

# Current socioclinical trend of sexually transmitted diseases and relevance of STD clinic: A comparative study from referral tertiary care center of Gwalior, India

## Abstract

**Objective:** Sexually transmitted infections (STIs) are the major public health concern in both developed and developing countries regulated by the cultural pattern of gender expression in their society. Thus, it demanded a necessary action to review the changing pattern in (Gwalior, central India where health condition is not in a good fashion with poor socioeconomic status and awareness. **Materials and Methods:** This is a hospital based cross sectional questionnaire study with a sample size of 222 respondents attending sexually transmitted disease (STD) clinic at JAH Gwalior from December 2011 to March 2012 using a random sampling method. **Results:** Most of the cases among females were in the age group of 20-40 years (152, 84.44%) and males were in 18-40 years age group (35, 83.33%). Out of 180, 22 (12.22%) females were having non-regular sexual partners. Out of 22 females frequency of consistent, non-consistent, and no condom use with non-regular sexual partners was three (13.63%), two (9.09%), and 17 (77.27%), respectively. Out of 42 males, 22 (52.38%) reported having sex with non-regular sexual partners. None of the 15 (100%) male subjects having friends or relatives as non-regular sexual partner were using condoms. Statistically significant differences were found as compared to a previous study from same STD clinic are discharge, lower abdominal pain, painful micturition, nodules in genitals as 106 (58.88%;  $P = 0.0001$ ), 59 (32.77%;  $P = 0.0007$ ), 25 (13.88%;  $P = 0.001$ ), and one (0.5%;  $P = 0.005$ ), respectively and in males with absence of abdominal pain and nodules in genitals as  $P = 0.016$  and 0.03, respectively. Preferred place of treatment of STIs was government facility in both male and females with statistically significant 15.76% ( $P = 0.0001$ ) of the population seeking no treatment. **Discussions:** Study suggests a changing trend of the STDs owing to the difference in the clinical presentation of the disease to a previous study from the same STD clinic few years back. A shift from adolescent towards adult age group have been reported, which could be the result of awareness generated from counseling patients during their visit to the STD clinic. The problem of low and infrequent condom use and improper binding to the treatment with multiple non-regular sex partners was seen in a fairly good proportion. Study also delineates the change in health-seeking behavior of the attendees. Deterrence towards public health facilities and an upsurge in self-medication as treatment-seeking behavior and approach towards the private health facilities have been reported. **Conclusion:** Study shows the very significant and much needed role of counseling center like STD clinic, in changing the due course and trend of STDs epidemiology.

### Key words:

*Health program, health awareness, sexually transmitted diseases, STD clinic*

## Introduction

Sexually transmitted infections (STIs) are the major public health concern in both developed and developing countries

and are the commonest group of notifiable diseases.<sup>[1]</sup> They show variable trend in different parts of the country depending upon transmission patterns which are being regulated by the cultural patterns of gender expression in

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their society.<sup>[2]</sup> Such culturally imposed silence on discussing sex is through unequal norms about sexual morality, rights, power, and educational opportunities between the male and female,<sup>[3,4]</sup> and changing traditions.<sup>[5]</sup> In due course of time, changes in social behavior have altered the pattern of STIs present with vivid clinical presentation. These dynamic changes in clinical pattern make preventive measures less meritorious, deflecting the graph of prevalence, and incidence higher.<sup>[1]</sup> So the study has been conducted to highlight the current trend of the disease from the study area and evaluating it on the scale of health program's effectiveness and also may be used to determine the appropriateness and potential guidelines to the selected interventional strategies for particular setting(s).

## Materials and Methods

This was a hospital-based, cross-sectional study with sample size of 222 respondents attending sexually transmitted disease (STD) clinic at JAH Gwalior from December 2011 to March 2012 using random sampling method. A pretested questionnaire was the survey instrument used privacy and confidentiality was maintained in all aspects of the study, history taking, examination, and sampling. Verbal informed consent was obtained prior to the interview. Consenting participants were interviewed by the authors to make into personal assessment in the following areas: Sociodemographic characteristics (age, religion, socioeconomic status, education, and occupation) and risk factor for STIs (medical history including presenting sign of STIs, extramarital relationship, and current symptoms of vaginal/urethral discharge). The ethical committee of Gajra Raja Medical College, Gwalior reviewed the protocol and gave ethical approval for the study. The study variables were analyzed using Statistical Package for Social Sciences (SPSS) 10 software.

## Results

Out of 222 patients none of them declined to participate in the study. Sample comprises of 180 (81.08%) females and 42 (18.91%) males. The majority of patients were Hindu by religion 190 (85.58%), followed by Muslims 28 (12.61%), and four others. Most of the cases among females were in the age group of 20-40 years 152 (84.44%), males were in 18-40 years age group 35 (83.33%). Thirty-two (76.19%) male patients in the present study were married once, while 10 (23.80%) male patients were unmarried. Among females frequency of marriage was 100%. Twenty (47.61%) males had educational qualification between higher secondary and graduations; whereas, only 19 females (10.55%) had these qualification. One hundred and forty-six (65.76%) patients were from urban setup. Females were mostly house wives (130, 72.22%) by occupation; whereas, males majorly belonged to service sector 15 (35.71%) followed

by agricultural laborer seven (16.66%), running small business or shop six (14.28%), large business five (11.90%), nonagricultural laborers three (7.14%), skilled or semiskilled workers three (7.14%), students two (4.76%), and truck drivers one (2.38%).

All women were involved in heterosexual relation. Out of 180, 22 (12.22%) were having non-regular sexual partners. All non-regular sexual partners were either friends or relatives. Out of 22 females frequency of consistent, non-consistent, and no condom use with non-regular sexual partners was three (13.63%), two (9.09%), and seventeen (77.27%), respectively. Out of 42 males, 22 (52.38%) reported having sex with non-regular sexual partners, 10 at present, and 12 in past, such as friends or relatives (15, 68.18%) and commercial sex workers (CSW; 7, 31.81%). Five (71.42%) and two (28.57%) of the seven CSW visitors were not using or using condom inconsistently, respectively. None of the 15 (100%) male subjects having friends or relatives as non-regular sexual partner were using condoms with them. Condom use by male and female while having sex with their spouses were 12 (28.57%) and 44 (24.44%), respectively.

There are gender-based differences in age-related progression in sexual activity with a larger number of women initiating sexual activity before the age of 18 years. Onset of sexual activity was earlier in female with 63.88% having initiated sexual intercourse prior to the age of 18 years as compared to 11.90% males. However, the average number of sexual partners was higher in males. Using a syndromic approach among these attendees, discharge was reported as the most common complaint 106 (58.88%;  $P = 0.0001$ ) among female attendees followed by lower abdominal pain 59 (32.77%;  $P = 0.0007$ ), burning or painful micturition 25 (13.88%;  $P = 0.005$ ), ulcer 22 (12.22%), itching in private parts nine (5%), and nodules in the genitals one (0.5%;  $P = 0.001$ ), and compared with other studies as shown in Table 1. A large number of these attendees reported the occurrence of a similar complaint in the past. The male presented with the most common complaint of ulcers in genitalia (29, 69.04%) followed by discharge (5, 11.90%), burning or painful micturition (5, 11.90%), inguinal swelling (one, 2.3%), genital warts (one, 2.3%), and genital scabies (one, 2.3%) and compared with other studies as shown in Table 2.

Preferred place of treatment of STIs was government facility (16, 38.09%) followed by private (12, 28.57%) and self or any other source (8, 19.04%) among males and in female was government facilities (66, 36.66%) followed by private (49, 27.22%) and self or any other source (36, 20%) and compared with other studies as shown in Table 3. Six (14.28%) and 29 (16.11%) of male and female attendees sought no treatment, respectively.

**Table 1: Comparative analysis of presenting complaint in females with other studies**

Presenting complaint in females	Present study, Gwalior, percent female (n = 180)	Mishra et al., Gwalior, <sup>[6]</sup> percent female (n = 42)	Fisher's exact test	Kosambiya et al., Surat, <sup>[21]</sup> percent female (n = 102)	Talsania et al., Ahmedabad, <sup>[7]</sup> percent female (n = 1,930)	Sharma et al., <sup>[8]</sup> percent female (n = 235)
Discharge	58.88	100	P=0.0001*	41	49.4	100
Abdominal pain	32.77	61.3	P=0.0007*	3	3.8	38.3
Genital ulcer	12.22	16.6	P=0.449	1	4.9	2.1
Nodule	0.55	11.4	P=0.001*	0	0	0
Burning or painful micturition	13.88	0	P=0.005*	8	3.1	0
Itching in private part	5	0	P=0.213	10	0	0
Inguinal swelling	0	0		0		0.8

Data shown in table are in percent. \*Variables those are statistically significant

**Table 2: Comparative analysis of presenting complaint in males with other studies**

Presenting complaint in males	Present study, percent male (n = 42)	Mishra et al., Gwalior, <sup>[6]</sup> percent male (n = 35)	Fisher's exact test	Jain, central India, <sup>[10]</sup> percent male (n = 380)	Garg et al., Delhi, <sup>[20]</sup> percent male (n = 196)
Genital ulcer	69.04	80	P=0.308	26.83	2.5
Abdominal pain	0	14.7	P=0.016*	0	0
Discharge	11.9	14.7	P=1	17.89	8.7
Nodule	0	11.4	P=0.03*	0	0
Burning or painful micturition	11.9	0	P=0.059	0	0
Itching in private part	0	0		0	5.6
Inguinal swelling	2.38	0	P=1	1.57	1
Genital wart	2.38	0	P=1	1.05	0
Genital scabies and others	2.38	0	P=1	48.42	0

Data shown in table are in percent. \*Variables those are statistically significant

**Table 3: Comparative analysis of treatment-seeking behavior with other studies**

Treatment-seeking behavior	Present study			Mishra et al., Gwalior, <sup>[6]</sup> Percent male and female (n = 77)	Fisher's exact test	Kosambiya et al., Surat, <sup>[7]</sup> percent female (n = 102)	Talsania et al., Ahmedabad, <sup>[8]</sup> percent female (n = 1,930)
	Percent female (n = 180)	Percent male (n = 42)	Total (n = 222)				
Government	36.66	38.09	36.93	49.4	P=0.06	46.66	7
Private	27.22	28.57	27.47	25.9	P=0.88	20	17.7
Self or other source	20	19.04	19.81	25	P=0.11	6.66	2.2
No treatment	16.11	14.28	15.76	0	P=0.0001*	24.44	46.1
No response	0	0	0	0		0	6.4

Data shown in table are in percent. \*Variables those are statistically significant

## Discussion

Study shows the very significant and much needed role of counseling center at STD clinic in changing the due course and trend of STIs epidemiology, as the comparative analysis involves a study which was under taken, by Mishra et al., prior to the establishment of the counseling center at the STD clinic in the study area.<sup>[6]</sup>

The majority (72.97%) of the attendees were in the age group of 25-44 years, similar to that reported by others.<sup>[5,6,12]</sup> This is the sexually active group may be with unstable behavior usually having higher number of sexual partners and more concurrent partnerships as compared to older

age groups, thus in vulnerability towards STI acquisition<sup>[13]</sup> also backed by other Indian studies.<sup>[14-18]</sup> But the number of younger attendees below 25, has decreased from 22.07% as shown by Mishra et al., to 14.41% (32/222), also reported by Chandragupta et al. This shifting in age group from adolescent towards adults could be credited to awareness generated by counseling given to patients during their visit to clinic.

Study gave evidence against the usual convention of STIs dominated by male with female outnumbering male attendees with their proportion 4.28:1, higher than that reported by Mishra et al., 1.2:1 at the same study area. There are also other studies<sup>[14]</sup> supporting the above evidence of

shifting pattern from male to female owing to effective contact tracing, spouse screening, and increasing female literacy rate.

In the present study, 95.49% patients were married once as compared to 46.3% in Saikia *et al.*, study,<sup>[15]</sup> 50% in Jain *et al.*, study,<sup>[16]</sup> 47% in Kumarasamy *et al.*,<sup>[18]</sup> and 87.01% in Mishra *et al.*, study.<sup>[6]</sup> First sexual contact at an early age less than 18 years is several times higher in females as compared to males. This could be due to the fact that females are married early in India as compared to males and being in Indian scenario sexual debut in female is considered only after marriage.<sup>[19]</sup> This makes women vulnerable to acquiring STDs owing to behavioral and biological factors. Young women sexual anatomy being more susceptible to abrasions, allowing organism entry in body and immature reproductive and immune system make them more prone to get infected. Early sexual activity without proper knowledge regarding use of condoms prone them to acquire STIs.<sup>[11]</sup>

In the present study, heterosexual contact was the commonest type of sexual contact accounting for 100% exceeding from Devi *et al.*, 89.6%.<sup>[14]</sup> It is a sign of deep concern that 19.81% of the STD clinic attendees were having sex with non-regular sex partners and majority of them (84.10%) were not using a condom with non-regular sex partners. This is poorer and unexpectedly low as observed in Zahiruddin *et al.*, and some other studies in which as many as 55-80% of the men who engaged in nonmarital and non-regular sexual activity never used condoms<sup>[9,20]</sup> with males more lagging as compared to females although both are at greater risk. The reason behind the reluctance of condom use among male could be the risk taking behavior of male, unavailability at the time of need, reduced sexual pleasure, or uncomfortable. Male outnumbered female in using condoms during sex with spouses. The reason could be the protective attitude of male towards their spouses, so that they could not contract the diseases harbored by male from non-regular sex partners.

Vaginal discharge was reported as the most common presenting complaint (58.88%) in female which is in accord with other studies from India<sup>[7,8,21]</sup> and genital ulcer in males (69.04%) which is in accord with other studies.<sup>[10]</sup> Certain studies reported urethral discharge as most prevailing feature<sup>[20]</sup> as compared to our study in Tables 1 and 2 where females mainly presented with multiple complaints. This may be because males seek early treatment, while females waited for a longer period until they developed other complaints.

34.23% of the attendees were from rural areas as compared to 25% reported by Mishra *et al.*, This may be due to migration of rural population to urban area or increased awareness of rural population regarding healthcare facilities or migration of urban population towards private health facilities as government system may not be looking cost

effective to them. Decline towards government hospital and self-medication as treatment seeking choice as compared to study conducted by Mishra *et al.*, at the same study area has been noted. Approach towards private health facilities has increased as compared with different studies in Table 3. Difficult accessibility of government health facilities, presence of numerous quacks, and unqualified private practitioner at accessible location and declining faith of people with government facilities could be the reason.

A serious condition of not abiding with treatment has been noticed, which is more in females than in males prior to reporting at this clinic. Another study conducted in Madhya Pradesh, India also revealed that around 71% of the tribal people had faith in traditional healers as they are inexpensive and available at their doorstep. This could be the reason for not taking treatment as they resorted to traditional healers and home remedies.<sup>[19,22]</sup>

## Conclusion

Our study showed the changing trend of STDs from the Gwalior, central India. A decline in the number of attendees below 25 year of age group reported suggesting a shifting pattern from adolescent to adult age group. This observation implies that awareness generated by counseling the patients during their STD clinic visits is very vital. Changes in the present symptoms observed in the study suggest that STDs are changing their pattern in due course of time. Study also delineates the change in health-seeking behavior of the attendees with deterrence towards public health facilities and an upsurge in self-medication, as treatment-seeking behavior, and approach towards the private health facilities. This is a very crucial finding as it puts the subject and society both on risk getting STDs in form of under treatment and transfer of disease from one to another person. Thus, this condition is demanding a more potential, effective, affordable, reliable, and properly applicable means to prevent the deterrence towards public health facilities and practicing such a risky behavior of self-treatment. Although there is a better sigh of relief with the induction of separate STD clinic, improved attendance, and awareness; but it is only a pillar base of a major building to be drawn up where condition is progressively deteriorating due to huge population overload and now of country's over one-quarter billionth. This study might prove to be a potential guide to the local and state medical and administrative department for assessing the deepen scar of the medical facilities in Gwalior in particular and state and India as a whole to take firm and determined step to build up the lacunae to provide citizens with the universal goal of sustainable healthcare.

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**How to cite this article:** Singh S, Badaya S, Agrawal D. Current socioclinical trend of sexually transmitted diseases and relevance of STD clinic: A comparative study from referral tertiary care center of Gwalior, India. *Drug Dev Ther* 2014;5:134-8.

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