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Original Research Article

An epidemiological study of sexually transmitted diseases cases at STD clinic, Gorakhpur

Santosh Kr Singh, Naveen Kumar*, Anil Kr Gupta, Lalit Mohan, Sushantika, Ali Mohammad

Department of D.V.L., Baba Raghav Das Medical College, Gorakhpur, Uttar Pradesh, India

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***Correspondence:**
Dr. Naveen Kumar,
E-mail: dr.navin1234@gmail.com

ABSTRACT

Background: Sexually transmitted diseases (STDs) have been considered as a major health problem, in developing countries like India. Knowledge regarding pattern and prevalence of different STIs is very important to implement proper strategies to control the STDs. The aim of this study is to understand the pattern and prevalence of different sexually transmitted infections (STIs) in eastern Uttar Pradesh.
Methods: This is a retrospective observational study. Records of all the patients who had attended the STI clinic from January 2013 to December 2017 in Tertiary care Hospital, Gorakhpur have been analysed.
Results: The commonest STD was herpes genitalis 24.04% and condylomata acuminata 23.51% respectively. The prevalence of combined gonococcal/non gonococcal urethritis and bacterial vaginosis accounts for 23.84% and HIV was detected in 13.19% of the patients. There is a decline in occurrence of Syphilis with prevalence of 5.74%.
Conclusions: There is increased prevalence of viral STIs and decline in bacterial STIs seen, probably due to easy access of antibiotics to common people.

Keywords: STDs, Condylomata accuminata, Herpes genitalis, STI

INTRODUCTION

Sexually transmitted infections are major cause of acute and chronic illness and their consequences like infertility, ectopic pregnancy, cervical malignancy and neonatal death.[1] they are also most common notifiable diseases in the world and remain a major global health concern. Women are the most vulnerable population for STIs as they are exploited, indulge in commercial sex work or inadvertently infected through a promiscuous spouse.

STDs and HIV are the main cause of healthy life lost in men in the age group of 15-40 years almost ranging to 15%.[2] Currently, India has 3rd highest number of HIV infected patients.[3] the epidemiological pattern of around 940 patients has been reported here.

The aim of this study is to understand the pattern and prevalence of different sexually transmitted infections in eastern Uttar Pradesh who had attended the STI clinic of Tertiary care Hospital, Gorakhpur during a period of 5 year.

METHODS

This is a retrospective observational study. A total of 14229 patients attended STI clinic from January 2013 to December 2017 at tertiary care hospital- Gorakhpur, out of which 940 patients found to be STD cases and rest 13289 patients were of scabies, genital candidiasis, molluscum contagiosum and psychosexual disorders which have been excluded from our study. Therefore actual numbers of STD patients were 940.

Records of all the patients who had attended the STI clinic in last 5 years from January 2013 to December 2017 in tertiary care hospital, Gorakhpur have been analysed retrospectively.

Inclusion criteria

Patients who were newly diagnosed of having an STD at the STI clinic of our hospital from January 2013 to December 2017.

Exclusion criteria

All the patients coming for follow up of previously diagnosed episode of STD.

All the patients were seen by a specialist and diagnosis was established by appropriate investigations like Gram's stain, KOH mount, Dark field microscopy, Tzanck smear, ELISA/rapid tests for HIV and RPR test for syphilis had been done.

Relevant investigations like complete blood counts, blood urea, serum creatinine, serum electrolytes were performed when required. All the data compiled and a master-chart prepared (Table 6).

RESULTS

In this study the greatest number of cases occurred in the age group 15-35 years with mean age of 28.5 yrs. Male patients (682) were found to be nearly 2.5 times of female patients (258); this could be explained because of demographic factors such as more young males being in urban centres and resorting to small pool of prostitutes. Secondly, men recognize the lesions more easily and present early for treatment. Moreover some societies do not facilitate women coming to a clinic for genital complaints, perhaps to be examined by a man.

Married males were 63.93% and unmarried 36.07% whereas females were 89.92% married. Married female patients were 9 times more than the unmarried, probably due to social stigma of attending STI clinic by unmarried females, but married females usually attend the clinic with their diseased husband (Table 1).

Table 1: Sex and marital status.

Sex of patient	No. of patients	Percentage of patients (%)	Marital status with number/percentage of patients (%)
Male	682	72.56%	Married- 436 (63.93) Unmarried- 246 (36.07)
Female	258	27.44%	Married- 232 (89.92) Unmarried- 26 (10.08)
Total	940	100%	-

Table 2: Marital status and EMC/PMC contacts.

Marital status	Number of patients	Percentage of patients (%)	Number of patients with extra/ pre-marital contacts (%)
Married	668	71.06	440 (65.87)
Unmarried	272	28.94	-
Toatl	940	100	440 (46.80)

In our study 668 patients were married and 272 patients unmarried. Out of married patients 440 had extra/pre-marital sexual contact as shown in Table 2. Most of the unmarried patients denied any kind of sexual exposure as per records available, probably due to fear of getting exposed by medical personnel. Less than 1% of total patients were children because child sexual abuse is much less in our country than in western countries because of stable family.[4]

In this study the commonest STD was found to be Herpes genitalis (24.04%) followed by condylomata acuminata (23.51%) and mixed vaginal/urethral infections (23.83%) and HIV (13.19%).

HIV was associated most commonly with herpes genitalis (approximately 16.66% cases of HIV) mostly in males and only 4.44% of HIV cases were associated with condylomata acuminata all in females, secondary-syphilis was associated with 6.6% cases of HIV.

Chanchroid was found in (8.4%), syphilis in (5.74%), out of 54 patients of syphilis 14 patients (25.92%) was of secondary-syphilis and 19 patients (35.18%) of latent-syphilis.

Gonorrhoea was found in 8 patients in whom 7 were male. Steady decline in the prevalence of gonorrhoea is likely due to advent of quinolone derivatives and early self-medication. L.G.V. was detected in 1% of total STD clinic attendants and only 1 case of granuloma inguinale was found during the last 5 years.

Mixed vaginal/urethral discharges constitutes gonococcal and non-gonococcal urethritis as 07 and 91 respectively in males while only single case of female gonococcal urethritis was found in 5 years of study and rest 09 cases of non-gonococcal urethritis. 116 female patients were found to be case of bacterial vaginosis as shown in Table 3.

Table 3: Number of vaginal/urethral discharge.

Sex	Gonococcal urethritis	Non-gonococcal urethritis	Bacterial vaginosis
Male	7	91	-
Female	1	09	116
Total	8	100	116

Table 4: Frequency of STI.

Year	2013	2014	2015	2016	2017
Percentage of STD cases in STI Clinic in Tertiary care hospital, Gorakhpur	7.97% (no.of STD-121) (total no. of patients- 1518)	7.43% (no. of STD -195) (total no. of patients- 2623)	6.38% (no. of STD -205) (total no. of patients- 3214)	6.14% (no. of STD -200) (total no. of patients- 3255)	6.05% (no. of STD -219) (total no. of patients- 3619)

Table 5: Prevalance of STIs.

S no.	Sexually transmitted infections	Number of patients in 5 years of study	Percentage (%)
1.	Herpes genitalis (HSV-2)	226	24.04
2.	Condylomata accuminata (HPV)	221	23.51
3.	HIV	124	13.19
4.	Bacterial vaginosis (*Trichomonas vaginalis*)	116	12.34
5.	Non-gonococcal urethritis (*Chlamydial*)	100	10.64
6.	Chanchroid	79	8.40
7.	Syphilis	54	5.74
8.	LGV/GI	12	1.71
9.	Gonococcal urethritis	8	0.85
	Total	940	100

Table 6: Masterchart of Laboratory diagnosis and no. of patients (M- male; F- Female).

Etiological agent	2013	2014	2015	2016	2017	Total no. of patients (n)	
HSV-2	M-28	M-37	M-40	M-41	M–46	M-192	226
	F-08	F-09	F-07	F-02	F–08	F–34	
Condylomata accumiata (HPV)	M-11	M-45	M-37	M-43	M–47	M-183	221
	F–01	F-07	F-08	F-12	F–10	M–38	
HIV	M-19	M-17	M-12	M-12	M–28	M-88	124
	F-06	F-8	F-08	F-08	F–6	F–36	
Trichomonas vaginalis	10	10	35	40	21	116	116
Non-gonococcal urethritis (chlamydial)	M-27	M-39	M-08	M-10	M–07	M-91	100
	F-00	F-01	F-01	F-01	F -06	F–09	
Chanchroid	M-03	M-07	M-24	M-21	M–16	M-71	79
	F-01	F–01	F-03	F-01	F–02	F–08	
Syphilis	M-04	M-05	M-12	M-06	M–15	M-42	54
	F-00	F-03	F-03	F-00	F–06	F–12	
LGV/GI	M-01	M-03	M-04	M-00	M–00	M-08	12
	F-00	F-00	F-01	F-03	F–00	F–04	
Gonococcal urethritis	M-02	M-03	M-01	M-00	M–01	M-07	08
	F-00	F-00	F-01	F-00	F–00	F–01	
Total	121	195	205	200	219	940	

Total no. of patients attended STI clinic from January 2013 to December 2017 who had STD were categorised yearly as 7.97% in 2013, 7.43% in 2014, 6.38% in 2015, 6.14% in 2016 & 6.05% in 2017 as shown in Table 4.

DISCUSSION

STIs have very bad image in our society and many stigmas are also associated with them, so people ashamed of seeking consultation in STI clinics in early phase of their disease and they become a potential source of sexually transmitted infections in an asymptomatic but carrier form of their disease. Therefore it necessitates collecting information regarding prevalence and pattern of different form of STIs in different region of country.

In our study, the peak age group of patient's ranges from 15 to 35 years and mean age was 28.5 years. In the study of Ramakrishnan et al mean age was 29 year.[5] In our study 71.06% patients were married while in a study by Choudhry et al, 60% subjects were married.[6]

Extra/premarital contact was seen in 65.87% of married Patients in our study and most of them approximately 43% had contact with CSWs (commercial sex workers), 2% had homosexual and 20% had contact with married women. In the study by Choudhry et al, 63.9% of males had contact with CSWs.[6] In the study by Nayyar et al, 29.68% subjects had history of contact with CSWs and 11.7% subjects had history of homosexual contact.[7]

In our study the commonest STI was HSV-2 (24.04%) followed by condylomata acuminata (23.51%), HIV (13.19%), bacterial vaginosis (12.34%), non-gonococcal urethritis (10.64%), chanchroid (8.4%), syphilis (5.74%), LGV/GI (1.71%) and gonococcal urethritis (0.85%) as shown in Table 5. In the study of Choudhry et al HSV-2 (28.7%) was the commonest infection followed by syphilis (23.7%), wart (20%), gonorrhea (19.3%), chlamydia (16.3%), HIV (10.3%), HBV (6%), *T. vaginalis* (4.7%), *M. contagiosum* (4.7%), *Candida* (2%), and HCV (1%).[6]

Shah et al shows a very similar pattern of genital warts (23.60%) in comparison to our study which shows 23.51% cases of genital warts.[8]

A marked decline in bacterial STIs, resulting in an apparent increase in viral STIs, has been reported from different regions of India.[9-11] Our study confirmed a similar pattern of higher incidence of viral STIs which could be due to the increased usage of antibiotics.[10]

Person with multiple sexual partner have higher risk of acquiring and transmitting STIs and risk increases many folds if they have sexual contact with commercial sex workers (CSWs) because CSWs are very important source of infection in our country as they are usually less educated and most of them don't know about STIs and also the people who visit them usually have less knowledge regarding use and benefits of barrier contraceptives. In our study, a significant higher STI prevalence was found in people with history of contact with multiple partners or visiting CSW as compared to people with no such history ($p<0.05$). Similar findings have been reported earlier by Thomas et al, Rodrigues et al and Erbelding et al.[12-14]

Hence, in this study, we were able to notice a remarkable change in the frequency of various STIs. We noticed a significant reduction in Bacterial STIs and increase in prevalence of viral STIs. These could be explained by extensive use of over-the-counter antibiotics and also more frequent use of antibiotics for other diseases than in the past.

CONCLUSION

Based on our study results, viral STIs constitute the major burden of the STI clinic at Tertiary care Hospital, Gorakhpur. We would like to suggest that in further awareness programs regarding STIs; additional emphasis is needed towards educating the population about the clinical features and importance of early treatment of STIs. It is also essential to further spread awareness of use of barrier methods of contraception in prevention of STI transmission. High risk people were educated about the need of safe practices, and to avoid having multiple sexual partners.

This will go a long way in reducing the disability adjusted life years (DALYs) due to STIs on a global scale. Moreover, as STIs affect the quality of life predominantly during the productive years of life, the significance of their prevention can never be over-emphasized.

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