

Retrospective Study on the Prevalence of Sexually Transmitted Infections in a Tertiary Care Hospital in Punjab

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ABSTRACT

Purpose: To investigate the prevalence of sexually transmitted infections at a tertiary care teaching hospital over the period of 5 years.

Methods: A retrospective chart review of the data collected from the clinical records of all STI positive patients, who had attended the skin OPD of Guru Gobind Singh Medical College, and Hospital, Faridkot, Punjab, for various complaints during the 5-year period from 2014 to 2019 was carried out. All male and female 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 2, 44,881 patient's cases who had attended the Skin OPD, 3751 (1.531%) patients had STIs. Balanoposthitis accounted for the maximum number of the STIs with 929 cases (24.8%) were quite common in both sex followed by GUD Herpetic 485 (12.9%), Scabies 433 (11.5%), syphilis 365 (9.7%), GUD non Herpetic 304 (8.1%), Warts 303(8.1%), Urethral Discharge 270 (7.2%) and HIV+ 9 (0.2%).

Conclusion: The high prevalence of both the bacterial and the viral STI's in the Punjab region of India. Health programmes should be still more focused on creating awareness about the minor STIs and to remove the stigma from the society so that the patients attend the proper healthcare facilities in the early stage itself for treatment thereby and as a result complications and further transmission of the STIs can be avoided.

Keywords: Acquired Immunodeficiency Syndrome, Balanoposthitis, human immunodeficiency virus, Prevalence, Sexually Transmitted Diseases, Sexually Transmitted Infection.

INTRODUCTION

The term sexually transmitted disease (STD) is used to denote the number of infections and clinical signs and symptoms produced by pathogens which could be acquired and communicated through sexual intercourse. Sexually transmitted diseases (STDs) or Sexually transmitted infections (STIs) also recognized as venereal diseases (VD) are known to be transferred from a single infected person to another during the course

of sexual contact, and at times through genital contact - the pathogen that causes STD's can be passed on through oral sex, vaginal intercourse, and anal sex. Clinical signs and symptoms of the disease include foul smelling discharge from the vagina, penile discharge, pustules on or around the sexual organs, and pelvic pain. Some STIs may result in complications that can further lead to infertility in women and sterility in males. Although STIs are typically spread through sexual intercourse, some STIs can

also be transmitted through nonsexual interaction with infected blood transfusion, through the use of unsterilized and shared IV drug needles, breastfeeding, or during childbirth. More than 30 different bacteria, viruses, and parasites can cause STIs. [1] STDs continue to remain a chief community health challenge in the United States (US), near about 19 million fresh cases of STI's take place every year, a nearly semi-portion of the reported cases fall under the age of 15 to 24. [2] Syphilis is a sexually transferred disease in which *Treponema pallidum*- the causative bacterial pathogen is involved. [3] Throughout 2010, the number of deaths due to syphilis was 113,000, lesser than 202,000 deaths in 1990. [4] *Chlamydia trachomatis* is a sexually transmitted infection caused by bacteria carrying a gram-negative strain all over the world. In the United States, it is the most commonly testified infection caused by bacteria and is commonly known to cause arthritis in males and cervicitis in females. [5] Another sexually transmitted infection caused by bacteria is Gonorrhea. The causative agent involved in the spread of the infection is the bacterium *Neisseria gonorrhoea*. [6] If left untreated gonorrhea may spread systematically to other parts of the body, especially the joints or the heart valves which may further lead to serious complications. [7] The human immunodeficiency virus (HIV) is a lentivirus (a subgroup of retrovirus) that causes HIV infection and over time acquired immunodeficiency syndrome (AIDS). [8] HIV attacks the human immune response cells such as dendritic cells, macrophages and the helper T cells (specifically CD4+ T cells) of the human immune system. [9] National seroprevalence rates of HIV infection vary widely, with rates of 0.1% observed in China, 0.4% to 1.3% in India, 3% in Cambodia, and 7% in sub-Saharan African countries. At risk populations (e.g., sex workers, injection drug users) display the highest rates, with seroprevalence rates of 60 to 75% reported in some areas. [10] Genital herpes is a chronic, life-long viral infection. Two types of HSV have been

identified as causing genital herpes: HSV-1 and HSV-2. Most persons infected with HSV-2 have not been diagnosed with genital herpes, and at least 50 million people in the United States are infected with this type of genital herpes. [11] In India also, there has been a major increase in the proportion of viral STIs, especially HSV infection, with rates varying from 4.1% to 27.9% among STI clinic attendees in different regions of the country. [12-13]

Thus, the main aim of the study was to investigate the prevalence of the sexually transmitted infections in tertiary care hospital with the objectives to explore the factors related to the sexual life of the patient and to describe epidemiologically the prevalence of STI in specific population subgroups.

MATERIAL AND METHODS

The study was conducted in the SKIN and the V.D department of Guru Gobind Singh Medical College, Hospital and Research center, Faridkot (Punjab) and S.D. Thapar Hospital, Moga, Punjab, India. This study was a retrospective observational study carried out for a period of six months. Total 3751 patients diagnosed with STI's were enrolled in the study by considering the inclusion criteria of both the genders. The work was carried out after obtaining approval and clearance from the Institutional Ethics Committee and the data of consecutive 5 years was collected from the Medical Record Department (MRD) with the help of a data collection form.

Data analyses

Various parameters employed in the study were statistically analyzed using the Statistical Package for the Social Sciences (SPSS) Ver.24.

RESULTS

Throughout the period of 5 years (April 2014 to April 2019), total 2,44,881 patients visited the Skin OPD at Guru Gobind Singh Medical College and Hospital, Faridkot, Punjab. Out of 2,44,881

patients, only 3751 were found to be STI positive. Most of the cases were recorded in 2018 i.e. 1288 (34.3%) followed by 264 (7.0%) patients in 2014, 460 (12.3%) patients in 2015, 516 (13.8%) patients in 2016, 712 (19.0%) patients in 2017 and 511 (13.6%) patients in 2019. Test of proportion showed most of the cases i.e. 1288 (34.3%) were significantly higher in the year 2018.

Out of 3751 studied patients, most of the patients were of Balanoposthitis 929 (24.8%), followed by 653 (17.4%) patients of Vaginal discharge, 485 (12.9%) patients of GUD Herpetic, 433 (11.5%) patients of Scabies, 365 (9.7%) patients of Syphilis, 304 (8.1%) patients of GUD non Herpetic, 303 (8.1%) patients of Warts, 270 (7.2%) patients of Urethral Discharge and 9 (0.2%) patients of HIV+. Test of proportion showed most of the patients 929 (24.8%) are significantly higher in Balanoposthitis as shown in table 1.

Table 1: Diagnosis of Patients

Diagnosis of Patients	No. of Patients	Percentage (%)
Balanoposthitis	929	24.8
Vaginal Discharge	653	17.4
GUD Herpetic	485	12.9
Scabies	433	11.5
Syphilis	365	9.7
GUD non-Herpetic	304	8.1
Warts	303	8.1
Urethral Discharge	270	7.2
HIV+	9	0.2
Total	3751	100

On the evaluation of the occupation distribution of the patients, Out of 3751 studied patients, 878 (23.4%) patients were students, 719 (19.2%) patients were farmers, 568 (15.1%) patients were labours, 530 (14.1%) patients were housewives, 421 (11.2%) patients were unemployed, 267 (7.1%) patients were having their own business, 192 (5.1%) patients were in private jobs and 176 (4.7%) patients were having Government jobs as depicted in Table 2. Out of the 3751 studied patients, 1184 (31.6%) patients were under 10th class, 1011 (22.9%) patients were graduation holders, 858 (22.9%) were under 12th class and 698 (18.6%) were illiterate patients.

Table 2: Occupation of patients

Occupation of Patients	No. of Patients	Percentage (%)
Student	878	23.4
Farmer	719	19.2
Housewife	530	14.1
Labour	568	15.1
Business	267	7.1
Private job	192	5.1
Govt. Job	176	4.7
No work	421	11.2
Total	3751	100

On the evaluation of the year wise distribution of the diseases/STI's, Out of 3751 studied patients in the 5-year retrospective study, most of the patients were recorded in 2018-2019 as represented in Table 3.

Table 3: Year-wise distribution of the Diseases/STI's

Diseases/STI's	Year				
	2014-15	2015-16	2016-17	2017-18	2018-19
Balanoposthitis	96	120	128	190	395
Vaginal Discharge	72	108	112	150	211
GUD Herpetic	50	65	70	80	210
Scabies	60	72	52	72	177
Syphilis	24	30	52	98	161
GUD nonherpetic	34	31	35	68	136
Warts	36	38	40	78	110
Urethral Discharge	24	36	39	48	124
HIV+	2	1	3	1	2

On the evaluation of the complaints reported by the patients, most of the patients were having chief complaints of Itching 905 (24.1%), followed by 679 (18.1%) patients of Burning Micturition, 630 (16.8%) patients of Genital Ulcers, 525 (14.0%)

patients of Itching + Burning Micturition, 466 (12.4%) patients of Itching + Burning Micturition + Genital ulcers and 546 (14.6%) patients of Burning Micturition + Genital ulcers. Test of proportion showed most of the cases 905 (24.1%) were

significantly higher in the chief complaints of Itching as shown in figure 1.

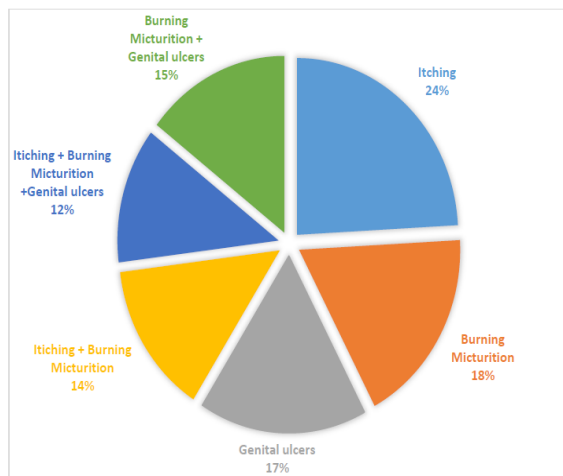


Figure 1: Complaints of Patients (Total patients 3751)

On the evaluation of the gender distribution of the patients studied, 2208 (58.9%) of patients were male and 1543 (41.1%) patients were female. Test of proportion showed that the male patients who were diagnosed with STI's were slightly more than the female patients as illustrated in figure 2.

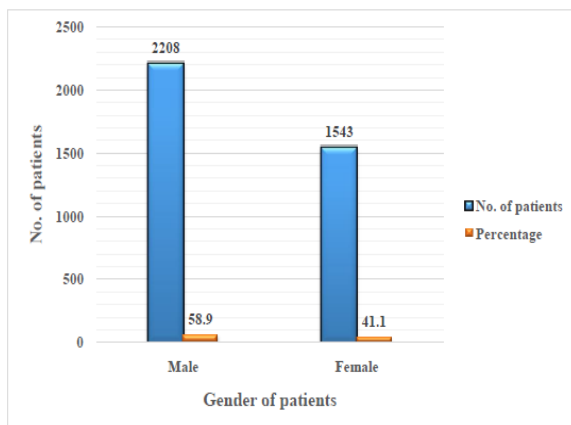


Figure 2: Gender of patients (Total patients 3751)

Out of 3751 patients, most of the patients were from the age group of 31-40 years i.e. 1087 (29.0%) patients followed by 371(9.9%) patients from the age group of 11-20 years, 921 (24.6%) patients from the age group of 21-30 years, 597 (15.9%) patients from the age group of 41-50 years, 521(13.9%) patients from the age group of 51-60 years and 254 (6.8%) patients were more than 61 years old. Test of proportion

showed most of the patients in 1087 (29.0%) who were under the age group of 31–40 years were significantly higher than other age groups as depicted in Figure 3 and on the evaluation of the marital status of the patients, 2286 (60.9%) of the patients were married and 1465 (39.1%) of the patients were unmarried.

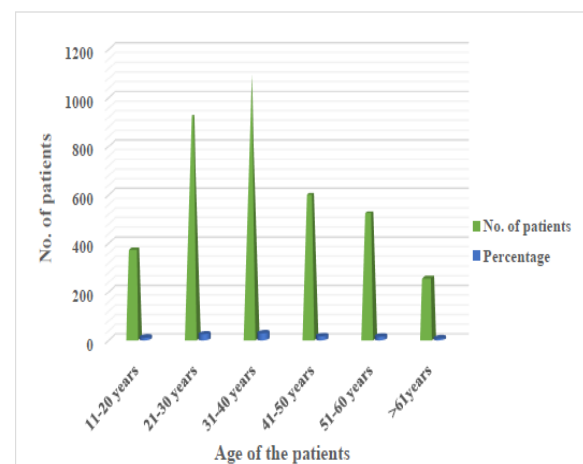


Figure 3: Age of the patients (Total patients 3751)

DISCUSSION

Sexually transmitted infections (STIs) continue to remain the biggest community well-being challenge. There is a significant advancement in preventing, diagnosing and treating STIs because of several guidelines and norms issues by National Aids Control Organisation (NACO) and other non-governmental groups but new infections keep evolving at a continuous rate. Not only do these STI's have physical and psychological consequences, but also affects the economy of the country. [14] The 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, gonorrhea, syphilis, Balanoposthitis, and trichomoniasis. More than 530 million people have herpes simplex virus type 2 (HSV2) and more than 290 million women have human papillomavirus (HPV) infection. [15] In India, around 6% of the adult population has one or more STI/RTI (Reproductive tract infection) which

amounts to the occurrence of about 30-35 million episodes of STI/RTI every year. Even though the estimated burden of STIs are so high, stigmatization at the individual and community levels results in the 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. 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 have shown an increased prevalence of bacterial STIs. [16-19]

Our study revealed that out of the 2, 44,881 patient's cases who had attended the Skin OPD, 3751 (1.531%) patients had STIs. Balanoposthitis accounted for the maximum number of the STIs with 929 cases (24.8%) were quite common in both sex followed by GUD Herpetic 485 (12.9%), Scabies 433 (11.5%), syphilis 365 (9.7%), GUD non Herpetic 304 (8.1%), Warts 303(8.1%), Urethral Discharge 270 (7.2%) and HIV+ 9 (0.2%). Most common syndrome affecting the women was vaginal discharge (17.4%). Majority of the male patients attending clinics were daily wages laborers while the women patients were housewives. In our study, we also found that about 23.4% of the total infected patients were the students. So, sex education needs to be made mandatory in schools. Sex education is as essential as the mathematics and this can lower the number of STI's among students. Also, the prevalence of STI in married patients was high. These lead to severe health complications and further hospitalization in patients. Bacterial STIs like balanoposthitis, vaginal discharge and viral STI's like a genital wart and genital herpes were the commonest STIs seen in our study which is comparable to the other studies done in the recent years. [20-23]

The high prevalence seen in STIs is due to the recurrent and persistent nature of the disease which drives the patient to the tertiary care center after the initial consultations at the primary care level.

CONCLUSION

Bacterial STI's occur significantly more than the viral STIs because of their recurrent nature. Estimates of the global prevalence and incidence of chlamydia, gonorrhea, trichomoniasis, and syphilis in adult women and men remain high. The estimates highlight the urgent need for the public health community to ensure that well recognized effective interventions for STI prevention, screening, diagnosis, and treatment should be more widely available. Improved estimation methods are needed to allow the use of more varied data and generation of estimates at the national level. Our study showed that the most common presenting complaint of patients was Balanoposthitis. To reduce the burden of RTI, efforts are needed in both healthcare facilities and in the community. Health programs should be still more focused on creating awareness about the minor STIs and to remove the stigma from the society. So that the patients attend the proper healthcare facilities in the early stage itself for treatment, thereby and as a result complications and further transmission of the STIs can be avoided. Community education and outreach are needed to promote prevention of infection and use of health care services and thus further reduce disease transmission within the community.

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