



EMPOWERING WOMEN'S HEALTH: A CLOSER LOOK AT RTIs IN PUNE'S VILLAGES

Community Medicine

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ABSTRACT

Reproductive Tract Infections (RTIs) pose a significant health risk to women, particularly in rural settings of developing countries. This study aimed to assess the prevalence of RTIs among non-pregnant married women in a rural community near Pune, India, and to explore the correlation between socio-economic factors and the prevalence of these infections. A cross-sectional study was conducted from September 2007 to July 2009, involving 300 married women. Data was collected through a pre-tested questionnaire, clinical examination, and laboratory testing. Results revealed that 61.3% of women reported RTI symptoms, 31% were clinically diagnosed, and 20.6% were laboratory-confirmed with RTIs. Prevalence was higher in older age groups, with the highest clinical confirmation in women aged 26-35 years. Socio-economic factors, particularly educational status, were significantly associated with lower rates of RTI confirmation, suggesting that higher education levels correlate with better hygiene practices and earlier health-seeking behavior. The findings highlight the need for targeted health education and interventions to reduce the incidence of RTIs, particularly in low-literacy rural communities, to improve women's reproductive health outcomes.

KEYWORDS

Reproductive tract infections, women, rural, education

INTRODUCTION:

Reproductive Tract Infections (RTIs) significantly impact women's reproductive health, particularly in developing countries. These infections can be caused by bacterial, viral, protozoal, and fungal agents, affecting both the upper and lower reproductive tracts. The lack of adequate attention to non-pregnant women's reproductive health has contributed to the persistence of untreated RTIs, resulting in severe complications such as infertility, pelvic inflammatory disease, and a heightened risk of contracting HIV/AIDS. The epidemiology of RTIs/STIs in India plays a wide diversity. According to the UNFPA and Population Council (1), this diversity is conjectured to be due to:

- The enormous size of our country reflecting true epidemiological diversity.
- The different phases of the STI/HIV epidemic that our country is presently experiencing (i.e. rising, stable or declining).

One of the earliest pioneering studies in this field by Bang et al (2) conducted in rural Maharashtra gave the first and perhaps the most compelling evidence of the burden of gynaecological morbidity in women. This study examined 650 women and found a gynaecological disease prevalence of 92% with an average of 3.5 conditions per woman. Prevalence of cervicitis was found to be 48.7% and PID was 24.15% whereas those of candidiasis, trichomoniasis & bacterial vaginosis were found to be 34.05%, 13.98% and 62.19% respectively.

Objectives:

Primary Objective: To determine the prevalence of RTIs among non-pregnant married women in a rural community.

Secondary Objective: To examine the correlation between socio-economic factors and the prevalence of RTIs, and to offer recommendations for health education interventions to reduce the occurrence of RTIs.

Methodology:

Study Design: Cross-sectional study

Study Population: Non-pregnant married women residing in the rural village of Kasurdi, near Pune.

Sample Size: A review of existing literature on the prevalence of RTIs amongst married women showed a wide range of prevalence, ranging from 5-90% (3). To obtain an approximate idea of the prevalence of RTIs, amongst study population, a pilot study was conducted on 54 women and 23% prevalence of RTIs was obtained. The minimum sample size was calculated on an anticipated prevalence of 23% (with the level of confidence 95% and an error of margin 5%) and it was found to be 272. Responses and results of 300 women [272 (calculated sample size) + extra 10% to cater for non-response] are analysed in the

study.

Sampling Method: The population of the village was 2080 and total no. of married women on record was 620. Of total no. of married women (N=620) on record, 58 women could not be contacted. 35 women either reported missed period or had given birth in previous six weeks. 21 were on antibiotics course for ailments like respiratory tract infections, urinary tract infections and skin infections, hence excluded. Out of remaining 506 married women, 300 women were selected by computer generated random numbers using simple random sampling technique.

Data Collection: Data was collected through a pre-tested, close-ended questionnaire covering socio-demographic background, health status, and self-reported symptoms of RTIs. Physical and gynaecological examinations to confirm clinical signs, and high vaginal swabs will be taken for microscopic evaluation.

Data Analysis:

Statistical analysis performed to correlate the prevalence of RTIs with socio-demographic variables, using appropriate biostatistical methods.

RESULTS:

The present cross-sectional community-based study was carried out among married non-pregnant women residing in the village of Pune from September 2007 to July 2009. A total of 300 subjects had been selected for the study by simple random sampling technique.

Table 1: Prevalence of RTIs in Study Population

Parameter	Prevalence	Confidence Interval
Self-reported symptoms	61.3%	55.71 – 66.76
Clinical diagnosis	31%	25.95 – 36.42
Laboratory diagnosis	20.6%	16.36 – 25.52

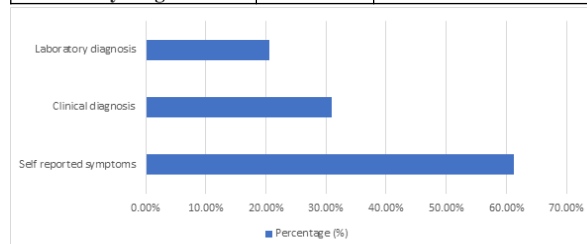


Fig A Prevalence of RTI among respondents

Table 1 & Fig A elaborate that the prevalence of any of the self-reported symptom among respondents was found to be 61.3%. Some

respondents reported multiple symptoms while 38.7% were considered asymptomatic as they did not reported any symptom.

31% of the respondents in the study were clinically positive and the commonest clinical diagnosis made among them was vaginitis followed by cervicitis. Basic field laboratory tests diagnosed 20.6% of total respondents to be suffering from one of the three selected RTIs for which the study has been carried out.

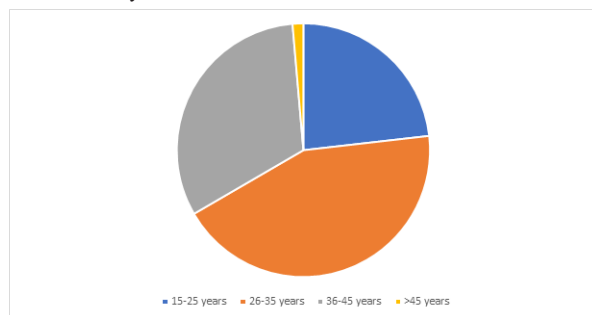


Figure 2 Age-wise distribution of respondents

Table 2: Distribution of laboratory confirmed respondents as per age group

Age Group (in years)	Laboratory confirmed		Total
	Yes	No	
15 – 25	8 (13.1%)	53 (86.9%)	61 (20.3%)
26 – 35	24 (21.1%)	90 (78.9%)	114 (38.0%)
36 – 45	18 (21.4%)	66 (78.5%)	84 (28.0%)
> 45	12 (29.3%)	29 (70.7%)	41 (13.7%)
Total	62 (20.7%)	238 (79.3%)	300 (100.0%)

$\chi^2 = 4.01$, $df=3$, $p = 0.260$

(Note: Figures in parenthesis are row percentages)

Table 2 reveals that laboratory confirmation of RTIs was present in 13.1%, 21.1%, 21.4% & 29.3% of respondents in age group of 15-25 yrs, 26-35 yrs, 36-45 yrs & > 45 yrs respectively. Thus there is increase in laboratory confirmation as the age of the respondents increases. This was found to be statistically not significant ($p > 0.05$).

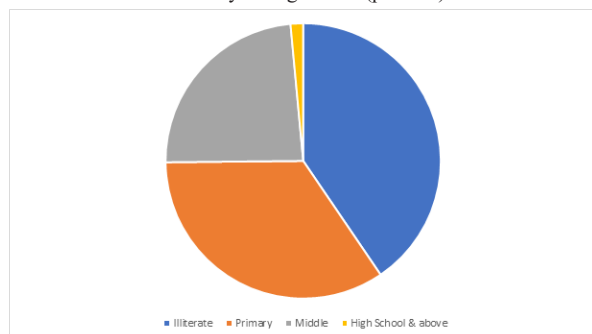


Figure 3 Education-wise distribution of respondents

Table 3 : Distribution of laboratory confirmed respondents as per education status of respondents

Education status	Laboratory confirmed		Total
	Yes	No	
Illiterate	30 (30.3%)	69 (69.7%)	99 (33.0%)
Primary	21 (25.0%)	63 (75.0%)	84 (28.0%)
Middle	8 (13.7%)	50 (86.3%)	58 (19.3%)
High School & above	3 (5.0%)	56 (95.0%)	59 (19.7%)
Total	62 (20.7%)	238 (79.3%)	300 (100.0%)

$\chi^2 = 16.98$, $df=3$, $p = 0.000$

(Note: Figures in parenthesis are row percentages)

Table 3 shows that laboratory confirmation was present in 30.3% of illiterate respondents; 25% of those educated up to primary; 13.7% of those educated up to middle class and 5% of those educated up to class X & above. Thus there was a decrease in laboratory confirmation as the education status increased. This was found to be statistically significant ($p < 0.05$). Overall 48.3% (30 out of 62) of lab confirmation

of RTIs was found in illiterates.

DISCUSSION:

The present study is a cross-sectional, community-based descriptive study, which was undertaken from September 2007 to Jul 2009 to study prevalence of self-reported symptoms of Reproductive Tract Infections (RTIs) amongst 300 married women of reproductive age group and their correlation with clinical and laboratory findings. The study was conducted at a village which is a rural health training centre of the institution. Young married women were of particular interest because, at this stage of life when they undergo childbearing, they experience pregnancy and birth outcomes that might be influenced by RTIs or predispose to RTIs. Unmarried young women were also of considerable interest; however, a speculum examination was not deemed culturally appropriate for them, and so they were excluded from the study.

The present study reveals that there was differential distribution of clinical confirmation of RTIs among different age group and this was found to be not significantly associated with clinical confirmation of RTIs. It is to be appreciated that there are numerous confounders like parity status, method of contraception acceptance, educational & nutritional status etc which needs to be adjusted before establishing such an association. The present study found respondents in age group of 26-35 years were maximally confirmed clinically to be suffering from RTIs, followed by those in age group of >45 years, 36-45 years and lowest by those in age group of 15-25 years.

However, Rathore et al (4) in their study at rural Rajasthan found significant association of observed morbidity due to RTIs with increasing age. They observed lowest number of RTIs in age group 15-19 years and highest number in 30-34 years age group.

This study observed that as the education status of respondents' increases, there was lesser confirmation of RTIs clinically. On analysis, this was found to be statistically significant. This can be perceived in light that as education status rises, there is an improved standard of personal hygiene, better perception of suggestive symptoms, even lesser incidence of such infections and early reporting to health facilities when they are of milder variety.

Saurabh Singh (5) also documented that those women, who were educated up to primary level, were more likely to report menstrual problems as well as RTIs/STDs as compared to those who have completed higher secondary. But Rathore et al (26) did not observe any statistically significant difference in RTIs status of women from their literacy status.

Summary & Conclusion:

The study population is young with mean age 34.2 years ($SD=18.2$) with the maximum number of respondents in the age group of 26-35 years (38%). 67% of respondents were literate while 33% were illiterate. The study population is predominantly agrarian community with 64.7% being involved in farming. Most respondents (94%) belong to lower socioeconomic status as per Prasad's socioeconomic scale.

This study provides insights into the prevalence of RTIs in a rural setting, highlighting the socio-economic factors contributing to the spread of these infections. It will help inform health interventions and education programs targeted at reducing RTIs among women in rural communities.

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