International Journal of Reproduction, Contraception, Obstetrics and Gynecology
Sahana P et al. Int J Reprod Contracept Obstet Gynecol. 2022 Nov;11(11):3012-3017
www.ijrcog.org
pISSN 2320-1770 | eISSN 2320-1789

DOI: https://dx.doi.org/10.18203/2320-1770.ijrcog20222787

Original Research Article

Prevalence of reproductive tract infections among ever married women of age 18 to 49 years in a rural area of Cuddalore district, Tamil Nadu

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Received: 12 October 2022
Accepted: 26 October 2022

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ABSTRACT

Background: Reproductive tract infections (RTIs) affect not only women's health but also has its implications on child health, family and socioeconomic development of the community. Unless the symptoms become alarming, women with RTI don't seek health care. If untreated or inadequately treated RTI can lead to complications causing morbidity and mortality. So, this study focused to find out the prevalence of RTI among ever married women and its association between RTI and sociodemographic variables in a rural area.
Methods: This community based cross sectional study was conducted from September 2021 to March 2022 among ever married women of 18 to 49 years in a rural area, Parangipettai, Cuddalore district, Tamil Nadu. A total of 320 women were interviewed by a house-to-house survey. Structured pretested questionnaire was used to collect data on symptoms of RTI, sociodemographic and obstetric variables.
Results: Out of 320 study participants, the prevalence of RTI was found to be 23.8% (n=76). The most common symptoms reported was vaginal discharge 14.37% followed by lower abdominal pain 13.75%. This study showed that RTI was significantly associated with age of women (p=0.006) and previous history of abortion (p=0.023).
Conclusions: In spite of various health programs in place, the prevalence of RTI was as high as 23.8% in this study. This implies sensitizing rural women about RTI at regular intervals is necessary for reducing the burden and preventing the complications of RTI.

Keywords: Reproductive tract infections, Rural, Women

INTRODUCTION

Reproductive tract infection (RTI) is an important public health problem worldwide. According to World Health Organization (WHO) every day more than one million RTIs are acquired all around the world which accounts to 374 million new infections annually. Mortality and morbidity linked to RTIs hinder the important contributions made by women in terms of economic, social and cultural developments. RTI, the silent epidemic is curable and preventable when treated early and adequately.[1] They rank second as a cause of healthy life lost among women of the reproductive age after maternal mortality and morbidity.[2] If untreated, they may cause complications such as pelvic inflammatory disease (PID), infertility, abortions, human immune-deficiency virus (HIV) infection, cancer cervix and premature deaths.

The prevalence of RTI ranges from 4% to as high as 63.8% according to various community based studies done across India.[3-6] National Aids Control Program (NACP) and Department of Health and Family Welfare (DoHFW) together formed an integrated approach for the treatment and prevention of STI/RTI.[7] National Aids Control Organization (NACO) has branded these STI/RTI services as Suraksha clinics through which prepacked color coded STI/RTI treatment kits are given by syndromic approach.

Though symptomatic, most of the Indian women feel shy to approach the health care centers. Unless the RTI

symptoms disturb their routine activities, they fail to seek health facilities.[8]

There are many studies on prevalence of RTI, yet there is a need for upgraded current prevalence of RTI for comparing and reviewing policies between different regions. This may help in controlling RTI and preventing complications and transmission among the target population.

Hence this study was done to find the prevalence of reproductive tract infection among ever married women 18-49 years in the rural area of Parangipettai, Tamil Nādu and to find out any association between socio demographic and obstetrics variables with RTI.

METHODS

This is a community based descriptive cross-sectional study conducted from September 2021 to March 2022 in the field practice area of rural health centre, Parangipettai, Rajah Muthiah Medical College, Chidambaram, Cuddalore district. The study participants were ever married women belonging to the age group 18-49 years residing in Parangipettai for more than 1 year. Women within 6 weeks following delivery or abortion or any trans vaginal surgeries were excluded from the study.

One of the earlier studies done in West Bengal has shown the prevalence of RTI among married women as 23.6%.[9] Taking this as prior information and by using nMaster sample size software, the sample size for the present study was calculated as 311 with confidence interval as 95% and relative precision as 20%. The sample size was rounded up to 320.

The rural health centre of department of community medicine, Rajah Muthiah Medical College, Chidambaram covers 8 villages namely C. Puthupettai, Chinnur, Kodimaratheruvu, Ponnanthitu, Madhakovil, Mudasalodai, Singarakuppam and Puthu Nagar having households of about 3279. Among the 8 villages, three villages namely, Ponnanthitu, Mudasalodai and C. Puthupettai were selected by simple random sampling (lottery method). In each of the selected villages, 20% of the ever-married women of 18-49 years were selected consecutively to reach the required sample size.

Concerned PHC medical officers, village head nurses, Anganwadi workers and helpers were met and were sensitized about the aim, objectives and methodology of the study. In the study areas IEC materials and health education about RTI were conducted to create awareness among the public.

After getting informed consent, pretested structured questionnaire was used to interview the participants on sociodemographic variables, obstetrics variables and symptoms of RTI through syndromic approach. The questionnaire was prepared in English and translated to regional language, Tamil for the convenience of the study participants. The RTI symptoms included were abnormal vaginal discharge, itching/burning genitalia, genital ulcer, inguinal swelling, lower abdominal pain, dyspareunia and dysuria. Women who reported at least one symptom suggestive of RTI were considered symptomatic.

Ethical approval was obtained from institutional ethics committee of Rajah Muthiah Medical College and Hospital, Annamalai University. The data collected was entered in Microsoft excel and was analyzed using the statistical package for the social sciences (SPSS) version 17.

RESULTS

Among the 320 study participants, n=150 (46.9%) were in the age group 40-49, 90.3% (289) were married, 108 (33.8%) studied up to primary school, 226 (70.6%) were unskilled workers, 312 (97.5) were Hindus, 197 (61.6%) lived in a nuclear family and 126 (39.4%) belong to lower middle class (Table 1).[10]

The mean age at marriage of the study participants was 19.52±2.335 years. Among the participants 13 (4.1%) were pregnant, 212 (66.3%) have under gone permanent sterilization, 22 (6.8%) adopted temporary contraceptive methods while 86 (26.7%) didn't opt for any contraception method. About 60 (18.8%) had previous history of abortion and about 48 (15%) had chronic illness like hypertension, diabetes, and hypothyroidism (Table 2).

Among 320 women, the prevalence of RTI was about 23.8% (n=76) (Figure 1). In this study the most common perceived symptom of RTI was abnormal vaginal discharge (14.37%) followed by lower abdominal pain (13.75) and itching/burning genitalia (8.43%). The least contributing symptoms were dyspareunia (2.5%) genital ulcer (0.6%), inguinal swelling (0.6%) and dysuria (0.6%) (Figure 2).

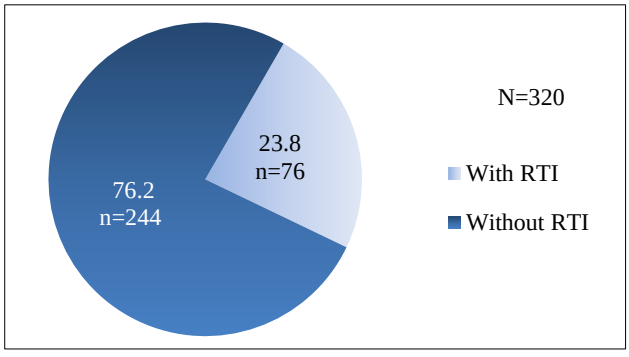

Figure 1: Prevalence of reproductive tract infections among the study participants.

Among the participants having abnormal vaginal discharge, 39.1% (18) had curdy white discharge, 37% (17) had watery discharge, 19.6% (9) had purulent discharge and 4.3% (2) had frothy yellow discharge.

This study shows that increasing age was associated with RTI symptoms (p=0.006). It also found that previous history of abortion was associated with the presence of RTI symptoms (p=0.023). However, no association between RTI symptoms and marital status, educational status, occupation, type of family, religion, socio economic status, age at marriage, pregnancy, contraception use and chronic illness were found in the study (Tables 1 and 2).

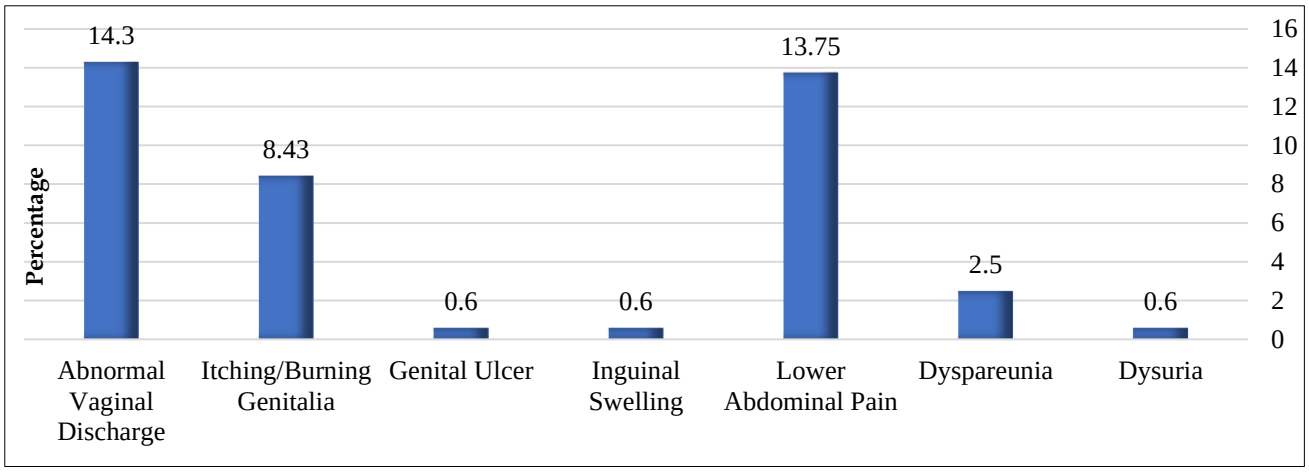

Figure 2: Distribution of RTI symptoms among the study participants (n=320).

Table 1: Association between socio demographic variables and RTI symptomatic participants.

Socio demographic profile	Study participants						Chi-square test	P value
	Total (n=320)		With RTI (n=76)		Without RTI (n=244)			
	N	%	N	%	N	%		
Age (years)								
18-29	71	22.2	8	11.3	63	88.7	10.132	0.006
30-39	99	30.9	32	32.3	67	67.7		
40-49	150	46.9	36	24	114	76		
Marital status								
Married	289	90.3	72	24.9	217	75.1	2.230	0.135
Alone	31	9.7	4	23.8	27	87.1		
Educational status of participant								
Illiterate	39	12.2	8	20.5	31	79.5	0.498	0.974
Primary	108	33.8	27	25.0	81	75.0		
Middle	83	25.9	20	24.1	63	75.9		
High	61	19.1	15	24.6	46	75.4		
Above high	29	9.1	6	20.7	23	23		
Educational status of husband								
Illiterate	27	8.4	3	10.3	26	89.7	6.109	0.191
Primary	29	9.1	13	25.5	38	74.5		
Middle	115	35.9	31	27	84	73		
High	84	26.3	23	27.4	61	72.6		
Above high	14	4.3	6	14.6	35	85.4		
Occupation of participant								
Unemployed	58	18.1	17	29.3	41	70.7	1.427	0.490
Unskilled	226	70.6	52	23	174	77		
Semi-skilled	36	11.2	7	19.4	29	80.6		
Type of family								
Nuclear	197	61.6	40	20.3	157	79.7	4.285	0.117
Joint	59	18.4	15	25.4	44	74.6		
Extended	64	20	21	32.8	43	67.2		
Religion								
Hindu	312	97.5	73	23.4	239	76.6	0.857	0.355

Continued.

Socio demographic profile	Study participants						Chi-square test	P value
	Total (n=320)		With RTI (n=76)		Without RTI (n=244)			
	N	%	N	%	N	%		
Others	8	2.5	3	37.5	5	62.5		
Socio economic status								
Upper and upper middle	24	7.6	7	29.2	17	70.8		
Middle	125	39.1	30	24	95	76	0.477	0.788
Lower middle and lower	171	53.5	39	22.8	132	77.2		

Table 2: Association between obstetrics variables and chronic illness with RTI symptomatic participants.

Risk factors	Study participants						Chi-square test	P value
	Total (n=320)		With RTI symptom (n=76)		Without RTI symptoms (n=244)			
	N	%	N	%	N	%		
Age at marriage								
≤19	165	51.6	45	27.3	120	72.7	2.334	0.127
≥20	155	48.4	31	20.0	124	80.0		
Present pregnant status								
Yes	13	4.1	3	23.1	10	76.9	0.003	0.954
No	307	95.9	73	23.8	234	76.2		
Contraception use								
Nil	86	26.9	18	20.9	68	79.1		
Temporary	22	6.8	3	13.6	19	86.4	2.183	0.336
Permanent	212	66.3	55	25.9	157	74.1		
History of abortion								
Yes	60	18.8	21	35	39	65	5.161	0.023
No	260	85	55	21.2	205	78.8		
Chronic illness								
Yes	48	15	14	29.2	34	70.8	0.915	0.339
Nil	272	85	62	22.8	210	77.2		

DISCUSSION

In this study the prevalence of RTI was found to be 23.8%. Similarly. in various studies conducted in rural areas of Tamil Nadu, Himachal Pradesh and Karnataka, the prevalence of RTI was found to be 21%, 26%, and 32% respectively.[4,11,12] According to NFHS-5 (2019-2020) the prevalence of RTI in India ranges from 4% to 30%.[3] Although the prevalence has come down with various health measures like improved public health care and awareness among women on RTI, it still remains as a public health problem.

Abnormal vaginal discharge (N=46;14.37%) is the most common symptom reported followed by lower abdominal pain (N=44;13.75%). Other studies have also reported abnormal vaginal discharge as the most common symptom in RTI.[13,14] The most common type of abnormal discharge is curdy white followed by watery discharge. This is similar to a study conducted in rural Gujarat.[15]

This study shows that RTI was more prevalent in the age group 30-39 years which was statistically significant (p=0.006). In another study it was found that RTI prevalence was high in the age group 25 to 34 years.[16] In a similar study it was found that increasing age is a risk factor for RTI.[17] Another study conducted in rural Kancheepuram showed RTI was more common in the age group 18 to 20 years.[18]

In this study there is no significant association between RTI and age at marriage, pregnancy status, contraception use and chronic illness. A similar study also showed that RTI was not associated with age at marriage, pregnancy and contraception use.[4] But in a study conducted in rural Meerut shows that those women who got married before 18 years were significantly associated with RTI.[19] This difference may be due to the fact that age at marriage have been increased over the years. A retrospective cohort study in west China showed that women with preconception RTIs had adverse pregnancy outcomes when compared to pregnant women without RTIs.[20] This difference might be due to better MCH care in Tamil Nadu, and so RTIs in pregnant women are less common.

This study shows that previous history of abortion is associated with the presence of RTI symptoms (p=0.023). It is similar to a hospital-based study conducted in urban slums of Mumbai showed significant association between RTI and abortion.[21]

The main strength of the study is the awareness camps that were conducted in all the selected areas before the start of data collection, which might have helped women with RTI to overcome their reluctance.

The limitation of the study is that as syndromic approach was used, asymptomatic RTI women might have been missed. The prevailing social stigma on RTI and the COVID-19 pandemic would have been a hindrance for the women in reporting the RTI symptoms. So, the exact prevalence might be little higher.

CONCLUSION

To conclude reproductive tract infections is a preventable problem and every effort should be done to create awareness among women and to prevent the consequences of untreated reproductive tract infections.

Funding: No funding sources
Conflict of interest: None declared
Ethical approval: The study was approved by the Institutional Ethics Committee

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Cite this article as: Sahana P, Annie IK, John WFA. Prevalence of reproductive tract infections among ever married women of age 18 to 49 years in a rural area of Cuddalore district, Tamil Nadu. Int J Reprod Contracept Obstet Gynecol 2022;11:3012-7.