

Original Article

# **SOCIO-DEMOGRAPHIC CORRELATES AND KNOWLEDGE ASSESSMENT OF SEXUALLY TRANSMITTED INFECTIONS AMONG THE POPULATION IN KANPUR DISTRICT, UTTAR PRADESH.**

**Dr Ashish Kumar<sup>1</sup>, Dr Gaurav<sup>2</sup>,  
Dr Deepshikha<sup>3</sup>, Dr Shweta, Jaiswal<sup>4</sup>,  
Dr Sumit Saxena.<sup>5\*</sup>**

<sup>1</sup>Assistant Professor Dept of Community Medicine, Autonomous State Medical College  
Shahjahanpur, Uttar Pradesh.

<sup>2</sup>Assistant Professor Dept of Anaesthesia, Autonomous State Medical College Shahjahanpur, Uttar  
Pradesh.

<sup>3</sup>Assistant Professor Dept of Pathology, Autonomous State Medical College Shahjahanpur, Uttar  
Pradesh

<sup>4</sup>Assistant Professor Dept of Microbiology, Autonomous State Medical College Shahjahanpur, Uttar  
Pradesh.

<sup>5\*</sup>Dr Sumit Saxena, Assistant Professor Dept of Community Medicine, Autonomous State Medical  
College Shahjahanpur, Uttar Pradesh.

**\*Corresponding Author:** Dr Sumit Saxena

Email: drsumitsaxena22@gmail.com., 8979925410

## **Abstract**

**Introduction:** Reproductive Tract Infection (RTI) is a comprehensive term encompassing various infections affecting the reproductive tract. RTIs consist of three main categories: Sexually Transmitted Infections (STIs), Endogenous Infections & Iatrogenic Infections. The rapid spread of HIV and the AIDS epidemic has led to a growing focus on the study of factors associated with increased transmission of this virus. It is influenced not only by the prevalence of RTIs/STIs in the area but also by various other factors, including women's limited decision-making autonomy, their impoverished status within the family, and their health-seeking behaviour.

**Material & Method:** The study was conducted over one year from July 2016 to June 2017, included individuals aged 18 years and above residing in the selected locality of Kanpur Nagar as study subjects. Employing a cross-sectional study design, the research had a sample size of 600

adults aged 18 years and above. The pre-structured questionnaire consisted of two sections: General Information and Specific Information. The General Information section included questions related to the biosocial characteristics of study subjects, such as age, sex, education, religion/caste, marital status, occupation, income, and family size. The Specific Information section contained questions addressing various aspects of RTIs, including symptomatology, mode of transmission, perception & treatment-seeking behaviour.

**Result:** The 25-30 age group had the highest percentage of symptomatic subjects (35.05%), with significantly higher RTI prevalence in females (26.56%). Muslims (28.41%) and the SC/ST category (29.47%) exhibited the maximum prevalence. The highest prevalence (29.59%) was in those educated up to the middle school level. Divorced/separated individuals (21.43%) and those unemployed (23.50%) in extended families (34.90%) had higher rates. Social class V (26.41%) had the highest prevalence.

**Conclusion:** The prevalence of reproductive tract infections is significantly high among women of reproductive age. However, there is a notable lack of good knowledge about sexually transmitted infections among this population. To address this issue, it is highly recommended to implement Behavior Change Communication (BCC) strategies utilizing multiple approaches. Indeed, integrating a sexual and reproductive health course into the educational curriculum is crucial for imparting knowledge and awareness about reproductive tract infections (RTIs) among both males and females.

**Keywords:** Sexually Transmitted Infections, Socio-demographic correlates, Knowledge Assessment,

## INTRODUCTION

Reproductive Tract Infection (RTI) is a comprehensive term encompassing various infections affecting the reproductive tract. RTIs consist of three main categories: Sexually Transmitted Infections (STIs), Endogenous Infections & Iatrogenic Infections. Sexually transmitted infections (STIs) represent a substantial health burden and are well-documented for their role in elevating the risk of HIV transmission.<sup>1</sup> Reproductive tract infection (RTI) represents a widespread but frequently neglected global health concern, particularly among women in the reproductive age group residing in South East Asian Region

(SEAR) countries. The prevalence of RTI in nations such as India, Bangladesh, Egypt, and Kenya fall within the range of 52-90%.<sup>2</sup>

According to the World Health Organization (WHO), each year around 499 million cases of curable STIs occur throughout the world in the age group of 15-49 years, of which 80% cases occur in developing countries and about 79 million cases occur in India annually.<sup>3</sup>

The repercussions of STIs/RTIs can be serious and life-threatening, encompassing conditions such as pelvic inflammatory disease (PID), infertility in both women and men, ectopic pregnancy, and adverse pregnancy outcomes, including miscarriage, stillbirth, preterm birth, and congenital infection. Additionally, STIs/RTIs are associated with an elevated risk of HIV transmission.<sup>4</sup>

Demographic shifts in developing nations have contributed to a substantial increase in the population of adolescents and young adults during their most sexually active years. This demographic change results in a higher proportion of the population being at risk for reproductive tract infections (RTIs). Primary care providers play a crucial role in the management of sexually transmitted diseases (STDs), particularly because many patients with STDs may be asymptomatic, and the infections are often diagnosed during their visits to primary care settings.

The rapid spread of HIV and the AIDS epidemic has led to a growing focus on the study of factors associated with increased transmission of this virus.<sup>5</sup> It is influenced not only by the prevalence of RTIs/STIs in the area but also by various other factors, including women's limited decision-making autonomy, their impoverished status within the family, and their health-seeking behaviour.

Given that Kanpur is one of the largest industrial cities in North India, it attracts individuals from various regions in search of employment. Consequently, people have established diverse residential colonies and communities. Unfortunately, the living conditions in these areas are suboptimal concerning environmental factors, water supply, sanitation, electricity, and healthcare services. This scenario may lead to a substantial increase in the prevalence of RTI/STIs among the underprivileged population residing in Kanpur Nagar. Considering this context and the lack of studies on the prevalence and awareness of RTI/STIs in the adult population of Kanpur, the need for such research becomes apparent. The current investigation enhances our scientific comprehension of STI symptoms and delves into the demographic, socioeconomic, and behavioural risk factors linked to these symptoms. This insight is crucial for shaping public health interventions from a policy standpoint.

## MATERIAL & METHODS

The study was conducted over one year from July 2016 to June 2017, included individuals aged 18 years and above residing in the selected locality of Kanpur Nagar as study subjects. Employing a cross-sectional study design, the research had a sample size of 600 adults aged 18 years and above.

**Sample Size:** The minimum sample size of 542 was determined based on an assumed prevalence rate of RTI/STI of 6% in the adult population of India. This assumption was drawn from the results of the STI community-based prevalence study conducted in 2003 (NIRRH-ICMR: MOH, GOI; August 2007).<sup>6</sup> A 2% absolute margin of error was considered in the calculation of the sample size.

$$\text{Minimum Sample size (n)} = \frac{Z^2 PQ}{d^2}$$

Where, Z= Standard normal variate whose value at 95 % confidence interval is 1.96

P = Prevalence: 6 %, Q = (100- P) :94% , d = Margin of error : 2%

Minimum Sample size (n) =541.66 =542

To give more representation to the population, it was decided to include 600 subjects in the present study.

Inclusion criteria for the study encompassed individuals aged 18 years and above who expressed a willingness to participate. Conversely, exclusion criteria were applied to individuals aged 18 years and above who did not demonstrate a willingness to participate in the study.

The pre-structured questionnaire consisted of two sections: General Information and Specific Information. The General Information section included questions related to the biosocial characteristics of study subjects, such as age, sex, education, religion/caste, marital status, occupation, income, and family size. The Specific Information section contained questions addressing various aspects of RTIs, including symptomatology, mode of transmission, perception, treatment-seeking behavior, and the classification of RTIs. The collected information was entered into Microsoft Excel Software. For analysis and interpretation, the most suitable statistical tools, including percentages and the chi-square test for the independence of attributes, were employed.

**Table 1:** Sociodemographic correlates of the study subjects according to their STI symptoms

<b>N=600</b>	<b>Asymptomatic 479</b>		<b>Symptomatic 121</b>		<b>Test of significance</b>
<b>Age (years)</b>					
<20	19	79.17	5	20.83	Chi-square value=21.01, df=7 <b>p value=0.003</b>
20-25	63	84.00	12	16.00	
25-30	63	64.95	34	28.10	
30-35	101	77.10	30	22.90	
35-40	84	82.35	18	17.65	
40-45	79	86.81	12	13.19	
45-50	54	88.52	07	11.48	
≥50	16	84.21	03	15.79	
<b>Gender</b>					
Male	233	87.92	32	12.08	Chi-square value=19.3, df=1 <b>p value=0.000</b>
Female	246	73.43	89	26.56	
<b>Religion</b>					
Hindu	416	81.25	96	18.75	Chi-square value=4.35, df=2 <b>p value=0.03</b>
Muslim	63	71.59	25	28.41	
Others*	00	00	00	00	
<b>Caste</b>					
General	164	82.82	34	17.17	Chi-square value=6.38, df=2 <b>p value=0.04</b>
OBC	248	80.78	59	19.22	
SC/ST	67	70.53	28	29.47	
<b>Education</b>					
Illiterate	27	75.00	09	25.00	Chi-square value=12.9, df=6 <b>p value=0.04</b>
Primary	62	75.61	20	24.39	
Middle	69	70.41	29	29.59	
High School	89	78.76	24	21.24	
Intermediate	112	84.21	21	15.79	
Graduate	83	86.46	13	13.54	
Professional, P.G & above	37	88.10	5	11.90	
<b>Marital Status</b>					
Unmarried	126	81.29	29	18.71	Chi-square value=0.8, df=3 <b>p value=0.84</b>
Married	334	79.15	88	20.85	
Divorced/separated	11	78.57	03	21.43	
Widow/ Widower	08	88.89	01	11.11	
<b>Occupation</b>					
Unemployed	179	76.50	55	23.50	Chi-square value=5.67, df=6 <b>p value=0.46</b>
Unskilled Worker	80	76.92	24	23.08	

Semiskilled Worker	87	82.86	18	17.14	
Skilled Worker	55	83.33	11	16.67	
Clerical/Shopowner/Farm worker	46	83.64	9	16.36	
Semi professional	21	87.5	3	12.5	
Professional	11	91.67	1	08.33	
<b>Type of Family</b>					
Nuclear	250	83.89	48	16.11	Chi-square value=9.20, df=2 p value=0.01
Joint	200	77.52	58	22.48	
Extended	29	65.91	15	34.90	
<b>Social class according to modified B.G. Prasad classification</b>					
I	27	87.10	04	12.90	Chi-square value=5.18, df=4 p value=0.26
II	72	83.72	14	16.28	
III	142	82.08	31	17.92	
IV	160	78.43	44	21.56	
V	78	73.58	28	26.41	

\*Others include Sikh, Christian & Buddhist.

In the study, the 25-30 age group had the highest percentage of symptomatic subjects (35.05%), with significantly higher RTI prevalence in females (26.56%). Muslims (28.41%) and the SC/ST category (29.47%) exhibited the maximum prevalence. The highest prevalence (29.59%) was in those educated up to the middle school level. Divorced/separated individuals (21.43%) and those unemployed (23.50%) in extended families (34.90%) had higher rates. Social class V (26.41%) had the highest prevalence. Age, gender, religion, caste, education & type of family were statistically significant factors influencing RTI prevalence, while marital status, occupation, and social class were not statistically significant.

**Table 2:** Distribution of symptoms, their partners symptoms status among STI Males

	N=32	Percentage
<b>Symptomatology of male study subjects with RTIs*</b>		
Urethral discharge	22	68.75
Inguinal bubo	06	18.75
Herpetic Genital Ulcer	03	09.38
Non-Herpetic Genital Ulcer	08	25.00
Painful Scrotal swelling	06	18.75
<b>RTI among wife/partner of Symptomatic male subjects*</b>		
Asymptomatic	14	43.75
Symptomatic	18	56.25
Vaginal discharge	14	77.78
Pain in lower abdomen	06	33.33
Inguinal bubo	02	11.11
Herpetic Genital Ulcer	01	05.50
Non-Herpetic Genital Ulcer	03	16.67
<b>RTI among wife/partner of asymptomatic male subjects*</b>		
Asymptomatic	205	87.98

Symptomatic	28	12.02
Vaginal discharge	21	75.00
Pain in lower abdomen	07	25.00
Inguinal bubo	04	14.29
Non-Herpetic Genital Ulcer	06	21.43
<b>Study subjects</b>	<b>RTIs present in partner</b>	<b>RTIs absent in partner</b>
Symptomatic	18	14
Asymptomatic	28	205
Total	46	219
Chi-square value=38.37, df=1 p value=0.00		

**\*Multiple response**

In males, urethral discharge (68.75%) was the predominant symptom, while herpetic genital ulcer was the least common (9.38%). Among wives/partners of symptomatic males, vaginal discharge was the most common presentation (77.78%), and herpetic genital ulcer was the least common (5.50%). The majority of wives/partners (75.00%) had vaginal discharge as the most common presentation, and the minimum (12.90%) presented with inguinal bubo. The RTI status of the wife/partner in symptomatic RTI cases is significant. RTIs were more common in symptomatic male subjects with an infected partner, and this observation was statistically significant ( $p < 0.05$ ).

**Table 3:** Distribution of symptoms, their partners symptoms status among STI Females

	<b>N=89</b>	<b>Percentage</b>
<b>Symptomatology of female study subjects with RTIs*</b>		
Vaginal discharge	64	71.91
Pain in lower abdomen	38	42.70
Inguinal bubo	14	15.73
Herpetic Genital Ulcer	02	02.25
Non-Herpetic Genital Ulcer	09	10.11
<b>RTI among husband/partner of Symptomatic female subjects*</b>		
Asymptomatic	43	48.31
Symptomatic	46	51.69
Urethral -discharge	31	67.39
Painful scrotal swelling	12	26.09
Inguinal bubo	08	17.39
Herpetic Genital Ulcer	01	02.17
Non-Herpetic Genital Ulcer	06	13.04
<b>RTI among husband/partner of asymptomatic female subjects*</b>		
Asymptomatic	209	84.96
Symptomatic	37	15.04
Urethral discharge	29	78.38
Painful scrotal swelling	09	24.32

Inguinal bubo	06	16.22
Herpetic Genital Ulcer	02	05.41
Non-Herpetic Genital Ulcer	10	27.03
<b>Study subjects</b>	<b>Disease present in partner</b>	<b>Disease absents in partner</b>
Symptomatic	46	43
Asymptomatic	37	209
Chi-square value=47.0, df=1 p value=0.00		

\*Multiple response

In symptomatic females, the majority (71.91%) presented with vaginal discharge, while herpetic genital ulcer was observed in the minimum (2.25%). Anorectal discharge was not present in any subject. Among husbands/partners, urethral discharge (67.39%) was the most common presentation, while herpetic genital ulcer was the least common (2.17%), and anorectal discharge was not present. The majority (78.38%) of husbands/partners had urethral discharge as the common presenting complaint, while the least (5.41%) had herpetic genital ulcers. A majority of symptomatic females (51.7%) had symptomatic partners. RTIs were more common in symptomatic female subjects with infected partners, and this observation was statistically significant ( $p < 0.05$ ).

**Table 4:** Distribution of knowledge & source of information of STIs among study subjects

	N	(%)	N	(%)	N	(%)
<b>Gender wise distribution of Knowledge of RTIs among study subjects</b>						
<b>Gender</b>	<b>Male</b>		<b>Female</b>			
	219	46.6	251	53.4		
<b>Knowledge of RTIs among symptomatic study subjects</b>						
<b>Knowledge</b>	<b>Symptomatic Male (32)</b>		<b>Symptomatic Female (89)</b>		<b>Total</b>	
Present	26	81.25	64	71.91	470	78.33
Absent	06	18.75	25	28.09	130	21.67
	<b>Male</b>		<b>Female</b>			
<b>Cause of RTIs*(n=470)</b>						
Poor Personal Hygiene	64	29.22	72	28.69	136	28.94
Germs	40	18.26	38	15.14	78	16.60
Unsafe sex	168	76.71	171	68.13	339	72.13
Multiple sex partners	126	57.53	152	60.56	278	59.15
<b>Manifestations of RTIs*(n=470)</b>						
Vaginal discharge	117	53.42	191	76.09	308	65.53
Urethral discharge	154	70.32	94	37.45	248	52.77
Herpetic genital ulcer	28	12.79	21	08.37	49	10.43
Non- Herpetic genital ulcer	86	39.27	74	29.48	160	34.04
Pain in lower abdomen	72	32.88	142	56.57	214	45.53
Inguinal bubo	46	21.00	34	13.55	80	17.02
Painful scrotal swelling	94	42.92	25	09.96	119	25.32
<b>Source of information about RTIs*</b>						

Family Members	22	10.05	30	11.95	52	11.06
Friends	68	31.05	117	46.61	185	39.36
Relatives	37	16.89	34	13.55	71	15.11
Health workers	108	49.32	114	45.42	222	47.23
Mass media	176	80.36	198	78.88	374	79.57

**\*Multiple response**

The majority (78.33%) of study subjects had knowledge of RTIs. Among symptomatic male study subjects, 81.25% were aware of RTIs, while among symptomatic female study subjects, 71.91% were aware. Most study subjects (72.13%) knew that unsafe sex is a cause of RTIs. About 59.15% of study subjects were aware that having multiple sex partners can cause RTIs. Knowledge that poor personal hygiene is a cause of RTIs was reported by 28.94% of study subjects. Only 16.60% of subjects mentioned germs as a cause of RTIs. Regarding the source of information, 80.36% of male study subjects cited mass media, while 78.88% of female study subjects also mentioned mass media.

**DISCUSSION**

The majority (28.10%) of RTI cases in the present study were found in the 25-30 years age group, aligning with similar trends reported in other studies. Nandan D et al (2002)<sup>7</sup> noted that approximately half of the symptom-positive women (48%) in their study were in the age group of 25-34 years. Pant B et al <sup>8</sup>(2008) reported a prevalence of 46% in the 25-29 years age group.

In the present study, the prevalence of RTIs among Hindus was 18.75%, while it was 28.41% among Muslims. These findings align with those of Balamurugan et al (2012)<sup>9</sup>, who found in their study among women of the reproductive age group in Hubli, Karnataka, that the prevalence of RTIs in Hindus and Muslims was 33.12% and 50.31%, respectively.

In our study, the maximum (29.59%) prevalence of RTIs was found in those educated up to the middle level, followed by 25.00% in illiterate individuals and 24.39% in those educated up to the primary level. A similar trend was noticed in a study by Kosambiya JK et al (2009)<sup>10</sup> among urban and rural women of Surat, where the maximum (29.00%) prevalence of RTIs was in higher secondary pass subjects, followed by 27.00% in primary-educated individuals and 19% in illiterates. Verma A et al (2015)<sup>11</sup>, in a comparative study on RTI/STI symptoms and treatment-seeking behavior, found a prevalence of RTIs in illiterate study subjects to be 54%, while 45.5% of subjects were educated up to high school.

In the present study, the maximum (21.43%) prevalence of RTIs was reported in divorced/separated study subjects. Martolia D.S. (1998)<sup>12</sup> observed in their study in the slum population of Lucknow that the prevalence of RTI was highest in separated individuals (16.7%). B.Sri Devi et al (2007) <sup>13</sup> in their study in urban slums of Tirupati town, Andhra Pradesh, found that the prevalence of RTI/STI was higher (27.4%) in married women.

In the current study, the maximum (23.50%) prevalence of RTIs was found in unemployed study subjects, followed by (23.08%) in unskilled workers. Samanta A et al (2011) <sup>14</sup> found a prevalence of RTIs (38%) in unemployed individuals.



In our study, the highest prevalence of RTIs (34.90%) was observed in extended families, followed by joint families with a prevalence of 22.48%. This aligns with findings from different studies, such as the one conducted by B. Sri Devi et al (2007)<sup>13</sup>, where the prevalence of RTIs in joint families was reported to be high at 31.4%.

In our study, according to the Modified B.G. Prasad classification, the maximum (26.41%) prevalence of RTIs was observed in subjects of socioeconomic Class V. This finding is consistent with the study conducted by Yasmin S et al (2012)<sup>15</sup> in West Bengal, where a prevalence of 21.8% was reported in socioeconomic classes IV & V. Additionally, Bhilwar M et al (2015)<sup>16</sup> conducted a study in North-East Delhi and found that individuals from low socioeconomic classes have 2.4 times more risk of having RTIs than those from high classes.

In our study, the prevalence of RTIs among males was found to be 12.08%, and a higher prevalence of STDs was observed at 16.4%, as reported by Uppal Y et al (2007)<sup>17</sup> in their study on reproductive morbidity among males in an urban slum of North India. They identified 76 cases (29.2%) in study subjects, with sexually acquired morbidity accounting for 21.2% of cases. Among female respondents in the current study, the prevalence of RTIs was 26.57%. Patel V et al (2006)<sup>18</sup> found the overall burden of RTIs to be high at 28.30% in females, and Ganju SA et al (2012)<sup>19</sup> reported a prevalence of 25.10% in their study on the initial assessment of scaled-up sexually transmitted infection intervention in Himachal Pradesh under National AIDS Control Program – III. The majority (78.33%) of the study subjects in our research were aware of RTI/STIs, with vaginal discharge (65.53%) identified as the most common manifestation, followed by urethral discharge (52.65%). Similar findings were reported by Balganes G (1997)<sup>20</sup> and Verma A et al (2015)<sup>11</sup> in their study among married women, where 50.2% of respondents had knowledge of vaginal and urethral discharge as common manifestations. Rizwan SA et al (2015)<sup>21</sup> in their study on married women in Haryana found that 56.5% of respondents were aware that vaginal and urethral discharge are symptoms of RTIs. However, a study on married rural women by Malin P (2010)<sup>22</sup> reported a comparatively lower level of awareness (28%) and identified friends (62.5%) as the most common source of information.

## CONCLUSION

The prevalence of reproductive tract infections is significantly high among women of reproductive age.

However, there is a notable lack of good knowledge about sexually transmitted infections among this population. To address this issue, it is highly recommended to implement Behavior Change Communication (BCC) strategies utilizing multiple approaches. Indeed, integrating a sexual and reproductive health course into the educational curriculum is crucial for imparting knowledge and awareness about reproductive tract infections (RTIs) among both males and females. Such educational initiatives can contribute significantly to improving understanding, promoting preventive measures, and fostering responsible sexual and reproductive health practices. Awareness campaigns targeting diverse populations can play a key role in ensuring that individuals are well-informed about RTIs, leading to better health outcomes and overall well-being.

## REFERENCE

1. UNFPA. Top level push to tackle priorities in sexual and reproductive health. United Nations Population Fund. New York, NY, USA; 2006. Available at: <https://www.unfpa.org/press/top-levelpush-tackle-priorities-sexual-and-reproductive-health>. Accessed on 14th Jan 2024.
2. UNFPA. Common reproductive tract infections, No. 9, 1999. Available at: [https://www.unfpa.org/sites/default/files/pub\\_pdf/sti\\_breaking.pdf](https://www.unfpa.org/sites/default/files/pub_pdf/sti_breaking.pdf). Accessed on 15th Jan 2024.
3. WHO. Sexually transmitted infections (STIs). Available at: <http://www.who.int/mediacentre/factsheets/fs110/en/index.html>. Accessed on 14th September 2024.
4. World Health Organization. Integrating STI/RTI Care for Reproductive Health, Sexually Transmitted, and Other Reproductive Tract Infections: Reproductive Health and Research; 2005.
5. Wasserheit JN. Epidemiological synergy: Interrelationships between human immunodeficiency virus and other sexually transmitted diseases. *Sex Transm Dis.* 1992;19(2):61–77.
6. Ministry of Health and Family Welfare, Government of India. National Guidelines on Prevention, Management and Control of Reproductive Tract Infections Including Sexually Transmitted Infections. August 2007. Available at: [National Guidelines on Prevention, Management & Control of Reproductive Tract Infection Including Sexually Transmitted Infections.pdf](#).
7. Nandan D, Misra SK, Sharma A, Jain M. Estimation of Prevalence of RTIs/STDs among Women of Reproductive Age Group In District Agra. *Indian J of Com Med.* 2002; Vol 27(3):110.
8. Pant B, Singh JV, Bhatnagar M, Garg SK, Chopra H, Bajpai SK. Social correlates in Reproductive tract infections among married women in rural area of Meerut. *Indian J of Com Med.* 2008; Vol.33(1):52-53.
9. Balamurugan SS, Bendigeri ND. Community-based study of reproductive tract infections among women of the reproductive age group in the urban health training centre area in Hubli, Karnataka. *Indian Journal of Community Medicine.* 2012; Vol. (1):34-38.
10. Kosambiya JK, Desai VK, Bhardwaj P. RTI/STI prevalence among urban and rural women of Surat: A community-based study. *Indian journal of STD and AIDS.* 2009; 30(2):89-93.
11. Verma A, Meena JK, Banerjee B. A Comparative Study of Prevalence of RTI/STI Symptoms and Treatment Seeking Behaviour among the Married Women in Urban and Rural Areas of

Delhi. Hindawi Publishing Corporation International Journal of Reproductive Medicine. 2015; Article ID 563031.

12. Martolia DS, Srivastava VK, Srivastava JP. A study of STD's amongst the slum population of Lucknow through syndromic approach. *Indian J of Community Health*. 1998; Vol 15(1):22-27.
13. Sri Devi B, Swarnalatha N. Prevalence of RTI/STI among reproductive age women (15-49 years) in urban slums of Tirupati town, Andhra Pradesh. *Health and Population Perspectives and Issues*. 2007; 30(1):56-70.
14. Samanta A, Ghosh S, Mukherjee S. Prevalence and health-seeking behavior of reproductive tract infection/sexually transmitted infections symptomatic: A cross-sectional study of a rural community in the Hooghly district of West Bengal. *Indian journal of public health*. 2011; Volume: 55/Issue: 1/Page: 38-41.
15. Yasmin S, Mukherjee A. A Cyto-Epidemiological Study on Married Women in Reproductive Age Group (15–49 Years) regarding Reproductive Tract Infection in a Rural Community of West Bengal. *Indian Journal of Public Health*. 2012; Volume 56, Issue 3.
16. Bhilwar M, Lal P, Sharma N, Bhalla P, Kumar A. Prevalence of reproductive tract infections and their determinants in married women residing in an urban slum of North-East Delhi, India. *J Nat Sci Biol Med*. 2015 Aug (Suppl 1): S29-S34.
17. Uppal Y, Garg S, Mishra B, Gupta VK, Malhotra R, Singh MM. Prevalence of reproductive morbidity amongst males in an urban slum of North India. *Indian J Community Medicine*. 2007; 32:54-57.
18. Patel V, Weiss HA, Mabey D, West B, D'Souza S, Patil V, Nevrekar P, Gupte S, Kirkwood BR. The burden and determinants of reproductive tract infections in India: a population-based study of women in Goa, India. *Sex Transm Infect*. 2006; 82(3): 243–249. June.
19. Ganju SA, Sharma NL. Initial assessment of scaled-up sexually transmitted infection intervention in Himachal Pradesh under National AIDS Control Program – III. *Indian J Sex Transm Dis*. 2012; 33(1): 20-24. Jan-Jun.
20. Balaganesh G et al. A study on the awareness about AIDS/STD in Indian communities. *Indian journal of sexually transmitted diseases*, 1993; 14:38–43.
21. Rizwan SA, Rath RS, Gupta V, Nitika, Gupta Anant, Ahamed F, Silan V. KAP study on sexually transmitted Infections/Reproductive Tract Infections (STIs/RTIs) among married women of rural Haryana. *Indian Dermatol Online J*. 2015; 6(1): 9-12. Jan-Feb.

22. Malin Prakash, Alagarajan Manoj, Wankhade Akash. Determinants of RTI/STI and treatment-seeking behavior among currently married rural women in India. European Population Conference 2010.