

ORIGINAL ARTICLE

Prevalence of sexually transmitted infections among young married women in Thiruvarur district of Tamil Nadu state in IndiaRejoice Puthuchira Ravi¹, Ravishankar Athimulam Kulasekaran²¹Deputy Research Manager, Sigma Research and Consulting, New Delhi, ²Assistant Professor, Department of Population Studies, Annamalai University, Tamilnadu

Abstract	Introduction	Methodology	Results	Conclusion	References	Citation	Tables / Figures
--------------------------	------------------------------	-----------------------------	-------------------------	----------------------------	----------------------------	--------------------------	----------------------------------

Corresponding Author

Address for Correspondence: P.R. Rejoice, Deputy Research Manager, Sigma Research and Consulting, New Delhi.
E Mail ID: Email: pr.rejoice@gmail.com

Citation

Ravi RP, Kulasekaran RA. Prevalence of sexually transmitted infections among young married women in Thiruvarur district of Tamil Nadu state in India. *Ind J Comm Health*. 2014;26(1):82-87.

Source of Funding :Nil, Conflict of Interest: None declared

Abstract

Background: Sexually transmitted infections (STIs) are now recognized as a serious global threat to the health of population. **Objectives:** To assess the prevalence of sexually transmitted infections among young married scheduled castes women in Thiruvarur district of Tamilnadu state in India. **Methods:** A community based cross-sectional study was conducted in 28 villages selected using multistage sampling technique for selecting 605 women in the age group of 15-24 years during July 2010-April 2011. Data analysis was by use of SPSS version-17, with statistical significance set at p-value of 0.05. **Results:** Around 8.8% of women experienced sexually transmitted infections among the study population. The proportion of women who experienced STIs was seven times higher among illiterates (46.9%) than women who completed secondary education (6%). The women in households in the high standard of living index (SLI) were less likely to experience STIs (1.7%) than women in low SLI (15.6%). The agricultural laborers were 1.145 times more likely to experience STIs than non-agricultural workers (OR=0.251). **Conclusions:** The main causes for sexual health problems were found to be the less education and lowest SLI among women. It is recommended that policy makers should be introduce community intervention programs to increase the awareness regarding sexual health issues among rural population.

Key Words

Sexually transmitted infections; young women; scheduled castes; standard of living index

Introduction

Sexually transmitted infections (STIs) are now recognized as a serious global threat to the health of populations. Adolescents and young adults (15-24) are the age groups at the greatest risk for acquiring STI and 3 million become infected each year (1). According to 2007 World Health Organization (WHO) estimates, 340 million new cases of curable STIs (syphilis, gonorrhoea and trichomoniasis) occur annually throughout the world in adults aged from 15-49 years (2). The sexually transmitted infections and diseases can have severe consequences, especially in women, if not treated. Refraining from sexual activity to certain extent can prevent it, and some contraceptive devices such as condoms could be used. Because so many STIs go undiagnosed or have no treatments available, preventing their transmission is crucial (3). Sexually Transmitted Infections (STIs) is one of the determinants of HIV transmission. In India, it is estimated that 5% of the adult population has STIs

symptoms (4). Reproductive Tract Infections (RTIs) and Sexually Transmitted Infections (STIs) are affecting health, fertility, infant mortality, postorbital and puerperal sepsis, ectopic pregnancy, fatal and prenatal death, cervical cancer, infertility, chronic physical pain, emotional distress and social rejection in women. There are 340 million new cases of largely treatable sexually transmitted bacterial infections occur annually (5), 100 million of them among young people. Many go untreated due to difficulties in diagnosis and lack of access to competent, affordable services. Many of these infections increase the risk of HIV transmission. STIs are among the top five disease categories and about one third of STIs globally occur among people younger than 25 years of age (6). World Health Organization estimated that 400,000 new cases of STIs occur daily in the South East Asian Region (SEAR) (7). Centers for Disease Control (CDC) estimates that 19 million new infections occur each year, almost half of them among young people age 15 to 24 years (8). The sexually transmitted infections and diseases can have

severe consequences, especially in women, if not treated. Refraining from sexual activity to certain extent can prevent it, and some contraceptive devices such as condoms could be used. Because so many STIs go undiagnosed or have no treatments available, preventing their transmission is crucial. Risk can be reduced through the adoption of safer behaviors by individuals. Encouragement of these behaviors should then be incorporated into programs and policy (9).

A profile of Scheduled Castes Population in India

The Indian caste system is a highly complex institution, though social institutions resembling caste in one respect or another are not difficult to find elsewhere, but caste is an exclusively Indian phenomenon. The “Scheduled Castes” is the legal and constitutional name collectively given to the groups which have traditionally occupied the lowest status in Indian society and the Hindu religion which provides the religious and ideological basis for a “disadvantaged” group, which was outside the caste system and inferior to all other castes (10). At presents, the scheduled castes in India constitute around 16.8% of the total population. Almost one-third of them live below poverty line and do not have access even to the basic needs like food, clothing, and shelter and constitute major part of our labour force and are generally engaged in petty occupations like agriculture labour, construction work, hawking and other low grade jobs (11). There is a general consensus that the health status of the scheduled castes population is very poor and worst (12).

Aims & Objectives

To assess the prevalence of sexually transmitted infections among young married scheduled castes women in Thiruvarur district of Tamilnadu state in India.

Material and Methods

Selection of the District: According to 2001 census, Thiruvarur district was the highest Scheduled Castes populated district and also backward district in Tamilnadu state. All women were living with their husbands and had given at least one birth one year prior to the survey.

Study Design: A community based cross-sectional study was conducted in 28 villages selected using multistage sampling technique for selecting 605 women in the age group of 15-24 years during July 2010-April 2011.

Selection of the Blocks: Thiruvarur district had totally ten blocks, which comprise 573 revenue villages. In the

first stage, five blocks were selected which represent the geographical distribution of the study district. The selected blocks were Nannilam from north, Thiruvarur from east, Tiruturaipundi from south, Valangaiman from west and Mannargudi from central part of the study district.

Selection of the Villages: There are 352 revenue villages in these selected five blocks. In the second stage, all the villages which had 50% of scheduled castes population were selected. I.e. 87 villages were selected. For covering entire block, one third of the villages (5/6 villages) were selected from each block by simple random sampling method. Thus, 28 villages were selected for the research purpose.

Selection of the Respondents: In the third stage, house listing operation was carried out prior to the data collection to provide the necessary frame for selecting the households for the study. Totally 6376 houses were listed in all the five blocks. Identification of eligible young married women (15-24 years) in each household was the next step in the research. There were 1164 households with the target population (39 households had two couples). Totally 1203 women in the age group of 15-24 were identified.

Systematic random sampling technique was applied for selecting 21/22 respondents from each village. In order to take care of non-response due to various reasons, an extra 10% of respondents were included in the sample. i.e. 661 respondents were selected for the interview. Totally, 605 respondents were completed the interview and 32 respondents declined to participate interview. The response rate of the research study was 91.5%.

Data Collection Tools: The respondents were assessed using a structured interviewer administered questionnaire which was pretested in Chidambaram Taluk near Annamalai University, about 102 km away from Thiruvarur district.

Data Analysis: Data analysis was carried out using the Statistical Package for Social Sciences (SPSS) version 17. Categorical variables were presented as frequencies and percentages. Bivariate analysis involved the use of the Chi-square and binary logistic regression test for assessing the significance of association between the women who experienced STIs and their socio-economic and demographic variables.

Ethical Approval: The syndicate review board at Annamalai University, Tamilnadu state, India has approved the research entitled “Reproductive and Sexual Health status of Scheduled Castes Youth in Thiruvarur district of Tamilnadu state in India” for the

degree of Doctor of Philosophy (Ph D) in Population Studies with effect from July 2012.

Results

All the respondents were asked whether they had experienced sexually transmitted infections (STIs) last six months prior to the study and the results are tabulated. The (Table 1) shows the percentage distribution of women by incidence of STIs. Overall, 8.8% of women experienced STIs among the study population. The result reveals that 4.6% of women reported that they suffer from 'Discharge with unpleasant odor' and another 3.6% of women experienced 'Frequent and uncomfortable urination'. Meager portion of women stated that they experienced 'Pain during sexual intercourse' (3.1%) and very negligible portion respondents experienced 'spotting after sexual intercourse' (1%).

The (Table 2) shows the percentage distribution of women who had experienced sexually transmitted infections according to their socio-economic and demographic (SED) characteristics. The result shows that the proportion of women who experienced STIs was slightly higher among women in the age group 18-20 years (10.6%) than among older women (9.6% among 21-23 and 5.4% above 24 years). The proportion of highly educated women was less likely to experience STIs than less educated women. The proportion of women who experienced STIs was seven times higher among illiterates (46.9%) than among women who completed secondary education (6%). At the same time among women who completed higher secondary and above, no one reported that they had experienced any symptoms of STIs. Further, the analysis shows that women's education had significantly associated with STIs ($X^2=73.23$ and $p= .000$). The women who were working in non-agricultural sector experienced STIs (3.3%), whereas this proportion for women working in the agricultural sector was 8.6% and for non-working women were 14.2%. The findings indicate that the proportion of women in households in the high SLI was less likely to experience STIs (1.7%) than women in low SLI (15.6%). Women who experienced STIs were less among women who had more exposed to media (2.8%) than less exposed to media (13%). It is observed from the (Table 2) that women's exposure to media had a strong association with the prevalence of STIs ($X^2=19.34$ and $p= .000$).

Logistic Regression examines the effect of background characteristics on prevalence of STIs. (Table 3) shows the results of analysis made by binary logistic regression whether the women experienced STIs with background characteristics. In the present analysis, women who did not experience STIs were coded '0'

and those who experienced STIs were coded '1'. Independent variables chosen for the analysis were age of women, education of women, occupation of women, standard of living index, age at marriage, age at first birth, exposure to mass media weekly and distance of health care facility.

It is observed in the (Table 3) that education of women, occupation of women and standard of living index were statistically significant with prevalence of STIs. All other independent variables such as age of women, age at marriage, age at first birth, exposure to mass media, and distance of health care facility were not associated with the prevalence of STIs. The logistic regression analysis discloses that when compared with illiterate women, women with higher education (secondary and above level) were less likely to experience STIs (OR=0.183). It is noticed that agricultural laborers were 1.145 times more likely to experience STIs to the reference category (OR= 0.251) and non-workers the chances of getting STIs was less among non-agriculture category. It is also observed that the chance of getting STIs was less among women living in high standard of living index (OR=0.168) than among women living in medium SLI (OR=0.255) and the reference category (low SLI).

Discussion

This study overcame a key challenge to gaining a true community-based prevalence estimate of STIs: low response rate (91.5%) of women in five Blocks of Thiruvavur district who were eligible participated in the study. The present study reveals that 8.8% of women had experienced sexually transmitted infections among scheduled castes population in the study area. Many women and men suffer from reproductive tract infections (RTIs), including sexually transmitted infections (STIs). An estimated 340 million new cases of curable STIs occur each year, with 151 million of them in South and Southeast Asia (5). Prevalence of sexually transmitted infections is detraind by number of factors. An association between pelvic inflammatory diseases (PID) women and husband extramarital sexual relation has been well documented (13). The role of socioeconomic status in the development of STIs has been highlighted in a number of studies (14,15). A study from Accra among women with incomplete abortions also showed higher rates of bacterial colonization of the genital tract in women of lower socioeconomic status (16).

Low socioeconomic status is associated with greater high risk sexual behavior (17) and this would lead to a higher incidence of STIs. In an Ethiopian study, it was shown that 51% of women who came to an STI clinic with symptoms had a confirmed clinical diagnosis (18).

Another study in India reported that 72% of women with STI symptoms had a clinically confirmed diagnosis. Despite these results it needs to be stressed that the presence of STI symptoms is not indicative of an STI diagnosis. Increasing age was found to protect against having STI symptoms. Sexually transmitted infections are diseases of young sexually active women so it is expected that older women would have fewer symptoms (19). Prevalence of sexually transmitted infections is detraind by number of factors. An association between pelvic inflammatory diseases (PID) women and husband extramarital sexual relation has been well documented (13). The present study reveals that 4.6% of women reported that they suffer from 'Discharge with unpleasant odor' and another 3.6% of women experienced 'Frequent and uncomfortable urination'. The findings from the present study indicate that the proportion of women lives in the high SLI was less likely to experience STIs than women in low SLI. Women who experienced STIs were less among women who had more exposed to media than less exposed to media. As most of these illnesses progresses to chronic state and remain with the women for the rest of their lives, the importance of early detection and management becomes evident. Until now, a matter of concern that, little is known about the prevalence of Reproductive Tract Infections (RTIs) or STIs among women in developing countries such as India. A recent study of young married women aged 16-22 years in a rural community in Tamilnadu reports a very high level of morbidity. The study shows that more than half of the women were suffering from at least one or more RTI/STIs. Clinical examination also confirmed STIs among majority of them (20). Adolescent women in India and Nepal report relatively high rates of gynecological morbidities, especially in the settings where girls have limited excess to adequate health care (21). There are different socio-demographic economic, sexual, medical and behavioural factors related to STIs. The less educated women are more likely to affect from STIs due to lack of health care knowledge. Educated women are more capable to seek the source of treatment and they can use health care facilities more efficiently. Educated women can process health related information from mass media. They can make good investment in terms of health.

Conclusion

Sexual diseases are common and preventable causes of morbidity and serious complications; thus primary prevention of STIs needs to be given high priority. The present study reveals that the prevalence of STIs was more common among illiterate women and less standard of living index. The women in the study area

were living with very poor standard of health and their issues related to health care getting intensified due to poverty, less educated, unemployment, lack of sanitation and hygiene, inadequate health care facilities and lack of proper gendered centric treatment. Financial consideration was not much of factors when seeking help, compared to accessibility to health care facilities and the stigma or shame of having STIs. The participant's belief system, influence of family, friends and partners were important factors that motivated the health seeking behavior of women. Therefore more information is required in rural areas through mass media.

Recommendation

In order to make better sexual health, the health worker needs to provide knowledge and treatment to high-risk behaviour women. Similarly, behaviour and communication change and proper STIs information are the best options to reduce the prevalence of STIs among women. There is need for female counselor at each health facility to discuss the STIs problem among women. The present study recommends that state policy makers should be introduced community intervention programmes to increase the awareness regarding sexual health issues among rural population.

Authors Contribution

All authors designed the study. Under the supervision of HOD, authors conducted field activities, data analysis and drafted the manuscript. All authors read, commented on and approved the final manuscript.

Acknowledgement

We would like to extend our sincere thanks to Institutional Ethics Committee and the Dean, Annamalai University, Tamilnadu state, India, who permitted us to conduct the study in rural areas of Thiruvarur district of Tamilnadu state. We also thank the respondents for their priceless information.

References

1. United Nations Programme on HIV/AIDS. Report on Facts about Sexually Transmitted Infections. 2004.
2. Sexually transmitted infections. World Health Organization. Available at: <http://www.who.int/mediacentre/factsheets/fs110/en/print.html>. 2007.
3. Reproductive Tract Infections and Sexually Transmitted Infections symptoms. An overview; www.popcouncil.org/pdfs/RTIF. 2005.
4. National Aids control programme phase-III (NACP). Ministry of Health and Family Welfare. Government of India. 2006.
5. World Health Organization. Global Prevalence and Incidence of Selected Curable Sexually Transmitted Infections: Overview and Estimates. Geneva: WHO. 2001.

6. World Health Organization. Young people and sexually transmitted diseases, Fact Sheet. Geneva: WHO. 1997.
7. World Health Organization. SEAR region update on STIs. New Delhi, India: WHO. 2002; 5: 12-15.
8. Weinstock H, Berman S, Castes W. Sexually transmitted disease among American youth incidence and prevalence estimates, Perspective Sexual and Reproductive Health.2004; 36: 6-10.
9. Reproductive Tract Infections and Sexually Transmitted Infections symptoms: An overview, Population Council www.popcouncil.org/pdfs/RTIF. 2005.
10. Beteille. National Focus Group on Problems of Scheduled Cates and Scheduled Tribe Children, Census, Government of India, Office of the Registrar General and Census Commissioner. 2001.
11. Census, Office of the Registrar General and Census Commissioner, Government of India. 2001.
12. Ministry of Health and Family Welfare (MOHFW). Reproductive and Child Health Programme: Schemes for Implementation, Department of Family Welfare, New Delhi. 1997.
13. Oomman, Nandini. A decade of research on Reproductive Tract Infections and other Gynecological Morbidity in India: Women’s Reproductive Health in India, New Delhi: Rawat Publication. 2000.
14. Radcliffe KW, Ahmad S, Gilleran G, Ross JD. Demographic and behavioural profile of adults infected with chlamydia: a case-control study. Sex Transm Infect. 2001 Aug;77(4):265-70. PubMed PMID: 11463926; PubMed Central PMCID: PMC1744344. [PubMed]
15. Monteiro EF, Lacey CJ, Merrick D. The interrelation of demographic and geospatial risk factors between four common sexually transmitted diseases. Sex Transm Infect. 2005 Feb;81(1):41-6. PubMed PMID: 15681722; PubMed Central PMCID: PMC1763732. [PubMed]
16. Lassey AT, Adanu KR, Newman MJ, Opintah JA. Potential pathogens in the lower genital tract at manual vacuum aspiration for incomplete abortion in Korle Bu Teaching Hospital, Ghana. East Afr Med J. 2004 Aug;81(8):398-401. PubMed PMID: 15622933. [PubMed]
17. Parikh S, Brennan P, Boffetta P. Meta-analysis of social inequality and the risk of cervical cancer. Int J Cancer. 2003 Jul 10;105(5):687-91. PubMed PMID: 12740919. [PubMed]
18. Wolday D, G-Mariam Z, Mohammed Z, Meles H, Messele T, Seme W, Geyid A, Maayan S. Risk factors associated with failure of syndromic treatment of sexually transmitted diseases among women seeking primary care in Addis Ababa. Sex Transm Infect. 2004 Oct;80(5):392-4. PubMed PMID: 15459409; PubMed Central PMCID: PMC1744914. [PubMed]
19. Prasad JH, Abraham S, Kurz KM, George V, Lalitha MK, John R, Jayapaul MN, Shetty N, Joseph A. Reproductive tract infections among young married women in Tamil Nadu, India. Int Fam Plan Perspect. 2005 Jun;31(2):73-82. PubMed PMID: 15982948. [PubMed]
20. Joseph A, Jasmin P, Abraham S. Gynecological problems among young married women in Tamil Nadu. Paper presented in an International Conference on Adolescent Reproductive Health: Evidence and Programme Implications for South Asia, Mumbai, India. 2000.
21. JeJeebhoy, Shireen. Adolescent Sexual and Reproductive Behavior: A review of the evidence from India in Ramasubban and JeJeebhoy (eds.) Women’s Reproductive Health in India, New Delhi: Rawat Publication. 2000.

-----X-----

Tables

TABLE NO. 1 DISTRIBUTION OF WOMEN WHO EXPERIENCED VARIOUS SYMPTOMS OF STIs (MULTIPLE RESPONSES)

Experienced various symptoms of STIs	Number of Women (n= 605)	
	Number	%
Discharge with unpleasant odor	28	4.6
Frequent and uncomfortable urination	22	3.6
Pain during sexual intercourse	19	3.1
Spotting after sexual intercourse	6	1.0
Women who experienced STIs	53	8.8

TABLE NO. 2 PERCENTAGE DISTRIBUTION OF WOMEN BY PREVALENCE OF STIs, ACCORDING TO BACKGROUND CHARACTERISTICS

	Background Characteristics	Women who experienced STIs		Total	χ ²	P
		Yes (%)	No (%)			
Age	18 - 20	10.6	89.4	94	2.77	.250
	21 - 23	9.6	90.4	364		
	24 years	5.4	94.6	147		
Education	Illiterate	46.9	53.1	32	73.23	.000
	Primary education	17.9	82.1	56		
	Secondary education	6.0	94.0	467		
	Higher secondary+	-	100.0	50		
Occupation	Non-workers	14.2	85.8	123	9.60	.008
	Agricultural labourers	8.6	91.4	348		
	Non-agricultural labourers	3.3	96.7	134		
Standard of living index	Low	15.6	84.4	234	40.99	.000
	Medium	3.5	96.5	318		

	High	1.7	98.3	53		
Age at marriage	Less than 18 years	8.4	91.6	18	5.36	.147
	18-19 years	10.4	89.6	307		
	20-21 years	5.6	94.4	238		
	22-23 years	-	100.0	42		
Birth order	First	8.2	91.8	365	4.35	.840
	Second	9.1	90.9	207		
	Third	9.7	90.3	33		
Exposure to mass media	More frequently	2.8	97.2	252	19.34	.000
	Less frequently	13.0	87.0	353		
Distance of health care facility	Within one Km	7.6	92.4	78	3.53	.768
	2-3 Km	10.3	89.7	171		
	4 or more Km	9.0	91.0	356		
Total		8.8	91.2	605		

TABLE NO. 3 BINARY LOGISTIC REGRESSION EXAMINES THE EFFECT OF BACKGROUND CHARACTERISTICS ON PREVALENCE OF STIS

Background Variables		Logistic Coefficient(β)	Significant value (p)	Odds Ratio Exp (β)
Age	18-20 (ref)			1.000
	21-23	-.467	.285	.595
	24 years	-.114	.863	.892
Education	Illiterates (ref)			1.000
	Primary education	-1.356	.035	.358
	Secondary education	-3.116	.000	.244
	Higher secondary+	-5.377	.000	.183
Occupation	Non-workers (ref)			1.000
	Agricultural labourers	1.034	.009	1.145
	Non-agricultural labourers	-1.686	.001	.251
Standard of living index	Low level (ref)			1.000
	Medium level	-1.367	.000	.255
	High level	-2.684	.000	.168
Age at marriage	18 or less years (ref)			1.000
	19-20	-.619	.413	.538
	21 or more	-.595	.519	.551
Age at first birth	19 or less years (ref)			1.000
	20-22	-.071	.825	.931
	23 or more	.557	.897	.570
Exposure to mass media	Less frequently (ref)			1.000
	More frequently	-.271	.325	.763
Distance of health care facility	Within 1 Km (ref)			1.000
	1-3 Km	-.457	.259	.633
	3 or more	-.367	.310	.693
Constant		3.302	.000	27.173