

## Sexually transmitted Infection: The symptomatic presentation amongst rural community of Lucknow District, Uttar Pradesh

Patel SP<sup>1</sup>, Mohan U<sup>2</sup>, Srivastava VK<sup>3</sup>

<sup>1</sup>Associate Professor, <sup>2</sup>Professor, <sup>3</sup>Ex. Professor

Department of Community Medicine & Public Health, KG Medical University UP, (Erstwhile KGMC), Lucknow.

### ABSTRACT

**Background:** India has a sudden rise in the incidence of STIs especially in the rural areas where it seemed hyper endemic. The reason is the inadequate health facilities for diagnosis and treatment of this infection.

**Objective:** To appraise STIs based on syndromic approach corresponding socio-demographic characteristics in the rural community.

**Materials and Methods:** The baseline study of adults 15 to 49 years of both sexes were enrolled through systematic random method for interviewing the STIs symptoms corresponding biosocial characteristic.

**Results:** Out of the total 10.5% were diagnosed on the basis of symptoms (syndromic approach) of STIs where the commonest symptom was pus discharge from genital organs (71.7%). The prevalence rate in female population was found to be higher (14.2%) compared to prevalence in male (7.1%). In age composition the highest (15.3%) prevalence of STIs was observed in the age group of 30-34 year adults. The prevalence of STIs was quite low (6.9%) in adults educated up to high school. The occurrence of STIs in the study population was found to be steady increasing with lowering social class and maximum prevalence rate of STIs in the social class V was 13.6%.

**Conclusions:** The 30-34 years age group of adults is sexually active and migrating in nature, these adults need counseling about use of condom. The lower social class adults are generally not taking proper treatment due to ignorance and poverty. Time to time a camp approach available in rural area are good solution of high prevalence of these infections in villages.

**Keywords:** Sexually Transmitted Infections, Rural Community, Symptomatic presentation

### Introduction:

Recently, the term STDs has been replaced by the term STIs for it has been adopted by WHO in year 1999. Sexually Transmitted Infections (STIs) are a group of communicable infections that are transferred predominantly by sexual contact. In the recent years, India has a sudden rise in the incidence of STIs especially in the rural areas where it seemed hyper endemic. The reason is the inadequate health facilities for diagnosis and treatment of this infection. Globally, 340 millions are severely affected by this predicament out of which 30 millions are Indians<sup>1</sup>. Hence, the study of STIs is an urgent need in the developing country like India as it has a hazardous impact to the country. On the one hand, STIs results in considerable morbidity as well as long term complication particularly among females viz. infertility, pelvic inflammatory diseases, etc. and on the other hand, it facilitates the acquisition and transmission of HIV infection. Therefore, it is necessary to reduce STIs cases and thereby control HIV transmission by minimizing the risk factor. With this

aim, the present study was undertaken in rural adult males and females in the Lucknow district of Uttar Pradesh. The study was carried out with the following objectives.

1. To appraise STIs based on syndromic approach in rural community.
2. To study the socio-demographic characteristics of those affected with STIs viz. sex, age, religion, caste of Hindu, education, occupation, and social class.

### Materials and Methods:

This study was carried out in the Community Development Block, Sarojini Nagar of Lucknow district. There are six Primary Health Centres having fifty one subcentres, out of total 51 subcentres 20 subcentres were selected randomly. The 20 subcentre were again stratified into 02 groups, one group adjacent to motorable road and other away from it. From each group 05 subcentres again were selected by random method. Out of these 10 selected sub-centres, villages were arranged

### Address for Correspondence:

SP Patel, Asso. Prof. cum In charge, RHTC, Sarojini Nagar, Kanpur Road, Lucknow.  
E mail ID: patelkgmclko@gmail.com

accordingly to their position to sub-centres into two group viz. the sub-centre village and one village from the remaining villages were selected randomly. Two villages from each of 10 sub-centres thus total 20 villages were selected for the study. The findings were recorded in the pre-designed and pre-tested interview schedule by a team comprising one male and one female investigator. Only one married eligible respondent in the age group of 15-49 years (male or female) was interviewed from each family in the selected villages. A total of 2712 adults were interviewed for the study. Female respondents of the community were interviewed by female investigators and male respondents by male investigators. The collected information from the respondents was kept strictly confidential. WHO has identified and simplified syndromic approach for identifying cases with STI. The symptoms and complaints like genital ulcers, pus discharge from genital organs, swelling in genital organs, and pain in lower abdomen elicited from respondents. Socio-demographic characteristics of respondents, viz.sex, age, religion, caste of Hindu, education, occupation, and social class were also studied.

### Results:

During baseline survey, a total of 286 cases were identified out of 2712 respondents in the reproductive age group. Total of 286 (10.5%) cases were diagnosed on the basis of symptoms (syndromic approach) of STIs. Amongst them, the commonest symptom was pus discharge from genital organs in 205 (71.7%) respondents, the other common symptom was lower abdominal pain in 25 (8.7%). However, 73 (25.5%) had multiple symptoms pertaining to STIs. The prevalence of STIs in females was found to be higher (14.2%) than in males (7.1%). This difference was found to be statistically highly significant ( $P < 0.001$ ). The prevalence of STIs was highest (15.3%) in the age group of 30-34 years and the prevalence was quite low (3.8%) in younger age group of 15-19 years. The difference in prevalence amongst various age groups was found to be statistically highly significant ( $P < 0.001$ ). The difference of prevalence of STIs between Hindus and Muslims and among various caste of Hindus were also statistically non-significant. In our study, the prevalence of STIs was 11.3% among illiterates. However prevalence in the high school level adults was much less (6.9%). The difference in prevalence of STIs amongst various educational groups was statistically significant ( $P < 0.05$ ).

**Table 1:** Symptomatic presentation of STIs respondents (n=286)

Symptomatic	No. of respondent with STIs	Percentage
Genital Ulcers	12	4.2
Pus discharge from genital organs	205	71.7
Swelling in genital organs	16	5.6
Lower abdominal pain	25	8.7
Multiple symptoms	73	25.5

The prevalence of STIs in skilled worker and in the housewives were found 14.8% and 14.1% respectively. The prevalence of STIs in students and unemployed group respondents was quite low, being 3.2%. This difference in prevalence of STIs among various occupational groups was found to be statistically highly significant ( $P < 0.001$ ). The prevalence of STIs was found to be lowest (3.5%) in social class II and highest (13.6%) in social class V. This difference was also found to be statistical significant ( $P < 0.01$ ).

**Table 2:** Distribution of STIs by socio-demographic characteristics

Characteristics	Persons interviewed	Persons with STIs	Prevalence percentage	P value
Sex				
Male	1389	98	7.1	<0.001
Female	1323	188	14.2	
Age group(yrs)				
15-19	523	20	3.8	<0.001
20-24	496	58	11.7	
25-29	531	74	13.9	
30-34	405	62	15.3	
35-39	343	44	12.8	
40-44	217	18	8.3	
45-49	195	10	5.1	
Religion				
Hindu	2406	247	10.2	>0.05
Muslim	306	39	12.7	
Caste(Hindu)				
Upper	560	56	10.0	>0.05
Backward	630	68	10.8	
Scheduled	1216	123	10.1	
Education				
Illiterate	1306	147	11.3	<0.05
Primary	435	54	12.4	
Middle	453	49	10.8	
High school	518	36	6.9	
Occupation				
Agri. labourer	956	98	10.3	<0.001
Skilled worker	183	27	14.8	
Business	157	12	7.8	
Service	228	18	7.9	
Student and unemployed	331	10	3.2	
Housewife	860	130	14.1	
Professional	17	Nil	Nil	
Social class				
I	10	Nil	Nil	<0.01
II	115	4	3.5	
III	419	34	8.1	
IV	1684	182	10.8	
V	484	66	13.6	
<b>Overall</b>	<b>2712</b>	<b>286</b>	<b>10.5</b>	

### Discussion:

In this study, identified respondents were found more perceptive towards pus discharge from genital organs rather than other symptoms of STIs. In the present

study, the most common symptom of STIs was pus discharge from genital organ (71.7%), followed by lower abdominal pain (8.7%). Acharya et al (2006) reported the prevalence of vaginal discharge as 64.2% and lower

abdominal pain as 48.8%<sup>2</sup>. A study by Nandan et al (2001) in two districts of Uttar Pradesh revealed a lower percentage in vaginal discharge (53.4%) but higher percentage in pain in lower abdomen (38.9%)<sup>3</sup>. Another study done among rural women in Meerut revealed vaginal discharge as 42%<sup>4</sup>. A study conducted in rural Nigeria identified vaginal discharge as the most common gynecological problem (65.6%) followed by lower abdominal pain (39.2%) in above 30 years female<sup>5</sup> Srivastava (2009) reported a lower prevalence in vaginal discharge (37.3%) in women of Lucknow city suffering from STIs<sup>6</sup>.

The prevalence of STIs in different regions of our country vary significantly. In the present study, the prevalence of STIs in the rural community of Lucknow was 10.5%. whereas another study by Thomas et al (2002) in Tamil Nadu reported prevalence of STIs as 14.6%<sup>7</sup>. However, this prevalence is higher than the result of our present study. The overall prevalence rates (7.1%) in males in present study were almost comparable with those of the two previous studies by De Schryer et al (1990) & Robert et al (1998). De Schryer et al (1990) showed in their analytical reports that the prevalence rate of STIs amongst rural male was 7.0%<sup>8</sup>, whereas Robert et al (1998) showed the prevalence rate as 8.0% in the adult male of 16-59 years age group<sup>9</sup>. Moreover, the prevalence of present study in female (14.2%) was comparatively lower than the three more rural studies by Gijs et al (2001)<sup>10</sup>, Bang et al (1989)<sup>11</sup> and Jindal et al (2009)<sup>12</sup>. The high risk age group, 30-34 years in our study is contrast to the findings of other studies conducted by Ramachander et al (1974), Seth (1970), and Srivastava (2009). They reported in their findings that the maximum number of patients of STDs/STIs were found in the age group of 16-20 years<sup>13</sup>, 16 to 25 years<sup>14</sup>, and 40 and above<sup>5</sup> respectively. The prevalence rates of STIs in Hindu and Muslims respondents were found almost similar in present study, whereas results of other studies showed variable prevalence rates in Hindu and Muslims communities. Prasad et al (1962) in their study observed that 52.0% of the venereal disease cases were Hindu followed by 46.7% Muslims<sup>15</sup>. Another study by Srivastava (2009) in Lucknow showed the prevalence of STIs as 48.7% among Hindus and comparatively higher 69.1% among Muslims<sup>6</sup>. In caste profile, the present study showed prevalence of STIs in scheduled caste was nearly similar to other caste of Hindus whereas Nandan et al (2001) reported a variable prevalence that are 76.1% women belonging to scheduled caste, 71.1% women of other

backward class and 67.7% women of other caste<sup>3</sup>. Srivastava (2009) reported the different pattern of prevalence of STDs in women of various castes among Hindus that are 46.3% in schedule caste, 53.4% in other backward class, and 53.9% in general caste were reported<sup>6</sup>.

The knowledge of science, particularly, basic human science is most essential for knowing measure of prevention of infections/diseases and therefore a primary level education has no meaning. In our study, the prevalence of STIs in adults educated up to primary level was found higher (12.4%) as compared to illiterate (11.3%). Another study by Datta (1971) reported a higher percentage of venereal disease patients educated up to middle school (42.0%) followed by patients educated up to High school (24.0%) and lastly illiterate (12.0%)<sup>16</sup>. A study by Siddhu et al (1969) in Kanpur city reported nearly similar prevalence of STIs in various education group, that are 29.5% in patients who had passed matriculation followed by 23.3% patients educated up to primary and below<sup>17</sup>. In occupational group, the prevalence of STIs was found 14.8% in skilled workers and 14.1% in housewives. The findings of other researchers were widely variable because their studies had been conducted in different population group of geographically different regions of the country. Hawkes et al (1999) reported highly contrast observation in the results of study in Bangladesh that is 30.0% STIs symptomatic women were in service (included teacher and cook) and 3.0% were housewives<sup>18</sup>. The prevalence rate of STIs in social class V were found to be highest (13.6%) in our study. Jindal et al (2009) also reported in their rural camps study that majority (89.4%) of STIs individuals belonged to the low socioeconomic status<sup>12</sup>. Hence, the adults of low social class were not aware with serious consequences of these disease and they avoided to spend on treatment of it.

### Conclusions:

The summary of results of our study indicates that the STIs in the rural community is preventable through early diagnosis and treatment. In our study, the prevalence of STIs in rural lower social class women was found significantly high and there is need of reorientation training of root level female health workers regarding preventing measures for sexually transmitted infections in rural females. On the one hand woman to woman groups in villages should be activate and on the other hand rural women must be advocated about to take proper treatment and to maintain personal hygiene. The

majority 15.3% STIs sufferers were found among the age group of 30-40 years. This age group of adults is sexually active and migrating in nature. Therefore, these adults need counseling about use of condom. The lower social class adults are generally not taking proper treatment due to ignorance and poverty. Time to time camp approach in rural area are good solution of high prevalence of these diseases in villages. Out of seven socio-demographic variables in this study, the five variables such as sex, age-group, education, occupation and social class have intra differences which were statistically significant.

### Acknowledgment:

We are extremely grateful to the World Health Organization and National AIDS Control organization, New Delhi, India for providing us the financial and technical assistance for conducting the study.

### References:

1. National guidelines on Prevention, Management and control of Reproductive tract Infections including Sexually Transmitted Infections. National AIDS Control Organization, MOHFW, Govt. of India; 2006, Nov.
2. Acharya A, Yadav K, Baridalyne N. Reproductive Tract Infections/ Sexually Transmitted Infections in rural Haryana: Experiences from the Family Health Awareness Campaign. Indian J Community Medicine. 2006; 31(4): 274-76. Cited in IndMedica.
3. Nandan D, Gupta YP, Krishna V, Sharma A, Mishra SK. Reproductive Tract Infections in women of reproductive age group in Sitapur / Shahajahan pur district of Uttar Pradesh, India. Indian J Public Health. 2001; 45: 8-13. Cited in PubMed.
4. Jain S, Singh JV, Bhatnagar M, Garg SK, Chopra H, Bajpai SK. Reproductive Tract Infections among rural women in Meerut. Indian J Med Sci. 1999; 53(8): 359-60. Cited in PubMed. Available from: <http://www.Indianjmedsci.org.asp?1999/53/8/359/12214>.
5. Brabin L, Kemp J, Obunge OK, et al. Reproductive tract infections and abortion among adolescent girls in rural Nigeria. Lancet. 1995; 345: 300-304. Available from: <http://www.pathfind.org/pf/pubs/focus/IN%20Focus/HIV1.html>.
6. Srivastava PK. Health Care Seeking behavior of women in Sexually Transmitted Diseases -Social Work Intervention Study in a Slum population at Lucknow, Ph.D.Thesis. 2009, Department of Social Work, Lucknow University, Lucknow.
7. Thomas K, Jhygarajan SP, Jayasheelan I, Verghese JC, Krishnamurthy P. Community prevalence of sexually transmitted disease and human immunodeficiency infection in Tamil Nadu, India-A probability proportional to size cluster survey. Nat Med J India. 2002; 15: 135-40. Cited in PubMed.
8. De Schryver A, Meheus A. Epidemiology of Sexually transmitted disease: the global picture. Bull World Health Organ. 1990; 68(5): 639-654. Cited in PubMed. Available from: <http://www.ncbi.nlm.nih.gov/pmc/article/PMC2393188>.
9. Robert TM, Jane W, Joel F, Anne MJ, Edward OL, Kaye W. Private Sexual Behavior, Public Opinion and Public Health Policy related to Sexually Transmitted Diseases: An US-British comparison. American Journal of Public Health. 1998; 88: 749-754.
10. Gjis W, Caroline S, Beryl W, Gloria E, Katie P, Rosalined C, Robin B, Linda M. The burden of reproductive organ disease in rural women in the Gambia, West Africa. Lancet. 2001 April 14; 357(9263): 1161-1167. Cited in PubMed. Available from: <http://www.ncbi.nlm.nih.gov/PubMed/11323043>.
11. Bang RA, Bang AT, Battule M, Choudhary Y, Sarmukaddam S, Tale O. High prevalence of gynaecological diseases in rural Indian Women. Lancet. 1989 Jan 14; 1(8629): 85-88. Cited in PubMed. Available from: <http://www.ncbi.nlm.nih.gov/PubMed/2562890>.
12. Jindal N, Aggarwal A, Gill P, Sabharwal B, Sheevani BB. Community-based Study of Reproductive Tract Infections, Including sexually Transmitted Infections, Among the Rural Population of Punjab, India. Indian J Community Medicine. 2009; 34(4): 359-61. Cited in PubMed.
13. Ramachander M, Ramamurthy KV. Ecology of venereal disease at Guntur. IJDVL. 1974; 40(3): 95-103. Cited in PubMed. Available from: <http://www.ijdv1.com/article.asp?issn=0378-6323; 1974>.
14. Seth TR. Socio-physical factors and incidence of venereal diseases. IJDVL. 1970; 36(2): 93-99. Cited in PubMed. Available from: <http://www.ijdv1.com/article.asp?issn=0378-6323;year= 1970>.
15. Prasad BG, Zaheer M, Nayar SB. A study as social factors in venereal diseases, Indian Med Gazettee.1962; 1: 55-64.
16. Datta I. Psycho-social aspects of venereal disease in teenages. Indian J Derm and Ven. 1971; 37: 27.
17. Siddhu CSM, Mahajan RC, Srivastava BC. A Socio-medical study of VD cases in two industrial cities. The Antiseptic. 1969; 66: 843.
18. Hawkes S, Morison L, Foster S, Gausia K, Chakraborty J, Peeling RW. Reproductive tract infections in women in low-income, low prevalence situation: assessment of syndromic management in Matlab, Bangladesh. Lancet. 1999; 354: 1776-81. Cited in PubMed.