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Original Research Article

Prevalence of symptoms of reproductive tract infections among married reproductive age group women in selected rural areas of Hassan, Karnataka, India

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ABSTRACT

Background: STI/RTIs have been recognized as major public and reproductive health challenges worldwide. In developing countries, RTI/STIs are the second or third most common public health problem of young people. A variety of factors that put women at risk of reproductive tract infection, such as socio- economic, demographic, sexual, medical, behavioral practices, personal hygiene behavior have not been adequately explored in India. An objective of the study was to estimate prevalence of STI/RTI among married reproductive age group women in selected CHCs/PHCs of Hassan District and to understand the influence of various factors on STI/RTI among women.
Methods: A community based cross sectional study undertaken over a period of 3 months from May 2016 to July 2016, in rural areas of Hassan. Total of 400 married women in the age group 15-49 years were included in the study. Household survey was done in the selected clusters till 20 women per cluster were identified. Married women of reproductive age group of 15 to 49 years, residing in the study area for past 6 months were included in the study.
Results: The prevalence of STI/RTI among married reproductive women was 32%. Prevalence of vaginal discharge decreased with an increase in age, level of education and income. RTI/STI was observed to be higher in scheduled castes and tribes (35.8% and 33.3%) respectively.
Conclusions: Health education regarding the risk factors of unhygienic menstrual practices, non-institutional deliveries and illegal abortions must be imparted to the women in the study area in order to bring about a behavioral change to protect them from RTI/STI.

Keywords: Hassan, Prevalence, STI/RTI, Syndromic management

INTRODUCTION

STI/RTIs have been recognized as major public and reproductive health challenges worldwide.[1] They present a huge burden of disease and adversely impacts reproductive health of people. These infections cause suffering for both women and men around the world, but their consequences are far more devastating and widespread among women than among men.[2] In developing countries, RTI/STIs are the second or third most common public health problem of young people. The unprecedented population growth of the 20th century and the movement of that population from isolated rural towns and villages into large crowded urban environments has resulted in an increased frequency of exposure to many diseases of which STIs are amongst the most important.

The incidence of RTIs has increased dramatically throughout the world.[3] WHO estimates that each year

there are over 340 million new cases of STI/RTI in which 75 to 85% occur in developing countries. In India 40 million cases of STI/RTI emerge each year. These 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. Each year nearly 1.3 million women die of reproductive health problems that are largely preventable and 1 out of 20 teenagers contract a sexually transmitted disease, some of which causing lifelong disabilities such as infertility or death.[4] The greatest impact of RTI/STI is on women and children. Some of the possible consequences of untreated RTI/STIs in women include tubal infertility, still births, abortions, neonatal deaths, ectopic pregnancies, recurrent urinary tract infections, pain during coitus, menstrual irregularities, chronic pelvic pain and maternal death.[5] The importance of STIs has been more widely recognized since the advent of the HIV/AIDS epidemic and there is good evidence that the control of STIs can reduce HIV transmission.[6] WHO has recommended a syndromic management of STI/RTI which is based on signs and symptoms through which a health worker without laboratory support can diagnose.

A broad based study conducted in different part of the country revealed a prevalence of reproductive tract infections varying from 19 to 71%. Marked variation has been found across all these studies in terms of pattern and level of morbidity which means that no single set of estimates for RTIs, could apply in such a large and diverse country as India. Hence, the prevalence rates of RTIs for a particular geographical area need to be assessed so as to help the health administrator in providing better services for their treatment and control.[7] A variety of factors that put women at risk of reproductive tract infection, such as socio- economic, demographic, sexual, medical, behavioral practices, personal hygiene behavior have not been adequately explored in India. Concerted efforts are needed to provide useful information to health planners and policymakers so that appropriate strategies can be designed to bring about an improvement in reproductive health of women.[8]

Objectives of the study was to estimate the prevalence of STI/RTI among married reproductive age group women in selected CHCs/PHCs of Hassan District. To understand the influence of various factors on STI/RTI among women.

METHODS

A community based cross sectional study, undertaken over a period of 3 months from May 2016 to July 2016, in rural areas of Hassan. 20 clusters comprising of 20 villages were randomly chosen from the PHCs/CHCs coming under the field practice area of Community Medicine Dept. Total of 400 married women in the age group 15-49yrs were included in the study. Sample size was calculated based on the study conducted by Sridevi et al in rural areas reported a prevalence STI/RTI symptoms of 35.7% at 95% confidence interval, 20% allowable error calculated sample size is 192.[9] To reduce Design effect from cluster sampling design we have to multiply with 2 which turns to be 384. Thus 400 sample size from 20 clusters was taken up for the study. Household survey was done in the selected clusters till 20 women per cluster who comes under inclusion criteria were identified. Married women of reproductive age group of 15 to 49 years, residing in the study area for past 6 months were included in the study. Women who have undergone hysterectomy, known cases of carcinoma cervix, who are not willing to participate in the study were excluded.

The respondents were visited in their homes by the female interns and a batch of female students accompanied by ANM/ASHA worker of the village. After obtaining informed consent from the respondent, information will be obtained using a pre designed semi structured questionnaire. Information thus obtained regarding the presence of STI/RTI will be as per the WHO syndromic approach protocol. STI/RTI was said to be present if the respondent reported the presence of at least one of the symptoms under the syndrome. WHO has identified syndromic approach for identifying and managing cases with RTIs/STIs which provide health workers with a tool to improve the diagnostic process. Syndromic management identifies consistent group of symptoms and easily recognized signs and provide guidelines for treatment that deals with majority of organisms responsible for producing each syndrome such as vaginal discharge, genital ulcer, and pain in lower abdomen including pelvic inflammatory disease and inguinal bubo.

Vaginal discharge considered to be present when abnormal in amount, smell, color, consistency associated with genital itching, burning micturation, frequency of micturation, lower back ache, lower abdominal pain and genital complaints in sexual partners. Lower abdominal pain is associated with fever, vaginal discharge, menstrual irregularities, dyspareunia, dysuria, tenesmus, lower back ache. Genital ulcer or vesicles associated with burning sensation in the genital region.

Information is sought regarding socio- demographic profile of the study subjects, Obstetric history and marital history, Current and past three months h/o STI/RTI symptoms , Personal and menstrual hygiene practices etc. Epi-Info version 6.04d software was used for data entry and analysis. The x^2 test was applied to compare proportions and P values were calculated.

RESULTS

Among 400 currently married women in the reproductive age group, 128 reported one or the other symptoms related to STI/RTI. Thus prevalence of RTI/STI based on symptoms was found to be 32 per cent.

The most common RTI/STI symptom was vaginal discharge, 63.2% among the symptomatic, which is white

in color in 82% of the cases and non-foul smelling in 52% of the cases. Low back ache is found in 12.5 per cent followed by lower abdominal pain in 10.9 per cent of symptomatic (Table 1).

Majority of the subjects (24.0%) were in the age group of 20-24 years and 25-29 years (23.1%). Very less number of respondents was there in the age group of 45-49 years (4.4%) (Figure 1).

Table 1: Distribution of various symptoms of STI/RTI.

Symptoms	No. of subjects (percentage)
Vaginal discharge	81 (63.2%)
Lower abdominal pain	14 (10.9%)
Low back ache	16 (12.5%)
Genital ulcer	11 (8.5%)
Dyspareunia/dysuria	2 (1.5%)
Other symptoms	4 (3.1%)

Table 2: Distribution of factors affecting STI/RTI among reproductive age group women.

Factors	RTI/STI		Total 400	X^2	P
	Present 128	Absent 272			
Age group (yrs)					
15-19	11 (25.5%)	32 (74.4%)	43 (100%)	11.6	>0.05
20-24	41 (41.8%)	57 (58.1%)	98 (100%)		
25-29	33 (35.1%)	61 (64.8%)	94 (100%)		
30-34	21 (31.8%)	45 (68.1%)	66 (100%)		
35-39	14 (28%)	36 (72%)	50 (100%)		
40-44	6 (18.1%)	27 (81.8%)	33 (100%)		
45-49	2 (12.5%)	14 (87.5%)	16 (100%)		
Caste					
General	4 (25%)	12 (75%)	16(100%)	17.5	<0.001
SC/ST	42 (51.2%)	40 (48%)	82(100%)		
OBC	82 (27.1%)	220 (72.8%)	302(100%)		
Education					
Illiterate	18 (40.9%)	26 (59%)	44 (100%)	4.54	>0.05
Primary	35 (34.3%)	67 (65.6%)	102 (100%)		
Secondary	30 (34%)	58 (65.9%)	88 (100%)		
High school	22 (29.7%)	52 (70.2%)	74 (100%)		
Higher secondary	18 (26.4%)	50 (73.5%)	68 (100%)		
Graduation	5 (20.8%)	19 (79.1%)	24 (100%)		
Occupation					
Business	7 (63.6%)	4 (36.3%)	11(100%)	25.5	<0.001
Skilled worker	8 (38%)	13 (61.9%)	21 (100%)		
House wife	87 (27.6%)	228 (72.3%)	315 (100%)		
Student	5 (23.8%)	16 (76.1%)	21 (100%)		
Unskilled worker	21 (65.6%)	11 (34.3%)	32 (100%)		
Per capita income[10]					
<800	31 (52.5%)	28 (47.4%)	59 (100%)	25.9	<0.001
800-1499	54 (39.1%)	84 (60.8%)	138 (100%)		
1500-2699	23 (22.1%)	81 (77.8%)	104 (100%)		
2700-5499	17 (21.2%)	63 (78.7%)	80 (100%)		
>5500	3 (15.7%)	16 (84.2%)	19 (100%)		
Person conducting delivery (n=340)					
Doctor	52 (28.1%)	135 (71.8%)	187 (100%)	6.04	>0.05
Nurse/ANM	33 (32.4%)	71 (67.5%)	104 (100%)		
TBA	9 (52.1%)	8 (47.8%)	17 (100%)		
Others	13 (39.1%)	19 (60.8%)	32 (100%)		
Women using different family planning method					
OCP's	9 (34.6%)	17 (65.3%)	26 (100%)	11.3	<0.05
Condom	11 (31.4%)	24 (68.5%)	35 (100%)		
IUCD	35 (46.6%)	40 (53.3%)	75 (100%)		
Female sterilization	21 (22.8%)	71 (77.1%)	92 (100%)		
None	52 (30.2%)	120 (69.7%)	172 (100%)		
Menstrual practices					
Sanitary pads	13 (14%)	80 (86%)	93 (100%)	18.1	<0.001
Reusing cloth	115 (37.4%)	192 (62.5%)	307 (100%)		

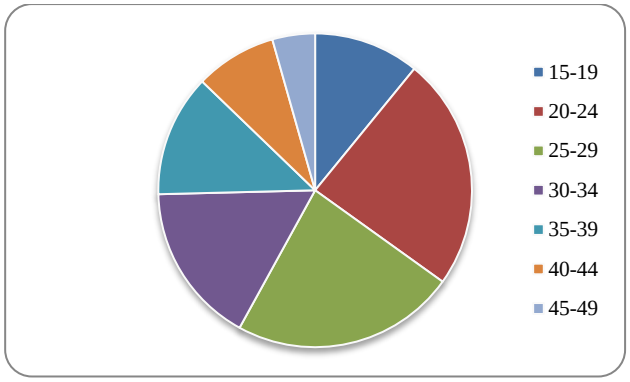

Figure 1: Pie diagram showing age distribution of study subjects.

Highest prevalence of RTI/STI was found in the 22-24 years age group (41.8%) followed by 25-29 years age group (35.1%). Lesser prevalence was found in the 45-49 years age group (12.5%). However differences in prevalence of RTI/STI by age groups is not statistically significant. The prevalence of RTI/STI was found to be higher in scheduled castes and scheduled tribes (51.2%) than in other social groups. The differences in the prevalence of RTI/STI by social status were also found to be statistically significant. Highest prevalence of RTI/STI was found in the illiterates (40.9%). The prevalence of RTI/STI decreases with the level of education and found to be lowest in degree and above group (20.8%) and higher secondary level of literacy status (26.4%). However, these differences in the prevalence of RTI/STI by literacy status were not found to be statistically significant. The prevalence of RTI/STI found to be higher among unskilled workers' group (65.6%) and least in students' group (23.8%). The differences in RTI/STI prevalence by occupation were also found to be statistically significant.

Higher prevalence of RTI/STI was found in less than 800 per capita income groups (52.5%). The prevalence of RTI/STI decreased with increase in the per capita income level of the women. The differences were also statistically significant. RTI/STI prevalence was higher among women who had IUCD (46.6%) compared to other family planning methods. The differences were statistically significant. Higher prevalence of RTI/STI was found among women whose deliveries were conducted by family TBA (52.1%) compared to deliveries conducted by doctor (28.1%). However the differences were not statistically significant. The prevalence of RTI/STI was found to be highest in those women who were using cloth during menstruation (37.4%) compared to usage of sanitary pads (14%) which was statistically significant (Table 2).

DISCUSSION

Prevalence of RTI/STI in the present study was 32 per cent based on symptoms. This is comparable with other community-based studies.[9,11-14] In all the studies prevalence of RTI/STI varied considerably, from 21.9 to 92 per cent. These variations in prevalence in various studies may be due to the difference in socio-demographic, cultural, diagnostic procedures and treatment seeking behaviour.

The present study revealed that vaginal discharge was the most commonly observed symptom constituting 63.2% followed by and low backache (12.5%) and lower abdominal pain (10.9%). The prevalence of symptoms of RTI/STI was comparable to that of other studies.[11,13,14,15,17] Vaginal discharge was most commonly observed symptom in most of the studies. Variations in proportions of symptoms may be factors like high-risk behaviour, accessibility of health facility, treatment seeking behaviour, etc.

The prevalence of RTI was maximum in 20-30 years age group, which is similar to other studies.[17,18] Present study revealed that prevalence of RTI/STI decreased with an increase in the level of education. It was similar to the findings of other studies.[4,11,14] Research has consistently shown that women's education is strongly linked to better reproductive health. Educated women use health care services much more than illiterate women.

Prevalence of RTI/STI was least in students (28.5%) compared to other occupation. This may be due to rare exposure to sexual activity in students. But in the study by Hawkes S et al, RTI/STI prevalence was 40% in women working outside home and 4.8% in housewives.

The prevalence of STI/RTI was more among the lower caste (51.2%), which is similar to study done by Sridevi et al.[9]

Low income group women have high prevalence of STI/RTI (52.5%) compared to women of high income group (15.7%).[9,18,19] RTI/STI was more prevalent among women whose deliveries are conducted by TBA (52.1%) compared to deliveries conducted by doctors. Untrained hands and unhygienic practices during delivery may results in infection.

RTI/STI was found in maximum i.e. 46.6% of women using IUCD, as the procedure may lead to introduction of infection. The results are similar to other studies.[19,20] The prevalence of RTIs was significantly high ($p<0.001$) in those who were using any type of cloth whether clean or unclean, which is similar to other studies.[9,19,20]

CONCLUSION

The prevalence of STI/RTI among married reproductive women was 32%. The most commonly observed symptoms were vaginal discharge (63.2%) followed by lower back ache (12.5%), lower abdominal pain (10.9%), genital ulcer (8.5%). Prevalence of vaginal discharge decreased with an increase in age, level of education and

income. RTI/STI was observed to be higher in scheduled castes and tribes (35.8%and 33.3%) respectively.

Health education regarding the risk factors of unhygienic menstrual practices, non-institutional deliveries and illegal abortions must be imparted to the women in the study area in order to bring about a behavioral change to protect them from RTI/STI. Women should be educated about the major symptoms of RTI/STI and to report early to health system. Education of adolescent girls on menstrual hygiene and sexual hygiene should be carried out. Selective screening of women requesting an IUD must be carried out. During treatment of RTI, the importance of partner treatment must be explained to the patients in order to prevent recurrence. Involvement of the males in the treatment and prevention of RTIs will bring about better results in treatment outcome as well as prevent the recurrence of the infection.

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