RESEARCH ARTICLE

CLINICAL AND DEMOGRAPHIC TRENDS IN A SEXUALLY TRANSMITTED INFECTION CLINIC IN AHMEDABAD (2003-2012): AN EPIDEMIOLOGIC ANALYSIS

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ABSTRACT

Background: Sexually transmitted infections (STIs) constitute a major public health problem for nations worldwide. The emergence of HIV infection has increased the importance of measures aimed at control of STIs. Knowledge of both clinical and demographic changes in STI population may help us better cater our prevention programs to the target population.

Aims & Objective: To assess the changing demographic and clinical trends of STIs in a tertiary centre in Ahmedabad over a 10-year period.

Material and Methods: A retrospective study of 3606 patients attending a STI clinic in a tertiary hospital in Ahmedabad over a period of ten years (2003-2012).

Results: The clinic evaluated 239 patients in 2003, which has increased to 592 in 2012. Women were major attendees. While in 2003, the majority of STIs were viral infections (35%), fungal infections are the most common STIs currently (54%). The most common clinical presentation in 2003 was an ulcer (60%) but with the rise of fungal infections, vaginal/cervical discharge has become the most common presentation. HIV seropositivity over the 10-year period was 6.5%., with herpes genitalis being the single most commonly associated STI.

Conclusion: Though fungal STIs form the largest group of STls in Ahmedabad, the plite of viral infections could not be underestimated. Viral infections are not only difficult to treat and have higher chances of recurrence but also associated with high prevalence of HIV. Thus, STI patients continue to be an important risk group for HIV prevention in Ahmedabad, India.

Key-Words: Epidemiology; Sexually Transmitted Infections; HIV Infection

Introduction

Sexually transmitted infections (STIs) include diseases that are transmitted by sexual intercourse. STIs differ from a sexually transmitted disease (STD) in that the STDs conventionally include infections which result in symptomatic clinical diseases acquired by sexual interaction.[1] The epidemiology of STIs results from the interaction between STI pathogens, the behaviours that help transmit them and the effectiveness of the prevention and control interventions.[1] STIs constitute a major public health problem for both developing and developed countries. They are responsible for a significant proportion of maternal mortality, ectopic pregnancy, infant illness and death, malignancies, infertility, and increased susceptibility to HIV infection.[1] The emergence of HIV infection has increased the importance of measures aimed at control of STIs. The epidemiological profile of STIs is more dynamic and distinct from other diseases.[2] Previous STI studies have shown that the epidemiology has changed from the 1970's to 2000 in various regions of the country.[3-7] In particular, there has been a reduction in the frequency of donovanosis while increase in genital herpes and syphilis cases and increased HIV seropositivity in these STI cases.[5,9] Thus, the present study was designed to identify the demographic and clinical changes at an STI clinic and to understand the association between socio-demographic variables and HIV in the clinic attendees.

Materials and Methods

The present study is a retrospective study of 3606 patients of STI clinic at the Dermatology Department of a teaching hospital in Ahmedabad over a period of 10 years from 2003 to 2012. The clinic evaluates patients of dermatology, STIs and

HIV infection. Subjects were clinically evaluated by trained physicians for STIs. In addition to the on-site laboratory examination for STIs (such as Grams stain and culture, Tzanck smear, potassium hydroxide wet mount preparations), the serological tests included ELISA, rapid tests for HIV, VDRL and TPHA for syphilis were done.

Following data were collected on a clinical form at the baseline visit: (1) Demographic information – age, gender, and marital status; (2) Sexual history - last sexual contact (when and the gender of the partner); (3) Clinical information - complaints at the time of presentation (ulcers, discharge, growths on genitals related to STIs (e.g. warts, molluscum), infestations, and others), duration, history of any treatment for it; (4) Clinical diagnosis and treatment. We classified the diagnosis as bacterial (e.g. gonorrhoea, syphilis), viral (e.g. herpes simplex infection, viral warts), fungal (candidiasis with an explicit sexual history and absence of any systemic causes), and parasitic (scabies, pubic lice) infections.

Results

There was steady rise in total number of patients attending STI clinic over this 10 year period from 239 patients in 2003 to 592 patients in 2012 (Table 1).The most common age group was 21-30 years with around 50% of total patients. There were more women in the later years than early with female to male ratio in 2003 was 1:1.7 compared to 2.4:1 in 2012 (Table 1). About 54% of clinic attendees in 2003 were married, this proportion increased to 86% in 2012. There has been considerable rise in the prevalence of STIs among high risk groups like drivers (3.7% in 2003 to 7% in 2012), migratory workers (3.3 % in 2003 to 6.2% in 2012) and also in students (0.4 % in 2003 to 2.5 % in 2012).

In 2003, the majority of STIs seen were viral (35%) followed by bacterial (31%); however, currently the scenario has changed with fungal infections (54%) being the most common STI followed by viral infections (19%) (Table 2). Parasitic infections are gradually rising indicating the changing pattern. The most common clinical presentation in 2003 was an ulcer (60%) but with the rise of fungal infections, vaginal/cervical discharge has become the most common presentation. Overall the most common STIs were VVC (33%), bacterial vaginosis (16%), herpes genitalis (12%), viral warts (7.8%), chanchroid (2.5%) and syphilis (1.5%). Among all the STI patients HIV seropositivity was 6.5% and VDRL was 1.5%. Herpes genitalis (n=69) was the most common STI associated with HIV positivity followed by genital warts (n=55).There was consistent decrease in the prevalence of HIV positivity over the years till 2009, after there is gradual rise in prevalence (Table 3).

Table-1: Year wise Distribution of Patients

Year	Male	Female	N
2003	153	86	239
2004	152	90	242
2005	112	93	205
2006	120	111	241
2007	104	159	263
2008	118	226	344
2009	110	320	430
2010	112	382	494
2011	131	424	555
2012	171	421	592

Table-2: Trend of Various STIs (%)

Year	Bacterial (%)	Viral (%)	Fungal (%)	Parasitic (%)
2003	32	35	27	06
2004	29	34	28	09
2005	22	28	41	09
2006	31	23	35	11
2007	23	24	40	13
2008	25	25	39	11
2009	23	20	42	15
2010	18	20	50	13
2011	21	18	50	11
2012	18	19	53	10

Table-3: HIV Prevalence

Year	Percentage of Patients
2003	42
2004	48
2005	30
2006	31
2007	14
2008	20
2009	07
2010	11
2011	17
2012	17

Discussion

There is an increase in the number of patients attending our STI clinic, contrary to data reported by authors in different parts of the country.[4,9,10] This may be due to an active involvement of governmental & non-governmental organizations and rapid rise in referrals from other departments of the hospital. The demographic transition is an

important issue for sexual health care. The typical clinic attendee in the initial years of the study was the young, single, unmarried male while in the later years more older and married individuals. As in recent years, married men have been encouraged to motivate their regular sexual partners (often the spouse) to receive STI testing and care may be potentially responsible for increased numbers of women in the clinic.[11-15] Frameworks to deal with the issues of married individuals e.g., confidentiality within marriage, partner notification and treatment, couple counselling should take into account the existing social, cultural and legal norms in the country; these should be an integral part of STI care training in health centers. The study shows high risk groups like drivers and migratory workers are found to have increased prevalence of STIs almost twice in 2012 compared to 2003, showed high risk promiscuous behaviour, increased commercialization, and increase in addiction. There was shift in the type of STIs evaluated at the clinic; the initial years show predominance of viral and bacterial STIs whereas in the later years there was sharp rise in fungal STIs followed by viral STIs. Reduction in bacterial STIs has also been reported at other clinics in India.[9,16,17,18] Genital herpes is the most common cause of genital ulceration in the developed world.[18] In India too, viral STIs are on an upswing.[9,16,17] Regardless of the cause of change in trend of viral STIs, they form the single most important group associated with HIV in our sample. This finding is comparable to observations from other regions of the world.[19] Rapid rise in the number of patients presenting with cervical/vaginal discharge especially VVC is due to following reasons: (1) Inadvertent use of antibiotics; (2) Increased referral of pregnant women from gynaecology department under the Prevention of Parent to Child Transmission of HIV/AIDS programme (PPTCT); (3) Increased use of contraceptives; (4) Change of certain behaviours like use of tampons, douches, deodorants, local antiseptics, tight fitting underclothing etc.; (5) Miscellaneous causes like increase in prevalence of diabetes mellitus, younger age of sexual contact, prepuberty etc.[20,21]

As with other studies, this study had its limitations. The data were clinic based; they may not be representative of the population at large.

Conclusion

STIs constitute a major public health problem and is responsible for a significant proportion of maternal mortality and morbidity. At the same time as number of STIs patients are rising, with shift in the type of STIs, the main strategy aimed at achieving effective management for people with established infections has been to integrate STD services into the existing health care system, and syndromic management recommended by National AIDS Control Organization (NACO).

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