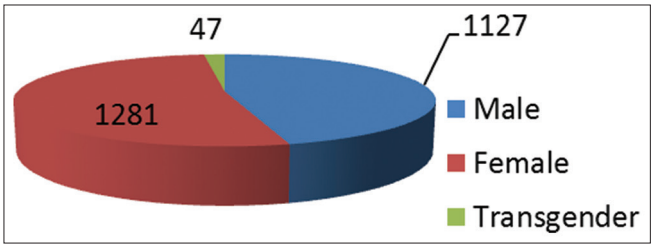

Figure 1: Male, female, transgender distribution

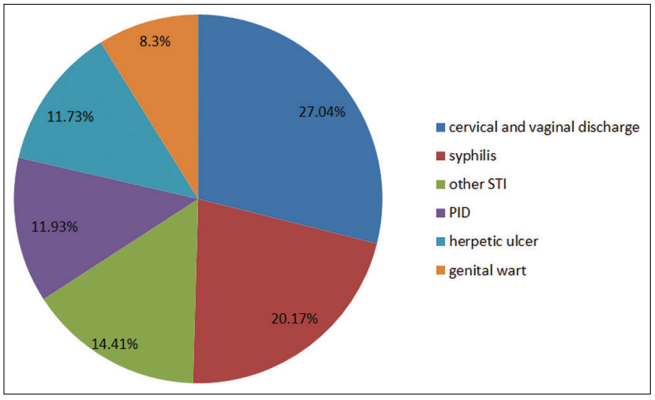

Figure 2: Sexually transmitted infection (January 2014–December 2018)

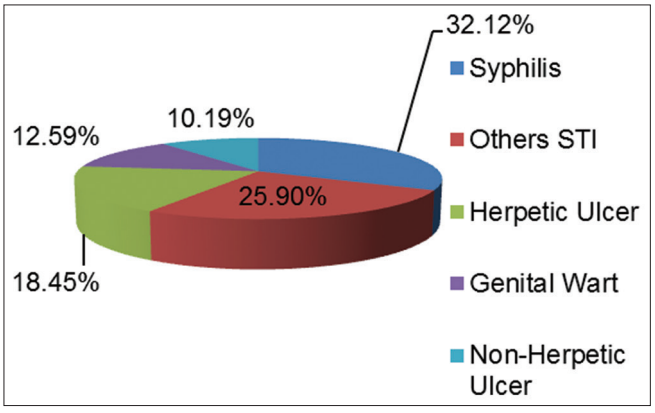

Figure 3: Sexually transmitted infection wise distribution: Male cases January 2014–December 2018

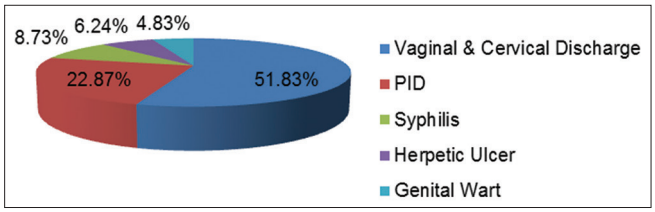

Figure 4: Sexually transmitted infection wise distribution: Female cases January 2014–December 2018

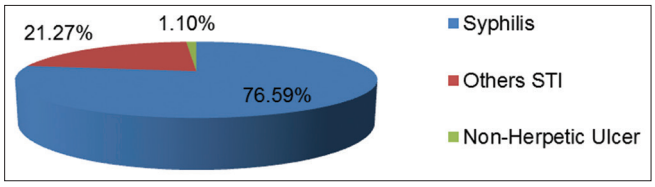

Figure 5: Sexually transmitted infection wise distribution: Transgender cases January 2014–December 2018

DISCUSSION

STI remains a global health problem of great magnitude. The pattern of STIs differs from country to country and from region to region. They are responsible for significant morbidity, infertility in both sexes, and economic loss to the family and increased susceptibility to HIV infection. STI contributes to fetal deaths, abortions, and the delivery of low birth weight babies.[12] STI is not only a medical problem but also causes significant social stigma. Early diagnosis and appropriate treatment will definitely curb the transmission of HIV/AIDS. To achieve this, syndromic approach to STI management came into effect.[13]

In our study, female STI (1281) cases were higher than the male STI (1127) cases. The male to female ratio was (1.1:1.2). Another study done in a tertiary care hospital in Chamba, Himachal Pradesh by Thapar *et al.*[14] also showed similar observation that female cases outnumber the male cases at STI clinic, male to female ratio is 1:1.25.

The most common STI found in our study was cervical and vaginal discharge syndrome (27.04%) followed by syphilis (20.17%) and the least common is non-herpetic ulcer (5.7%). This was in contrast to the North-Eastern Indian study and study conducted at Medical College Trivandrum. In the North-Eastern Indian study,[15] herpetic ulcer (38.1%) was the most common, followed by vaginal/cervical discharge (18.6%), urethral discharge (13.8%), and molluscum contagiosum (4.7%), while in a study at Medical College Trivandrum[16] showed that the most common STD was syphilis (49.3%) followed by herpes genitalis (16.4%) and condyloma acuminata (11.1%).

In our study, bacterial STI (syphilis 20.75%) is higher than viral STI herpetic ulcer (11.73%) and genital wart (8.3%). Another study in a tertiary care center in North India[17] showed that syphilis had a rising trend in 2015. The study in West Bengal[18] showed decrease in the prevalence of syphilis during 2004–2008 from 10.8% to 3.6%.

The important risk factors for STI found in our study are pre-marital exposures (love affairs, influence of friends, influence of alcohol, and monitory benefit) and extramarital exposure visit to the commercial sex workers. Comprehensive health education about STIs and HIV should be inculcated at the secondary school level. Media enlightenment campaigns about these STIs should also be emphasized. It is essential to spread awareness of the use of barrier methods of the contraception in the prevention of STI transmission.

CONCLUSION

The vaginal and cervical discharge was the most common STI followed by syphilis. HIV and STIs are perfect examples of epidemiologic synergy as they are core transmitters of each other. This can be controlled by promoting the strategies to reduce high-risk behavior, encouraging condom use, strengthening STI clinics and family health awareness programs and imparting sex education, and awareness regarding STI/HIV among the vulnerable population.

Limitation

Since this is a retrospective study and conducted in a tertiary care center, it does not reflect the current situation in the community. These results do not indicate the exact prevalence of STIs in the community as it is a hospital-based study.

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How to cite this article: Raju R, Rajaram M. Retrospective Study of Pattern of Sexually Transmitted Infections in a Tertiary Care Center in South India. Int J Sci Stud 2019;7(7):46-49.

Source of Support: Nil, **Conflict of Interest:** None declared.