ORIGINAL RESEARCH PAPER
Volume-6 | Issue-9 | September-2017 | ISSN No 2277 - 8179 | IF : 4.176 | IC Value : 78.46
INTERNATIONAL JOURNAL OF SCIENTIFIC RESEARCH

# A STUDY OF REPRODUCTIVE TRACT INFECTIONS AMONG REPRODUCTIVE AGE GROUP WOMEN IN A RURAL HOSPITAL OF MAHARASHTRA

Community Medicine

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## ABSTRACT

**OBJECTIVES:** To find out the occurrence of RTI among reproductive age group women and to study the socio-demographic factors in relation with etiological agents causing RTI in rural hospital in Maharashtra.
**MATERIAL & METHODS:** Hospital based study was conducted in which 240 patients were included for 2 months and detailed information along with high vaginal and endocervical swabs were taken.
**RESULTS:** Mean age of women with RTI was 33.08 years (SD + 9.73). Majority came with abnormal excessive vaginal discharge. 61.67% women were diagnosed with bacterial vaginitis. Significant association found between socioeconomic class and unhygienic conditions with RTI ($p<0.05$).
**CONCLUSION:** Bacterial Vaginosis was diagnosed in most of the women. Low socioeconomic class and unhygienic conditions were found to be associated with occurrence of RTI.

## KEYWORDS

Reproductive tract infection, rural area, hospital study.

## INTRODUCTION

Reproductive tract infections (RTIs), including both sexually transmitted infections (STIs) and non-sexually transmitted infections (non-STIs) of the reproductive tract are responsible for major ill-health throughout the world.(1) World Health Organization estimates that each year there are over 340 million new cases of STIs in which 75–85% occur in developing countries. South Asia alone contributes around 150 million cases of the RTI/STI.(2) In India alone, 40 million new cases emerge each year.(3). 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.(4)

A majority of women continue to suffer from RTIs leading to complications like pelvic inflammatory disease (PID), infertility, cervical cancer, postabortal, and puerperal sepsis, chronic pelvic pain, and ectopic pregnancy. RTIs in many cases are asymptomatic among women, making their detection and diagnosis difficult.(5)

Hence this study was planned to know more about the current situation of RTIs among the rural women population with the objectives to find out the occurrence of RTI among reproductive age group women and to study the socio-demographic factors in relation with etiological agents causing RTI.

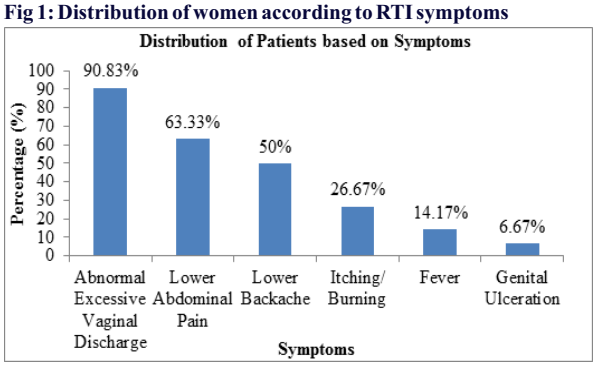
## MATERIAL AND METHOD

It is a Cross-sectional hospital based study conducted for 2 months. Total of 240 female with age more than 16 years with symptoms like excessive white discharge, vulval itching and redness, lower abdominal pain, etc coming to gynecology OPD, SRTR GMC Ambajogai were studied. A pretested structured questionnaire was used to interview the women about their socio-demographic, reproductive history, current and past RTI symptoms, etc. Per speculum examination of each patient was done, high vaginal and endocervical swabs were taken. In case of unmarried women, the discharge was collected using a gloved finger after their consent. Women with menstrual bleeding and women in post puerperal period were asked to come for examination after cessation of menstrual bleeding and lochia respectively. Vaginal and endocervical swabs were sent to the Department of Microbiology, where swabs were properly gram stained and inoculated in suitable media. Statistical analysis was performed using SSPS software (Version 17.0) using appropriate test and proportions.

## RESULTS

Out of all 240 patients who came with the complaints, 232 were found to be suffering with RTI while 8 were normal. Fig. 1 show that the majority of women i.e. 218 (90.83%) came with the complaint of abnormal excessive vaginal discharge or white discharge followed by lower abdominal pain 152 (63.33%) and lower backache 120 (50%).

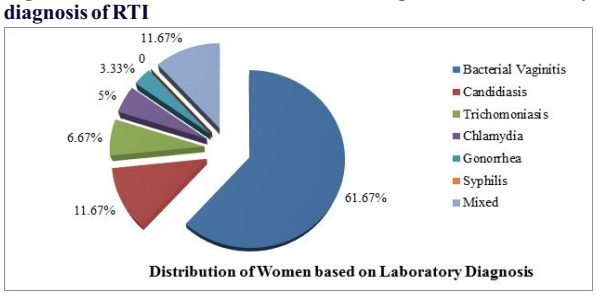
**Fig 1: Distribution of women according to RTI symptoms**




The distribution of women according to clinical findings of RTI shows that 120 (50%) had cervicitis, followed by PID in 48 (20%), Erosion in 46 (19.17%), cyst in 12 (5%), uterine prolapse in 10 (4.17%) and genital ulcers in 8 (3.33%). Few of the women i.e. 24 (10%) had other complaints like vaginitis, vulvitis, tenderness at fornixes, etc.

Laboratory diagnosis in fig. 2 shows that among 232 women, 148 (61.67%) women were diagnosed with bacterial vaginitis, followed by candidiasis 28 (11.67%). No women were diagnosed with syphilis. Mixed infections were found in 28 (11.67%) women which includes Bacterial Vaginosis, candidiasis, chlamydia, etc.

**Fig 2: Distribution of women according to the laboratory diagnosis of RTI**




Means age of women suffering from RTI was 33.08 years (SD + 9.73). Table 2 shows that, out of 148 women who were diagnosed with bacterial Vaginosis, 96 (64.86%) women were less than 30 years of age followed by 56 (37.83%) women between 31 to 45 years of age.

Similarly, out of 28 women diagnosed with candidiasis, 24 (85.71%) women were below 30 years of age, showing that RTI was seen more commonly in younger age group women.

**Table 1: Sociodemographic profile of the women with RTI signs:**

| Socioeconomic Factors | Bacterial Vaginosis | Candidiasis | Others |
|---|---|---|---|
| AGE | 96 | 24 | 20 |
| <30 | 56 | 12 | 16 |
| 31-45 | 16 | 8 | 12 |
| >45 | | | |
| RELIGION | 100 | 12 | 30 |
| Hindu | 38 | 14 | 12 |
| Muslim | 30 | 2 | 6 |
| Others | | | |
| OCCUPATION | 112 | 36 | 26 |
| Employed | 56 | 8 | 22 |
| Unemployed | | | |
| MARITAL STATUS | 156 | 36 | 36 |
| Married | 8 | 4 | 12 |
| Widowed/Separated | 4 | 4 | 0 |
| Unmarried | | | |
| EDUCATION | 60 | 12 | 16 |
| Illiterate | 108 | 32 | 38 |
| Literate | | | |
| SOCIOECONOMIC CLASS | 0 | 0 | 0 |
| I | 8 | 0 | 0 |
| II | 18 | 6 | 2 |
| III | 44 | 20 | 38 |
| IV | 88 | 8 | 18 |
| V | | | |
| MATERIAL USED DURING | 46 | 4 | 4 |
| MENSTRUATION | 104 | 36 | 36 |
| Sanitary Pads | | | |
| Clothe | | | |

Majority of women belonged to Hindu religion i.e. 146 (52.5%), followed by Muslims i.e. 58 (27.5%). Out of 240, 158 (65.88%) women were employed while 86 (34.16%) were unemployed. Out of 158 employed, 112 (70.88%) women were suffering from bacterial vaginosis, while 36 (22.78%) were diagnosed with candidiasis. 208 (86.66%) women were married in which 156 (75%) were diagnosed with bacterial vaginosis, 36 (17.30%) were diagnosed with candidiasis. Out of 240, 88 (36.66%) women were illiterate while 152 (63.33%) were literate. No significant association was seen between the educational level and RTI among the women.

Table 1 also shows that 136 (56.67%) women belonged to socioeconomic class V of Modified B G Prasad Scale, followed by 86 (35.83%) who belonged to class IV. No women from class I and few women from class II have come to the hospital. Significant association was seen between low socioeconomic class and the occurrence of RTI among women ($p<0.05$).

Total of 164 (68.33%) women were using clothe during menstruation while 50 (20.83%) were using sanitary pads. Significant association was found between unhygienic conditions and occurrence of RTI ($p<0.05$).

## DISCUSSION

Mean age of females diagnosed with RTI in this study was 33.08 years (SD $\pm$ 9.73) which is similar to the study done by Bhilwar *et al*.(6) Shethwala *et al* in there study showed mean age as 27.4 years.(7) We did not find significant association between age of women and prevalence of RTI. However, maximum numbers of female patients were less than 30 years of age. Mani G *et al* reported the significant association between age and prevalence of RTI with a highest prevalence in the age group 18-20 years (57.1%) followed by 36-40 years (48.1%).(8)

The prevalence of RTI in the studies conducted in the community shows different rates depending on the areas i.e. 44.6% (95%CI=0.39-0.50) in rural areas of Uttar Pradesh.(9) Present study reported 90.83% females with abnormal excessive vaginal discharge followed by lower abdominal pain (63.33%) and lower backache (50%). Bhilwar *et al* in their study reported symptoms as abdominal pain (68.2%), back pain (69.6%), and vaginal discharge (59.3%).(6) Similar results were obtained in study of Shethwala *et al* were proportion of abnormal discharge was 98% (7) and Sreelatha *et al* as 63.2%.(10) Gupta *et al* in Dehradun reported vaginal discharge (85.6%) and urinary symptoms (49.5%).(11) Present study shows that 120 (50%) had cervicitis, followed by PID 48 (20%). Prasad *et al* in their study explained that 8% had cervicitis and 6% had PID.(12)

Laboratory diagnosis showed that 61.67% women were diagnosed with bacterial vaginitis, followed by candidiasis 11.67%. Similarly, higher rates of bacterial vaginosis were seen in the studies conducted in Gujarat, Tamil Nadu and Mysore.(7, 12, 13)

No significant association was seen between occupation, educational level and the RTI among the women. Only few studies showed statistical association, (12) while few studies didn't show any association.(9)

Significant association was found between unhygienic menstrual conditions and occurrence of RTI ($p<0.05$). Singh D *et al* mentioned that the prevalence of RTI was significantly ($p=0.04$) lower who used sanitary pads (31.3%, OR=0.42) and cloths after washing (43.6%, OR=0.72) compared with using dirty cloths (51.8%, OR=1.00).(9) Sreelatha C *et al* showed the prevalence of RTIs significantly high ($p<0.001$) in those who were using any type of cloth whether clean or unclean.(10)

## CONCLUSION

In our study, Bacterial Vaginosis was diagnosed in most of the women and mostly in younger age group. Low socioeconomic class and unhygienic conditions were found to be associated with occurrence of RTI.

## LIMITATIONS

Only patients coming to the gynecology OPD with the complaints were studied. Asymptomatic patients may go undiagnosed. Hence overall prevalence of RTI in this area can't be found out. Also HIV status of the females wasn't taken into consideration. There is a need to conduct community based study in this area to find out the prevalence of RTI.

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