

Service delivery through public health care system to control sexually transmitted infections in Himachal Pradesh

Sunite A Ganju, Anil K Kanga, Suruchi Bhagra, Ramesh C Guleria, Dig Vijay Singh, Vinay Agnihotri¹, Santwana Verma

Department of
Microbiology, Indira
Gandhi Medical College,
¹Himachal Pradesh State
AIDS Control Society,
Shimla, Himachal
Pradesh, India

ABSTRACT

Introduction: The National AIDS Control Organization has designed multiple synergistic interventions to identify and control curable sexually transmitted infections (STIs). **Objective:** To assess the impact of services offered at designated STI clinics in the state of Himachal Pradesh, India and the profile of the attending clients. **Materials and Methods:** This was a two-year prospective study, conducted from April 2011 to March 2013. Training on delivering STI/RTI services was imparted to the staff of 16 designated STI clinics including recording of data. The staff in each STI clinic comprises of one doctor, one counselor, one nurse, and one laboratory technician. The clients attending these designated clinics were offered counseling, syndromic case management (SCM), and diagnostic services wherever possible. Monthly data of STI clinic attendees was collected, compiled, and analyzed. **Results:** A total of 65,760 clinic visits were reported, of which 32,385 (49%) visits were for index STI/RTI complaint(s). The ratio of male to female attendees was 1:2. The commonest age group accessing the STI clinics was 25-44 years ($n = 38,966$; 59.3%). According to SCM, 52.9% clients were managed. The commonest presenting syndrome was urethral discharge ($n = 4,500$; 41%) in males, and vaginal discharge ($n = 13,305$; 56%) in females. Genital ulcer disease was treated in 2099 cases. Laboratory tests were performed only in 6466 patients, and 39,597 antenatal mothers were screened for syphilis. Counseling services were provided to 51,298 ($f = 34,804$; 68%; $m = 16,494$; 32%) clients and of these, 48% ($n = 25,056$) of the clients were referred to integrated counseling and testing centers. Forty-three clients ($m = 24$; $f = 19$) were detected positive for HIV infection. **Conclusion:** Uniform and standardized services delivered to clients attending public health clinics can gather reliable data to monitor trends of STI infection.

Key words: Counseling, sexually transmitted infections, syndromic case management

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INTRODUCTION

Sexually transmitted infections (STIs) are more dynamic than any other disease prevailing in the country.^[1] STIs in relation to sexual transmission of human immunodeficiency virus (HIV) have been increasingly emphasized.^[2] Ninety percent of new HIV infections may be attributable to STIs as co-factors in the early phase of the HIV epidemic.^[3] An estimated three million episodes of STIs and reproductive tract infections (RTIs) occur every year in India.^[4] The state of Himachal Pradesh, India has approximately 35, 14,500 (50%) sexually active population with 2, 10,870 (6%) prone for risky behavior. The aim is to provide STI services to 35% ($n = 73,805$) of this population; 33% ($n = 24,355$) coverage through designated STI clinics under National AIDS Control Program

and the rest 67% ($n = 49,449$) through National Rural Health Mission.^[5] Monitoring and analysis of data collected will provide valuable insights into the prevailing STI disease pattern.

OBJECTIVE

To determine the package of STI services available at designated STI clinics in the state of Himachal Pradesh, India and the profile of attending clients.

MATERIALS AND METHODS

This two-year study was conducted from April 2011 to March 2013. There are 16 designated STI clinics in Himachal Pradesh, which have been functioning under the framework of National

Address for correspondence:
Dr. Sunite A Ganju,
House No 214/B, Sector
3, New Shimla,
Shimla - 171 009,
Himachal Pradesh, India.
E-mail:
sunite01@gmail.com

AIDS Control Organization (NACO) since 2008. All the staff positioned there - doctors, nurses, counselors, and the laboratory technicians underwent regular yearly training using the prescribed training material through adult learning methods in a cascade model. The clients attending the STI clinics were offered counseling services on safer sex education, condom promotion, syndromic case management (SCM), partner notification and management. To identify STI syndromes, standard flowcharts as described in the NACO guidelines were used. The laboratory tests performed were mainly rapid plasma reagin (RPR) test, Gram's stain, wet mount test, and potassium hydroxide test. Pre-packed color-coded drug kits supplied by NACO were given to clients attending these designated STI clinics. Patient cards were maintained by the counselor at each clinic. Information, education and communication (IEC) materials were also made widely available. Monthly data was collected, compiled, and analyzed.

RESULTS

The various services offered at the STI clinics were counseling on safer sex education, condom promotion, partner notification and management services, syndromic diagnosis and treatment. Demographic profile of STI clinic attendees is shown in Table 1. The major category availing STI services was in 25-44 years age group (59%), followed by 20-24 years, (24.3%), >44 years (11%), and <20 years (5.7%). Female clients accessing the STI clinics were approximately twice that of male clients in both the years [Figure 1]. Female clients in the age group of 25-44 years accounted for 57% of the attendees.

During the two-year period, 32,385; 49% (m = 9282, 14%; f = 23,103, 35%) clients visited the STI clinics for index STI/RTI complaint(s) and were treated according to the guidelines of SCM as shown in figures 2 and 3. In females, the commonest syndrome was vaginal discharge (VD) (n = 13,305; 56%) and lower abdominal pain (LAP) (n = 6,347; 26%) the commonest complaint. In

males, 41% of clients presented with urethral discharge (UD). Many clients (n = 30,747; m = 10,315; f = 20,432) reported with no complaints to the STI clinics. Laboratory tests corroborated the diagnosis in 186 cases of trichomoniasis and 33 cases of bacterial vaginosis. Amongst antenatal women, 140 (0.35%) were reactive by RPR ($\geq 1:8$ dilutions).

Amongst the referrals from STI clinic (n = 25,056; m = 8752; f = 16,304) to the integrated counseling and testing center, 43 (m = 24; f = 19) were detected HIV-positive [Figure 4]. A total of 175 known HIV-positive clients, of whom 79 were women, also attended the STI clinics. Counseling services increased from 23,023 in 2011 to 28,275 in 2012. The ratio of the male to female clients counseled was 1:2. In 26,327, partner notification was undertaken and 90% subsequently managed. Condoms were distributed to 2,52,545 persons, and 686 were referred for other services, which included tuberculosis screening, obstetrics and gynecology, and surgery departments.



Figure 1: Sex- and year-wise distribution of STI Clinic attendees with syndromic diagnosis

Table 1: Demographic profile of patients availing STI services

Type of clinic visits	Year	Age group and sex								Total	
		<20		20-24		25-44		>44		Male	Female
		Male	Female	Male	Female	Male	Female	Male	Female		
First clinic visit (for the index STI/RTI complaint)	2011	142	517	645	2676	2589	6653	726	1098	4102	10944
	2012	306	791	862	2721	3190	7306	822	1341	5180	12159
First clinic visit (for no STI/RTI complaint)	2011	180	798	849	3703	2553	5098	373	671	3955	10270
	2012	259	610	1061	2900	4346	5764	694	888	6360	10162
Repeat STI/RTI visit for the index STI/RTI complaint	2011	17	54	69	228	365	545	110	93	561	920
	2012	23	93	100	214	255	332	61	69	439	708
Total No. of visits		927	2863	3586	12442	13298	25698	2786	4160	20597	45163

RTI: Reproductive tract infections; STI: Sexually transmitted infections

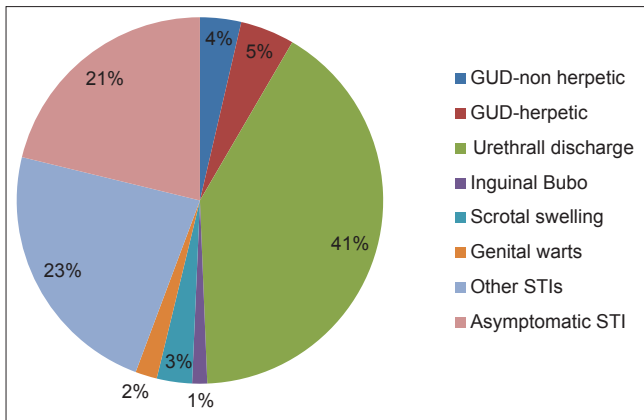


Figure 2: Syndromic diagnosis in male STI Clinic attendees

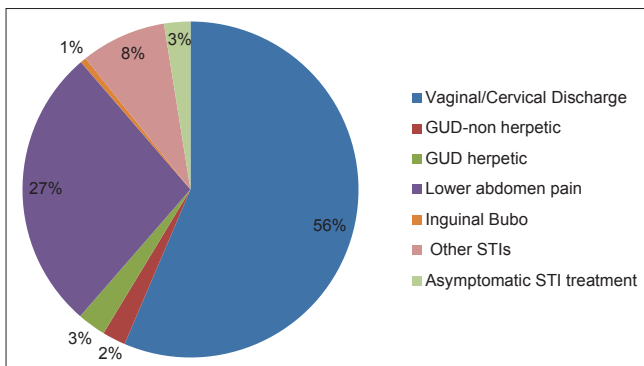


Figure 3: Syndromic diagnosis in female STI Clinic attendees

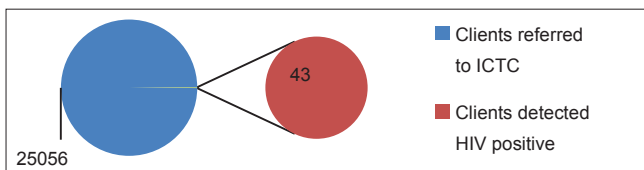


Figure 4: Clients detected HIV-positive in STI Clinic attendees

DISCUSSION

The designated STI clinics mainly focus on the SCM with appropriate laboratory tests, wherever possible, in accordance with the NACO recommendations. The present study found a prevalence of 52.9% STI/RTIs by SCM, which is less than 61.9% reported recently from Andhra Pradesh.^[6] Several authors have observed a gradual decline in the STI clinic attendees in all government health facilities.^[7,8] However, the decline in STI clinic attendees may not necessarily depict an actual decline in the incidence of STI/RTIs. Significant factors attributing to decreased attendance could possibly be asymptomatic cases not reporting to these STI clinics, but directly seeking care in obstetrics and gynecology clinics, or availing facilities through private practitioners and widespread use of anti-bacterial drugs for other diseases that may modify and partially treat the STIs.^[1] During this period, 65,760 availed STI/RTI services, of which

32,385 (49%) cases presented with index STI/RTI complaints. In the previous two-year period of 2009-2011, 42% STI clinic attendees presented with index STI/RTI complaints denoting an increase in the first clinic visit for index complaints.^[9] In our study, females outnumbered the males in the ratio of 2:1. Male preponderance has been reported by some authors.^[10,11] However, more females accessing the STI clinics has been noted year after year as reported by others and in our state earlier.^[7,9] This can be attributed to increased literacy rate in females and improved facilities at the STI clinics. This finding also corroborates with the results of a rapid assessment survey, conducted by Indian Council of Medical Research in 2005, where 12% of female clients presented with complaints related to STI/RTI in comparison to 6% of male clients.^[8]

The average age for both females and males with STIs was 25-44 years. The World Health Organization (WHO) estimates that two-thirds of all STIs worldwide occur in young people – teenagers and those in their early twenties. Thus, a major thrust of STI services should be on young people.^[12] Though in our study only 5.7% were below 20 years, this group if left undiagnosed and untreated adds significantly to STI pool. The demographic profile was similar to other studies.^[4,9,10,13]

SCM achieves high cure rates as it provides immediate treatment at first visit^[7] and is well tolerated,^[11] but the major limitation is its non-specificity and tends to over treat some syndromes.^[7] The most common syndrome observed was VD ($n = 13,305$, 56%) followed by LAP in females ($n = 6347$, 26%). The major SCM in males was UD in 41% followed by genital ulcer diseases (GUD) in 8.3%. Amongst the GUDs, the herpetic GUD ($n = 1170$, 55%) was common, which is consistent with other findings.^[6]

Several studies report changing trends in the profile of STIs. The STI profile and HIV seropositivity was analyzed between 1990-1993(A), 1994-2001(B), 1998-2001(C), and 2002-2004(D). In period A, genital discharge was common, while in period B, C, and D, genital ulcer diseases (GUD) showed a rising trend.^[7] In our two-year data analysis, based on the syndromic diagnosis, genital discharge was predominant while GUD was seen in only 6% ($n = 2099$) cases similar to recent reports.^[9,11] The prevalence of vaginal and urethral discharge as estimated by NACO is 45% and 10%, respectively, consistent with our data. Genital ulcer disease both herpetic and non-herpetic account for approximately 15% each according to the prevalence rates published in the NACO report.^[7] In the present study, GUD herpetic accounted for 2.6% ($n = 929$) and GUD non-herpetic in 3.3% ($n = 1170$) of the total SCM.

Laboratory diagnosis is essential to confirm diagnosis and ensure proper treatment. In a recent study, comparing syndromic diagnosis with laboratory diagnosis in 407 women,

bacterial vaginosis (BV) was a common finding (14.3%).^[11] In our study, bacterial vaginosis was confirmed only in 33 cases and trichomoniasis was diagnosed in 186 attendees. Gonorrhoea accounted for 29 laboratory-confirmed cases. A higher incidence has been reported earlier.^[8] In Himachal Pradesh as well as the rest of India, according to the National Behavioral Surveillance Survey, 2006, the self-reported prevalence of genital ulcer is low, being only 1%, which may also contribute to under-reporting of GUDs.^[12] A wide variation in SCM and laboratory-confirmed cases is seen as has been noted by others.^[1] The major disadvantages encountered in laboratory testing include lack of expertise in reporting, burden of work, inadequate facilities, and more time required. However, even if these issues are addressed, various studies have shown that the most sensitive of the classic tests fail to diagnose many pathogens causing STIs. Approximately 96.6% of patients with negative cytology results were positive for pathogens that cause STIs by newer advanced molecular techniques, multiplex polymerase chain reaction.^[13]

The incidence of syphilis seropositivity has shown a declining trend (0.35%), similar to other findings.^[9,14] Reactive VDRL ($\geq 1:8$ dil) was detected in 140 antenatal mothers. In our study, 175 HIV-positive clients including 79 women attended the STI clinics. Thus, HIV screening in STIs cannot be over-emphasized as STIs may also increase the risk of mother to child transmission of HIV.^[15]

An apparent increase of viral STIs as compared with bacterial STIs has been noted.^[10] Reports of genital warts range from 7.6% to 25.2%^[1,16,17] among STI clinic attendees in different regions of the country. However, the present study shows that only 0.93% cases of total STI clinic attendees presented with genital warts, which is almost similar to one previous study.^[9] Most studies in India have so far studied patients attending STI clinics, whereas the infection rate in clients attending the peripheral health centers in remote and rural areas catering to the community has not received much focus.^[7,9] Few community-based surveys have been undertaken, but to describe the epidemiology of STIs, a more comprehensive data is required for implementation of interventions for control of STIs, that will in turn reduce HIV infection.

The data is uniform and compilation was from designated clinics all over the state. However, many cases may be treated in different departments of peripheral hospitals that may go unreported. Not all people with STIs are symptomatic and hence remain undetected and untreated and serve as a persistent reservoir. Asymptomatic STI cases accounted for 46% of the total clinic visit ($n = 30,747$; $m = 10,315$; $f = 20,432$). Although much effort is being directed to improve conditions in clinics and provide quality STI care, the health-seeking behavior is important, especially in asymptomatic STIs. The report of National Behavioral Surveillance Survey estimates that the

awareness about STIs has increased from 31% in 2001 to 38% in 2006 and knowledge about linkage between STIs and HIV has increased to 37%, even then various innovative strategies need to be adopted in the state.^[12] These may include STI health campaigns, mass screening, mass treatment, better partner management, and creating more awareness.

Counseling in STI clinics plays an important role to prepare patients for STI and HIV screening and sexual health promotion.^[15,18] In our study, counseling services have shown a consistent increase from 23,023 to 28,275 during the two-year period. Enhancement of counseling skills to establish mutual trust and give relevant, accurate, and complete information requires comprehensive training.^[19] Individual counseling of sexually transmitted disease (STD) patients has led to improved partner notification^[18] and reduction in STDs.^[20] In our study, 26,327 STI partners were notified, and 2,52,545 condoms were provided for STI prevention. Partner notification not only provides an opportunity to diagnose asymptomatic cases but also prevents the spread of infection.^[21] Thus, partner notification and management is an important aspect of STI control that has helped to strengthen the STI control program.^[22] In our study, 90% partners were subsequently managed.

The current STI scenario shows a stable trend of bacterial STIs. Syndromic management is a safe and an effective strategy; however, an enhanced syndromic approach would ensure etiological diagnosis and definite treatment. Improvement in laboratory services is important and would increase the utilization of any given public health facility. Innovative IEC activities need to be carried out to encourage health-seeking behavior both in males and females.

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