ORIGINAL RESEARCH ARTICLE
pISSN 0976 3325 | eISSN 2229 6816
Open Access Article
www.njcmindia.org
DOI: 10.5455/njcm.20210929041026

A Study on Prevalence of Reproductive Tract Infections among Married Women in a Rural Area of Kanchipuram Tamilnadu

Pragnya Rettayan K[1], Shanthi Edward[2]

[1]Post graduate, Department of Community Medicine, Sree Balaji medical college, Chennai
[2]Professor, Department of Community Medicine, Sree Balaji medical college, chennai

ABSTRACT

Introduction: Reproductive Tract Infection (RTI) is a major public and reproductive health threat globally. The burden of RTI deprives contribution of women in socioeconomic and cultural development. The aim is to determine the prevalence of RTI in married women and to spell out various associating factors of RTI.

Methodology: A cross sectional study done in the rural area around Sree Balaji Medical College. Using purposive sampling, 365 women were selected as study participants. Data collection was done using a pretested structured questionnaire. Data analysis was done using SPSS software version25.

Results: Among the 365 women, who participated in the study, the prevalence of RTI was 42%. Those reported more symptoms of RTI belonged to 16-25 (37.2%) years of age group. The commonest symptom reported by the women was abnormal vaginal discharge (16.4%), followed by lower abdominal pain (10.94%). The symptoms of reproductive tract infection were associated with age, age at marriage, education, socioeconomic status and menstrual hygiene practices.

Conclusion: Proper management, health education reduces high prevalence of RTI. Women should have enough knowledge to seek proper medical care for infections which are curable and reduces the risk of developing further complications.

Key words: risk factor, symptoms, menstrual practices, reproductive age

INTRODUCTION

Reproductive tract infection (RTI) is a broad term that includes Sexually Transmitted Infections (STI) as well as other infections of the reproductive tract that are not transmitted through sexual intercourse. In women, RTI includes infections of the outer genitals, vagina, cervix, uterus, tubes, and ovaries.[(1)] According to WHO, RTI/STI and their complications rank in the top five disease categories for which adults in developing countries seek health care.[(2)] The incidence and prevalence of RTI/STI in the developing countries are rising rapidly. Premature deaths and disabilities not only devastate families, but also threaten the cultural and economic stability of communities, countries, and whole continents. Further, the threat of AIDS has focused greater attention on the importance of RTI including STI.[(1)]

WHO estimates that among 357 million curable STI that occur globally each year there are about 6 million new cases of syphilis, 78 million new cases of gonorrhea, 131 million new cases of chlamydial infection and 131 million new cases of trichomoniasis (2012).[(3)] Many studies have been conducted to estimate the prevalence of STI/RTI in men and women in India, which reveal that there is a huge burden of STI/RTI and they adversely impact reproductive

How to cite this article: Rettayan PK, Edward S. A Study on Prevalence of Reproductive Tract Infections among Married Women in a Rural Area of Kanchipuram Tamilnadu. Natl J Community Med 2021;12(9):296-301. DOI: 10.5455/njcm.20210929041026

Financial Support: None declared **Conflict of Interest:** None declared

Date of Submission: 14-09-2021; **Date of Acceptance**: 28-09-2021; **Date of Publication**: 30-09-2021

Correspondence: Dr. Pragnya Rettayan K (Email: elizapragi@gmail.com)

health of people. It is estimated that about 10% of the adult female population (15-45 years) reported to have STI/RTI symptoms in a year in Tamilnadu. (DLHS-4(2012-2013))[4]

Thus greater importance is to be given to RTI to prevent future consequences. The consequences of RTIs for reproductive health can be severe and life- threatening. They include pelvic inflammatory disease (PID), infertility (in women and men), ectopic pregnancy, and adverse pregnancy outcomes including miscarriage, stillbirth, preterm birth, and congenital infection. [5]

The Social stigma attached to an illness is greater for a woman than a man, and therefore a woman is likely to be more reluctant to discuss the gynecological problems with others and tends to hide her illness.[6] The health care-seeking behavior of women is dependent on various socioeconomic conditions such as place of residence, education, work status of women, and standard of living.[7] Married women are reluctant to seek medical treatment because of lack of privacy, lack of female doctors at the health facility, fear of internal examination, cultural factors and taboos.[6]. Thus STI/RTI impose an enormous burden of morbidity and mortality in developing countries, both directly through their impact on reproductive and child health, and indirectly through their role in facilitating the sexual transmission of HIV infection.[8]

Based on this background this study was planned with the objectives to assess the prevalence of RTI/STI and its risk factors among the married women based on symptoms of RTI/STI present in the married women in a rural area of Kancheepuram. It also aimed to study about the various influencing factors of RTI and to find out the menstrual hygiene practices and health seeking behavior of RTI among the married women in a rural area of Kancheepuram.

METHODOLOGY

Study Design: This is a community based descriptive cross sectional study carried out in, a rural area of Kancheepuram District of Tamil Nadu.

Study Area and Population: The study area for identifying the prevalence of reproductive tract infection is the field practice area of the Rural Health Training Centre located at padappai which is attached to Department of Community Medicine in Sree Balaji Medical College, in Kancheepuram district of Tamilnadu.

The study area has a total population of 21,150 spread over five villages. The study population identified was adult females who are married and is in the reproductive age group of 16 to 45 years residing in the study area permanently at the time of the study. There were around 2093 women in the age group of 16- 45 years.

Study Period: This study was carried out during the period of December 2016 to May 2017.

Sample Size and Sampling Technique: The sample size for the study was calculated based on the reference study on prevalence of reproductive tract infections among rural married women in Tamil Nadu: The community based study done by Dr. Geetha mani[9] et al Kancheepuram tamilnadu showed a 33.3% prevalence of reproductive tract infection among the study group. Using the formula [$4pq/L^2$], the sample size was calculated to be 313 with a precision of 16% of prevalence and attrition rate of 15%.and it was rounded off and taken as 365
Using purposive sampling technique, married women in the reproductive age group of 15- 45years attending the RHTC Padappai was selected based on the following inclusion and exclusion criteria.

Inclusion and Exclusion Criteria: The inclusion criteria for the study were married women of 15-45 years of age group, who were willing to participate in the study. women who had aborted or delivered within 3 months of the date of the interview, antenatal women, known psychiatric women, bedridden women, transgender, and women who had a hysterectomy due to any cause and women who were on medications for diabetes, immune compromised women and women who did not give consent to the study were excluded from the study.

Ethical Clearance: The study was carried out after obtaining approval from the Institutional Ethical Committee, Sree Balaji Medical College and hospital, Chennai-44.

Data Collection: A written informed consent was obtained from study participants before data collection after explaining the objectives of the study. A pretested, structured questionnaire was used for the data collection. Socio-demographic information including age, marital status, educational status, socioeconomic status was collected along with menstrual hygiene practices and treatment preference. SPSS software version 17 was used for statistical analysis. The syndromes related to women such as abnormal vaginal discharge, genital ulcer, lower abdominal pain, and inguinal bubo were based on syndromic approach as recommended by WHO guidelines for the management of sexually transmitted infections[10].

Study participants was said to have RTI/STI symptoms if she had experienced any one of the following symptoms in the past year: abnormal vaginal discharge, ulcers or boils in and around the genital region, pain in the lower abdomen which was not related to menstruation, pain or burning sensation during urination, swelling in the groin and painful blistered lesions in and around the vagina. Among married women who are living with the husband any pain during sexual intercourse and spotting after sexual intercourse was also taken to be indicative of RTI.

All the women were counseled for examination (per abdominal and bimanual) and privacy was main-

tained while interviewing and examining the women about their current symptoms affecting the reproductive tract and menstrual hygiene practice.

RESULTS

The prevalence of reproductive tract infection among the study population of 365 married women was 42% i.e. 153 women. This study was conducted among 365 married women of age 16-45 Years for identifying symptoms of reproductive tract infection, menstrual hygiene practices and their treatment seeking behavior, the findings are as follows:

Table-1: Represents the socio-demographic characteristics among the study participants. About 40.2% of the participants belong to 16-25 years of age group. Majority of them were living with husband (79.4%). And about 49.3% women were married less than 18years. Most of the women were unemployed (74.7%).majority of the women only attended primary (34.2%) and high school (29.3%) education According to Modified BG Prasad scale of socioeconomic classification, the participants were divided into five classes and among them majority of them belonged to class III(29%) and class IV(32.8%) social status.

Table-2: Represents the association between RTI symptoms and socio-demographic features. Women who were married less than 18years of age reported more symptoms of RTI(80.3%) , which is statistically significant (p<0.05). The symptoms RTI was higher in women who had primary school level education (42.4%) which was statistically significant (<0.05). Women belonging to class III (41.8%) and class IV (26.1%) of socioeconomic status reported high symptoms of RTI which was statistically significant (<0.05).

Table-1: Socio-demographic characteristics of the study participants (n=365)

Socio-demographic Details	Participants (%)
Age group (in completed years)	
16-25	147 (40.2)
26-35	143 (39.1)
36-45	75 (20.5)
Marital status	
Living with husband	290 (79.4)
Widow/divorced	75 (20.5)
Age at marriage	
<18 years	180 (49.3)
>18 years	185 (50.6)
Education	
Illiterate	38 (10.4)
Primary school	125 (34.2)
High school	107 (29.3)
Higher secondary	60 (16.4)
Diploma/graduate	35 (9.5)
Occupation	
Employed	92 (25.2)
Un-employed	273 (74.7)
Socio-economic status*	
Class-I	70 (19.1)
Class-II	30 (8.21)
Class-III	106 (29)
Class-IV	120 (32.8)
Class-V	39 (10.6)

*Based on BG Prasad classification

Table-2: Association between symptoms of RTI and Socio-demographic features

Socio-demographic details	Symptoms of RTI		Chi-squire	P-value
	Present (N=153) (%)	Absent (N=212) (%)		
Age group (in completed years)				
16-25	57 (37.2)	90 (42.4)	0.998	0.6
26-35	63 (41.1)	80 (37.7)		
36-45	33 (21.5)	42 (19.8)		
Marital status				
Living with husband	140 (91.5)	150(70.7)	23.43	0.00*
Divorced/widow	13 (8.49)	62(29.2)		
Age at marriage				
<18 years	123 (80.3)	57 (26.8)	101.7	0.00*
>18 years	30 (19.60)	155(73.1)		
Education				
Illiterate	16 (10.45)	22 (10.3)	20.78	0.00*
Primary school	65 (42. 4)	60 (28.3)		
High school	27 (17.64)	80 (37.7)		
Higher secondary	25 (16.33)	35 (16.50)		
Diploma/graduate	20 (13.07)	15 (7.07)		
Occupation				
Employed	54 (35.29)	82 (38.6)	0.435	0.5
Un-employed	99 (64.7)	130 (61.3)		
Socio-economic status*				
Class-i	20 (13.07)	50 (23.58)	37.61	0.00*
Class-ii	05 (3.26)	25 (11.79)		
Class-iii	64 (41.8)	42 (19.8)		
Class-iv	40 (26.1)	80 (37.7)		
Class-v	24 (15.6)	15 (7.07)		

*Based on BG Prasad classification

Table-3: Distribution of RTI symptoms based on menstrual hygiene practices

Menstrual hygiene practices	RTI symptoms		Chi square	P-value
	Yes (n=153)(%)	No (n=212)(%)		
Washing genitals				
Water	83 (54.2)	60 (28.30)	26.326	<0.00*
Soap and water	52 (33.9)	101 (47.6)		
Not washing	18 (11.76)	51 (24.05)		
Frequency of washing genitalia				
<2times	113 (73.85)	82 (38.67)	44.193	<0.00*
>2times	40 (26.14	130 (61.3)		
Toilet facility available				
Open Field	30 (19.60)	20 (9.43)		
Public toilet	80 (52.28)	120(56.60	7.9847	0.01*
Private	43 (28.10)	72 (33.96)		
Type of material used during menstruation				
Cloth	71 (46.40)	60 (28.30)		
Commercial sanitary pads	49 (32.06)	78 (36.79)	14.087	<0.00*
Both	33 (21.5)	74 (34.90)		
Number of pads/cloth changed per day				
<2	78 (50.9)	25 (11.79)		<0.00*
02-Mar	45 (29.4)	75 (35.37)	74.53	
04-May	30 (19.60)	112(52.83)		
Disposal practice				
Wash and reuse cloth	83 (54.2)	65 (30.66)		
Throw cloth/pad	45 (29.4)	82 (38.67)	21.77	0.00*
Burning cloth/pad	25 (16.3)	65 (30.66)		

Table-3: Represents the distribution of RTI symptoms based on menstrual hygiene practices. women who use only water for washing genital area was found to have 54.2% symptoms of RTI which is significant statistically (<0.05). And around 73.85% of the women wash the genital area less than twice daily during menstruation which is significant statically (<0.05). About 46.40% of women are using cloth during each period and 32.06 % Women were using sanitary pads available commercially. 21.5 % of women were using both cloth and sanitary pads which was significant statistically (<0.05). There was high percentage of symptoms of RTI found among women using cloth 46.4% during menstruation. Around 50.9% of the women who change less than two pads/cloth per day reported more percentage of RTI symptoms which was significant statically (<0.05). RTI symptoms were high (46.40%) among the women who were reusing the cloth material.

Table 4: Distribution of symptoms of RTI among the participants (N=153)

Symptoms of RTI	Subjects
Abnormal vaginal discharge	60 (16.4)
Lower abdominal pain	40 (10.95)
Low back ache	32 (8.76)
Burning micturition	10 (2.73)
Genital ulcers	08 (2.19)
Dyspareunia	03 (0.82)

Table 4 represents the distribution of symptoms of RTI among the participants. Among the 153 symptomatic women, 60 women had abnormal vaginal discharge (16.4%) as the commonest symptom. The other symptoms were lower abdominal pain (10.95%), low back ache (8.76%), burning micturition (2.73%), genital ulcerations (2.19%) and dyspareunia (0.82%).

Treatment preferences of the study population, Majority 51.63% of the study subjects sought treatment from government hospital. About 31.37% preferred private hospitals and about 10.45 % of them sought native treatment. 6.53% of the study subjects did not avail any treatment.

DISCUSSION

The current study was aimed to document the prevalence of symptoms of RTI among married women in rural area of kancheepuram district. The prevalence of symptoms of RTI in the present study was 42% which was similar to the study done by Meenakshi bhilwar (43.9%) et al[11] north east Delhi and by Dr. Anitha et al (45.5%)[12] at Chennai respectively.

Increased symptoms of RTI was reported in the present study group of 16-25 years (37.2%) similar results were reported in studies done by Revathi et al[13] and sridevi et al who reported maximum prevalence in age group of 20-25 years. The difference in this present study may be due to lack of awareness and certain biological factors. The prevalence of symptoms of RTI was reported less with increasing educational status. Higher the educational status the women are more aware of the importance of personal hygiene and sexual health. Which was similar to the findings of the study done by Sridevi et al[14] and Monika rathore et al[15]. Majority of the women reported of abnormal vaginal discharge 60 women (16.4%) followed by lower abdominal pain 40(10.95%) in the present study population, which

was similar to other studies done by Geethamani et al [9] and Sridevi et al.[14]. The low socioeconomic status of the women was observed to be a risk factor of developing RTI among women in the present study.

Adequate menstrual hygiene is crucial for the overall health of the women. Majority of the women used any type of cloth, whether clean or unclean and prevalence was comparatively very high (46.40%) in them. These findings are in line with another study conducted in kancheepuram district by Dr. Geetha et al[9]. As a result, the infections may be due to abnormal growth of normal vaginal flora, due to unhygienic practice, which can cause local as well as ascending infection. In the present study out of 153 symptomatic women in the rural area 51.63% sought treatment in government hospitals 31.37% consulted private clinics, while 10.45% took native treatment and 6.53% did not seek any treatment. A similar study done by Pradeep Aggarwal et al[17] in deharadun around 36.3% took treatment from a medical practionaire. The primary reason for women to visit a doctor is due to certain willingness towards treating herself. still 10.45% women take native treatment in treating these infections. This may be due to social causes and stigma attached to it. These individuals could use better treatment services if health educating others in their community and will be of great use in removing various misconceptions associated with this group of diseases.

Symptomatic diagnosis of RTIs/STIs based on a syndromic approach has also been supported by World Health Organization (WHO) as an effective and inexpensive approach for diagnosis of RTIs/STIs in low resource settings. The present study was small but significant attempt in identifying those suffering from RTIs/STIs in the study area, helping them achieve cure and equipping them with knowledge to protect themselves and their close community from RTIs/STIs. A major limitation of the present study is that laboratory investigations were not used to confirm the diagnosis of RTIs/STIs. Further community based studies should be carried out in different areas of Kancheepuram district to obtain and validate the prevalence data of reproductive tract infection.

CONCLUSION

The present study shows that RTIs/STIs, with a prevalence of 42%, continues to be a significant problem in rural areas in spite of the various measures adopted by the Indian government to reduce the transmission of RTI/STI. Age of the participant, age at marriage, educational status, socioeconomic status and menstrual hygiene practices were significantly associated with symptoms of RTI. Most of these factors are complaisant to change by health education and counseling and the present study stresses the need for awareness programs for women with a focus on these factors.

Postponing the age of marriage to early twenties and creating awareness among young married women regarding contraceptive choices and use should be an important component of RTI/STI prevention programs. Appropriate steps should be taken for management of the cases. Health services should be improved and made more accessible so that women feel comfortable in seeking medical care and not restrain due to concerns over privacy and confidentiality.

Some of the measures which will reduce the occurrence of reproductive tract infections when implemented are generating community awareness, ensuring use of sanitary napkins, proper menstrual hygiene practices, improving socioeconomic status and follow up after diagnosis for prompt treatment. Initiation of early treatment from healthcare personnel or setting will reduce the occurrence of further complications.

REFERANCES

1. World health organization. Integrating sti/rti care for reproductive health sexually transmitted and other reproductive tract infections; a guide to essential practice.p 5,12. Available from: http://whqlibdoc.who.int/publications/2005/9241592656.pdf.
2. World health organization.P. 4,5. The public health approach to STD control: technical update. Available from: http://www.who.int/hiv/pub/sti/pubstistd/en.
3. World health organization. sexually transmitted infections 2016-2021. available from. apps.who.int/iris/bitstream/10665/246296/1/WHO-RHR- 16.09-eng.pdf.
4. District level household and facility survey(DLHS) available from https://data.gov.in/catalog/district-level-household-and-facility-survey- dlhs-4.
5. WHO/report on global sexually transmitted infection surveillance. Vol. 5(6); 2013.p. Available from: http://who.int/ reproductivehealth/publications/rtis/stis-surveillance-2013/en/.
6. Chaturvedi J et al. Screening of married women in the Reproductive Age Group for reproductive tract infections in a village of Garhwal. South East Asian studies manual. 2000:134-8.
7. Sanneving L, Trygg N, Saxena D, Mavalankar D, Thomsen S. Inequity in India: the case of maternal and reproductive health. Glob Health Action. 2013;6:19145. doi: 10.3402/gha.v6i0.19145. PMID 23561028.
8. Mani G. Prevalence of reproductive tract infections among rural married women in Tamil nadu. India: A Community Based [study]. J Pioneer Med Sci Volume 4(1, January–March), *2014*;18-24. [accessed on may 2017].
9. World Health Organization. Guidelines for management of sexually transmitted infections. Available from: http://www.emro.who.int/aiecf/web79.pdf.
10. 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;6(Suppl 1):S29-34. doi: 10.4103/0976-9668.166059, PMID 26604615.
11. Dr. Anitha S, Dr.Daisy dharmaraj. Dr. K.K. Duttagupta, Abhinaya.B, AmrithaLekha et al;Reproductive Tract Infections among Women of Reproductive Age Group (15-49 Years) – A Chennai Based Study. IOSR JDMS (IOSR-JDMS). 2016; 15(4): 74-8.

12. Revathi S, Ramesh TA, Madhumita. Prevalence of reproductive tract infections and its determinants among rural women in Raichur, India. Perspect Med Res. 2015;3:24-7.

13. Dr.Sreedevi B. Association of Reproductive Tract Infections with Menstrual abnormalities amongst Reproductive Age Group (15-44 years) Women in Rural Health Centre of Tadikonda, Guntur, A.P. IOSR JDMS (IOSR-JDMS). 2016;4:74-8.

14. Rathore M, Swami SS, Gupta BL, sen V, Vyas BL, et al. community based study of self-reported morbidity of reproductive tract among women of reproductive age in rural area of Rajasthan. Indian J Commun Med. 2003;28(3).

15. Anand E, Singh J, Unisa S. Menstrual hygiene practices and its association with reproductive tract infections and abnormal vaginal discharge among women in India. Sex Reprod Healthc. 2015;6(4):249-54. doi: 10.1016/j.srhc.2015.06.001, PMID 26614609.

16. Aggarwal P, Kandpal SD, Negi KS, Gupta P. Health seeking behaviour for RTIs/STIs: study of a rural community in Dehradun. Health Popul Perspect Issues. 2009;32(2):66-72.