IOSR Journal of Dental and Medical Sciences (IOSR-JDMS)
e-ISSN: 2279-0853, p-ISSN: 2279-0861.Volume 15, Issue 4 Ver. VIII (Apr. 2016), PP 74-78
www.iosrjournals.org

Reproductive Tract Infections among Women of Reproductive Age Group (15-49 Years) – A Chennai Based Study

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Abstract: *A cross sectional study of 200 women of reproductive age group in Thiruvallur district revealed 45.5% prevalence of symptoms of Reproductive tract infection (RTI).The commonest symptoms reported were lower abdominal pain (27.5%) and excessive vaginal discharge(17.5%), The overall prevalence of treatment-seeking behaviour was 46.2% with a 95% CI of 39.29-53.11. Main reasons for not seeking treatment were: the belief that these symptoms did not merit treatment, financial constraints, lack of decision making power and embarrassment.. Treatment-seeking was 5.415 times higher (odds ratio) among employed women when compared to unemployed women and 2.50 times higher among women above 30 years of age when compared to others and the association was statistically significant (p=0.036*).A majority (81%) of them preferred private hospital for treatment. Awareness creation among women, prevention and access to treatment of RTI need increasedl attention*

Keywords: *RTI, prevalence, awareness, treatment preference*

I. Introduction

Reproductive Tract Infections (RTI) include both sexually transmitted infections (STIs) and non-sexually transmitted infections (non-STIs) of the reproductive tract and are a colossal public health problem that is exceedingly prevalent worldwide [(1).] RTI/STIs constitute a huge health and economic burden for developing countries and account for 17 per cent of economic losses because of ill health(2).These infections are a cluster of communicable diseases caused by a diverse group of organisms including bacterial, viral, protozoal, fungal and ectoparasites(3)

In India, numerous policies and programs—including the National Population Policy 2000 the National Health Policy 2002, The National Rural Health Mission 2005 and The National AIDS Control Programme Phase III—have emphasized the importance of services for prevention screening and management of RTIs and on making these services accessible to women(4,5,6,7). Despite these measures, because of ignorance, socio-cultural inhibitions and stigma of disgrace, treatment is hardly sought until the problem becomes severe, even though most of the RTIs are preventable and most of them are curable.(8)

A cross sectional study was undertaken on RTI with the following objectives.

II. Objectives

1. To determine the prevalence of common symptoms of reproductive tract infectionsamong women of reproductive age group (15-49 years)
2. To identify the association between symptoms of reproductive tract infections and certain suspected risk factors.
3. To find the patterns of treatment-seeking behaviour among women with RTI symptoms

III. Materials & Methods

This is a cross-sectional study, with both descriptive and analytical components.The descriptive component was used to find the prevalence of RTI symptoms such as excessive white discharge, lower abdominal pain, genital ulcer, pruritus in the genital area, dyspareunia , burning micturition with any of the above symptoms(8)among rural and urban population. The analytical component was used to find the association of RTI symptoms with the suspected risk factors.

The study was conducted in two villages of Thiruvallur district which are field practice areas of a Medical College, Chennai. The data was collected over a period of 6 weeks.

The guidelines used for socio economic classification was as per Modified B.G Prasad 2014 classification (9) Class 1: Rs.5571 and above; Class II: Rs 2786-5570; Class III: Rs 1671-2785 ; Class IV: Rs 836-1670 ; Class V: Rs below 836.

Sample size and Sampling unit: Based on the literature review, the prevalence of RTI symptoms(10)was found to be 35.6 per cent % . With the allowable error of 20% of prevalence, the minimum sample size was calculated to be 164 and it was decided to study a sample of 200. Women in the reproductive age group 15-49years were included in the study after getting their consent. Persons excluded from the study are pregnant women, postnatal women , menopausal women and mentally ill

Data analysis : The data entry and analysis were done using statistical package for social sciences (SPSS) version 20. The final data was summarized into percentages and analyzed by cross tabulations for various variables. Chi-square values were calculated wherever appropriate and p values were based on the 2 –tailed values. Associations were assessed using Epi Info version 7.1.2. and 95% confidence interval was calculated wherever appropriate.

Ethical considerations Ethical clearance was obtained from the ethical committee of the medical college. Informed consent was obtained from all the participants after assuring that the data collected will not be used for any other purposes other than research and that privacy and confidentiality of the subject will be maintained at all times.

IV. Results

Table 1 : Socio demographic profile

	Variables	Frequency	Percentage
1.	**Education**		
	Illiterate	25.0	12.5
	Primary	40.0	20.0
	Secondary	95.0	47.5
	Graduate /diploma and above	40.0	20.0
2.	**Occupation**		
	Employed	42.0	21.0
	Unemployed	158.0	79.0
3.	**Religion**		
	Hindu	161.0	80.5
	Christian	35.0	17.5
	Muslims	4.0	2.0
4.	**Per capita income***		
	Class 1and II	79.0	39.5
	Class III	71.0	35.5
	Class IV and V	50.0	25.0
5.	**Marital status**		
	Unmarried	22.0	11.0
	Once married(living with spouse/ widowed or separated)	178.0	89.0

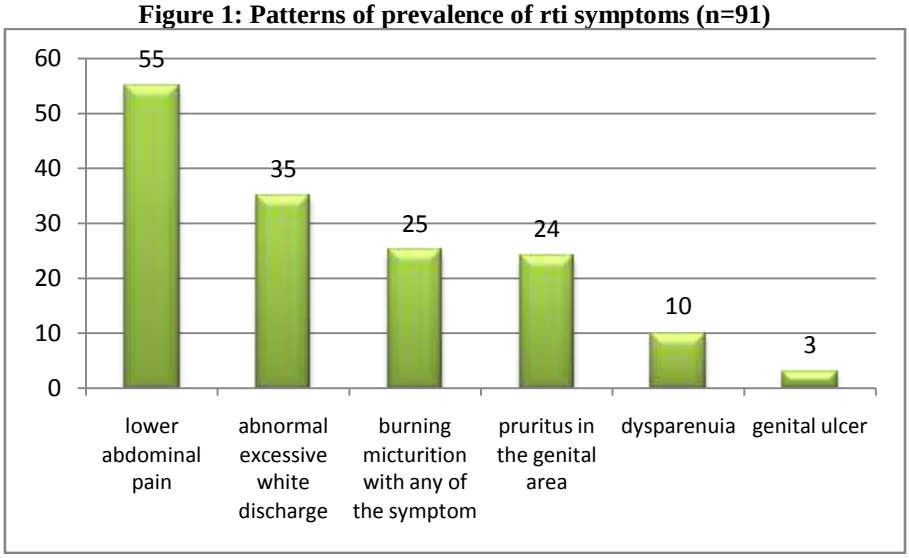
Of the study population 67.5% were have had secondary education or above; 79% were unemployed; 80.5% were Hindu by religion; 60.5% of Class III and below in socio economic classification , 89% were once married

Table 2: Prevalence of symptoms of rti in the last one month

RTI symptoms	Frequency	Percentage
Present	91	45.5
Absent	109	54.5
Total	200	100

Symptoms of RTI as mentioned earlier were present in 45.5% of the study population, with a 95% CI of 38.6-52.4%.

Figure 1: Patterns of prevalence of rti symptoms (n=91)



This table has multiple responses. The symptoms reported were lower abdominal pain (55) excessive vaginal discharge(35), pruritis of genital area (25). The least reported were dyspareunia (10), and genital ulcer (3).

Table 3 : Association between RTI symptoms and certain suspected risk factors.

Variable	Classification of variable (number in the class)	Number with RTI symptoms in the corresponding class (out of 91)	Odds ratio 95% CI	Chi square test	p value
Dysmenorrhea	Yes (73)	49	4.131 (2.239-7.623)	20.324	0.0000077*
	No (127)	42			
Passing clots during menstruation	Yes (46)	31	3.23 (1.61- 6.49)	10.427	0.0012*
	No (154)	60			
Pregnancy	Pregnant at-least once (166)	73	1.43 (0.68- 3.003)	0.588	0.442
	Never pregnant (34)	18			
Abortions	Never had an abortion (155)	67	1.501 (0.770-2.922)	1.058	0.303
	Had 1 abortion or more(45)	24			

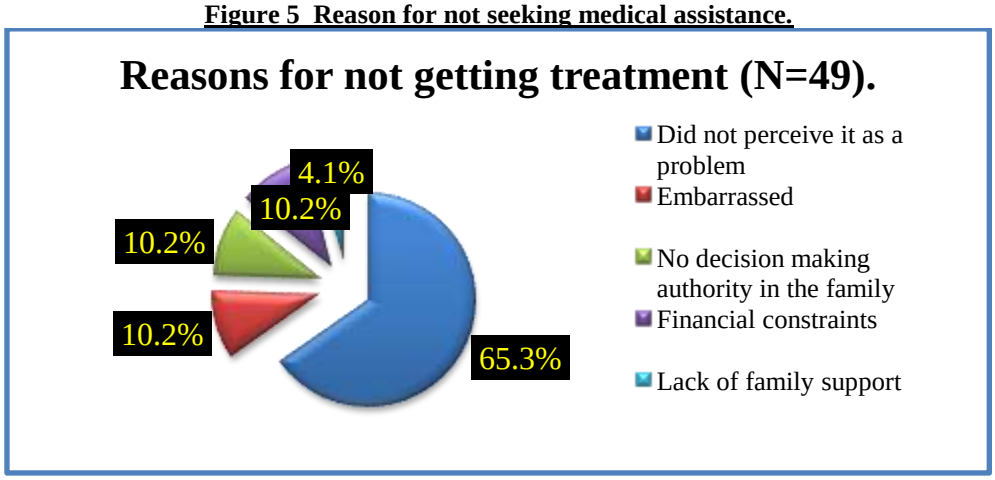
RTI symptoms were 4.131(odds ratio) times more common in women who had dysmenorrhea than others and this association was statistically significant (p value=0.000007*); it was 3.23 (odds ratio) times more common in women who pass clots during menstruation than the others. This association was also statistically significant and the p value was 0.0012*

Table 4. Presence or absence of treatment seeking behavior

Treatment seeking behavior	Frequency (out of 91)	Percentage
Yes	42	46.2
No	49	53.8
Total	91	100

The overall prevalence of treatment-seeking behaviour in women with RTI symptoms is 46.2% with a 95% CI of 39.29-53.11.

Figure 5 Reason for not seeking medical assistance.



Many of them (65.3%) did not perceive the symptoms as a major health problem so as to seek treatment. Financial constraints, lack of decision making authority in family & embarrassment were equally responsible for not seeking treatment.

Table 6 Association between treatment seeking behaviour& socio-demographic factors of symptomatic women

Variable	Classification of variable	Number of subjects who sought medical assistance	Odds ratio 95% CI	Chi square test	p value
Occupation	Employed(21) Unemployed(70)	16 26	5.415 (1.775-16.51)	8.401	0.003*
Age	>30 (35) ≤30 (56)	21 21	2.50 (1.051- 5.94)	3.528	0.036*
Education	<secondary (28) Secondary and above (63)	15 27	1.538 (0.628- 3.76)	0.516	0.472
Residence	Urban(65) Rural(49)	29 19	1.27 (0.59- 2.70)	0.188	0.664

Treatment-seeking for RTI symptoms was 5.415 times higher (odds ratio) among employed women when compared to unemployed women and this association was statistically significant (p=0.003*)

Treatment-seeking for RTI symptoms was 2.5 times higher among women above 30 years of age when compared to women below 30 years of age and this association was also statistically significant (p=0.036*)

V. Discussion

Our study reveals that the overall prevalence of RTI symptoms is 45.5 %, with a 95 % C.I of 38.6% - 52.4%. This is comparable with results of a study done in Delhi (11) in which the prevalence was found to be 36.8% .Similarly a study in Andhra Pradesh[16] (10) showed a prevalence of 35.6%. The slightly lower rates in the other studies may be attributed to the use of laboratory investigations and genital examination for diagnosis whereas our study was based on only symptoms.

Commonest symptom of RTI according to the present study was lower abdominal pain (55) excessive vaginal discharge(35), In the study conducted in Delhi[4] lower abdominal pain was (49%),Vaginal discharge (35%)were the commonest symptoms.

RTI symptoms were 4.2 times (Odd's ratio = 4.2) more common in women who also had dysmenorrhoea. (P value = 0.001) This is comparable to a study done in Goa, (12) in which they found an association between dysmenorrhoea and RTI symptoms like vaginal discharge and pruritus in the genital area.
RTI symptoms is 3.23 times (OR= 3.23) also more common in women who passed clots during menstruation. (p value = 0.001). Though this finding is statistically significant comparison could not be made because of lack of literature comparing the two variables. There is a need to research further on this association.

RTI symptoms were 1.24 times (OR= 1.24) more commonly seen among women who had tubectomy when compared to others; however, the association was not statistically significant. This is comparable to study conducted in Pakistan in 2005, where the prevalence of RTI was 79% among women who had tubectomy and this was attributed to changes in the blood supply to uterus and ovaries following tubal ligation (13)

There was no significant association between the prevalence of RTI symptoms and residence, number of conceptions, live births or abortions. This is in accordance with the study done in Tamil Nadu, (14) which showed similar results.

The prevalence of seeking treatment among the women with RTI symptoms is 46.2 % with 95 % C.I of 39.29-53.11 .In a study done by in rural area of Tamil Nadu 80.7% of the women sought treatment[21](15), which is higher than found in present study . Women more than 30 years had an increased tendency to seek medical assistance and this association was statistically significant (p value = 0.036). The tendency to seek medical help increases with age[4] (9) in a study conducted in Delhi in 2014.The prevalence of seeking treatment is much higher among employed women as compared to the unemployed and this association was found to be statistically significant. (p value = 0.003).

The reason for symptomatic women not seeking any treatment was the perception that their symptoms were normal as well as lack of family support, financial constraints, lack of decision making power and embarrassment. These reasons were similar to the ones reported in other studies in India: stigma and embarrassment, lack of privacy, lack of female doctors at health facilities and treatment cost (15)

Inspite of the free health care provision by the Indian government, majority of women (81%) who had sought care, had consulted private practitioners. Sixty nine percent of the treatment-seeking women were compliant to the treatment, which is less when compared to Agra study (16) where it was 92 %.

VI. Conclusion

RTI symptoms are prevalent in 45.5 %, of the study population and hence are a significant health problem. Many women are embarrassed about RTI symptoms and believe that these do not warrant medical help. The result of this study shows that, awareness of reproductive infections still remains poor, despite several government efforts as in Reproductive and Child health (RCH) programs under National Rural/ Urban Health Missions. Community based initiatives should be encouraged to promote awareness, prevention and early treatment of RTI. Early detection and Management of RTI should receive attention by the health care system. Further community based studies are required to assess the burden and risk factors.

The authors would like to acknowledge Dr. Christina MP Paul M.D. for the analytical support and Dr.Prathiksha M.D. who was briefly involved in the study.

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