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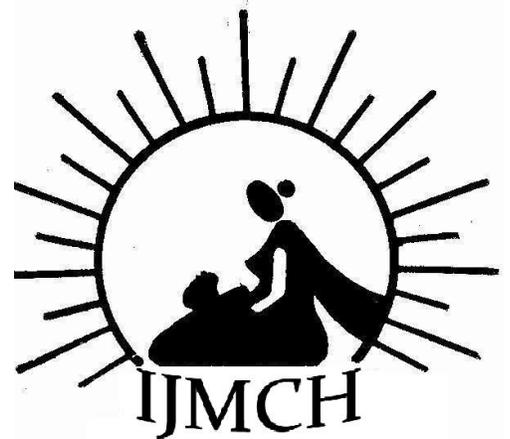
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To find out the association of menstrual hygiene with prevalence of RTI's/STI's among females of reproductive age group.

Relationship of RTI/STI with menstrual hygiene in females of Reproductive age group in Urban slums of a City in UP

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ABSTRACT

Background: Reproductive tract infections (RTIs) are one of the major public health problems, more so in developing countries.¹ So, the control of RTIs, especially sexually transmitted infections (STIs), is an urgent health priority.

Objective: To find out the association of menstrual hygiene with prevalence of RTI's/STI's among females of reproductive age group.

Material and Methods: A community based cross sectional study was carried out in two randomly selected urban slums of Agra city, among 360 females. Chi square test was used for statistical analysis.

Results: The overall prevalence of RTI/STI was high i.e. 44.4% and it was more among females who had their menarche <13 years of age (48.0%) and among non-menstruating females (46.9%). Prevalence of RTI/STI was more i.e. 44.8% among those who changed pads only once or twice a day than those who changed pads three or more times, though statistically insignificant. The prevalence was significantly less among sanitary pad users than others.

Key words: *Reproductive tract infection, Menarche, Menstrual hygiene.*

INTRODUCTION

Reproductive health, as defined by WHO means “ a state of complete physical, mental, and social well being and not merely the absence of disease or infirmity, in all matters relating to the reproductive system and to its functions and processes. Reproductive health therefore, implies that people are able to have satisfying and safe sex life and that they have the capability to reproduce and the freedom to decide, if, when and how often to do so (WHO, 1999)².

Reproductive tract infections (RTIs) are common diseases with profound social, health and economic consequences for women, men and children. As an attribute to optimum health, it has been the most neglected health problem throughout the world. RTIs are related to girls' and women's basic sexual and reproductive health needs. Women can be infected leading to RTI/STIs not only from sexual intercourse, but also from the use of unclean cloths during menstruation.

Menstruation is a physiological phenomenon unique to the females³ and is part of the female reproductive cycle that initiates at puberty⁴. Hygiene practices during menstruation are of considerable importance as it has enormous health impact in terms of increased vulnerability to infections of the reproductive tract.⁵ Interaction of socio-economic status, menstrual hygiene practices and RTI is noticeable. Today millions of women suffer from RTIs and its complications. It is likely that the infection is transmitted to the offspring of the pregnant mother.⁶

Although menstrual hygiene is an issue that every girl and woman has to deal with in her life, there is lack of information on the process of menstruation, the physical and psychological changes associated with puberty and proper requirements for managing menstruation. The taboos surrounding the issue in the society prevents girls and women from articulating their needs and the problems of poor menstrual hygiene management have been ignored or misunderstood.

Unhygienic practices during menstruation endanger the reproductive health and well-being of adolescent girls as well as adult women and expose them to reproductive tract infection, pelvic inflammatory diseases (PIDs) and their complications⁷.

Few studies done in the past have acknowledged the association between menstrual hygiene and RTIs. However, the relationship between the two processes has been a neglected subject. Given this, it was decided to identify the relationship, if any, between menstrual hygiene practices and reproductive tract infections.

MATERIALS AND METHODS

The present study was conducted in Jattu Bazar and Wazirpura locality of Agra city from March 2008-September 2009 among females of reproductive age group. Sample size of 360 was calculated assuming prevalence of RTIs/STIs as 22.4% (Patnaik L et al - 2007)⁸ and margin of error 20%. 180 females of reproductive age group were interviewed from each slum. The study population was selected by using multistage simple random sampling. In the first stage two wards were selected randomly from the list of municipal wards using the random number table. In second stage, one slum from each ward was selected and the slums were - Jattu Bazaar from Khataina ward and Wazirpura from Wazirpura ward. For the selection of study cases a central location in each of the selected area was approached and

direction to start the interview was randomly decided by spinning the pencil. The direction towards which the pencil point faced was chosen and the nearest household visited and was asked for any female in the reproductive age group in that household. Every house was covered following left hand principle until desired sample size was achieved from each slum. The detailed information was collected on a predesigned and pretested structured schedule. The information thus collected was computerized in specific program developed on Microsoft excel 2003 software and were analyzed.

RESULTS

The prevalence of RTI/STI among women of reproductive age group was high i.e. 44.4% and it was more (48.0%) in females who had their menarche at <13 years of age and less (35.8%) in those who had their menarche at the age of 13 and more; and this difference was found to be statistically significant ($\chi^2 = 4.5$, $df = 1$, $p < 0.05$) as shown in Table 1.

Table 1: Distribution of RTI/STI cases in relation to age of menarche

Age of Menarche (Years)	Study population		RTI/STI Cases	
	No.	%	No.	Prevalence (%)
< 13	254	70.6	122	48.0
≥ 13	106	29.4	38	35.8
Total	360	100	160	44.4

$\chi^2 = 4.5$, $df = 1$, $p < 0.05$

Table 2 shows that prevalence of RTI among menstruating females was 44.2% and among non menstruating females it was 46.9%, however this difference was not found to be statistically significant ($\chi^2 = 0.084$, $df = 1$, $p > 0.05$). Among non menstruating females, prevalence was maximum i.e. 53.8% in post menopausal females followed by 42.1% in hysterectomised females. But, the difference was not found to be statistically significant ($\chi^2 = 0.427$, $df = 1$, $p > 0.05$).

Table 3 depicts that overall prevalence of RTI/STI in menstruating females was 44.2%. Prevalence was maximum i.e. 44.8% among those who changed pads once or twice a day and minimum i.e. 41.9% in those who changed pads ≥ 3 times a day but this difference was not found to be statistically significant ($\chi^2 = 0.129$, $df = 2$, $p > 0.05$). Regarding the prevalence of RTI/STI according to the type of material used, it was found that prevalence of RTI/STI was minimum i.e. 32.1% in sanitary pads users and maximum i.e. 59.2% among those who used any other cloth for menstruation and this difference was found to be statistically significant ($\chi^2 = 7.37$, $df = 2$, $p < 0.05$).

Table 2: Distribution of RTI/STI cases according to menstruating status of respondents

Menstruating status	Study Population		RTI/STI Cases		
	No.	%	No.	Prevalence (%)	Test of significance
Menstruating	328	91.1	145	44.2	$\chi^2 = 0.084$ df = 1, p > 0.05
Non menstruating	32	8.9	15	46.9	
(i) Hysterectomised	19	5.3	8	42.1	$\chi^2 = 0.427$ df = 1, p > 0.05
(ii) Post menopausal	13	3.6	7	53.8	
Total	360	100	160	44.4	

Table 3: Distribution of RTI/STI cases in relation to menstrual hygiene

Frequency of Changing of Pads/day (Number & %)	Type of Material Used							
	Sanitary Pads		Dry & clean cloths pads		Any other Cloth		Total	
	Users	Cases	Users	Cases	Users	Cases	No.	Cases
1	9	3	58	25	7	4	74	32
%	12.2	33.3	78.4	43.1	9.5	57.1	22.6	43.2
2	15	4	171	73	37	23	223	100
%	6.7	26.7	76.7	42.7	16.6	62.2	68	44.8
≥ 3	4	1	22	10	5	2	31	13
%	12.9	25	71.0	45.5	16.1	40.0	9.5	41.9
Total users	28	8	251	108	49	29	*328	*145
%	8.5	32.1	76.5	43.0	14.9	59.2	100	44.2
Test of significance	<ul style="list-style-type: none"> Frequency of changing of pads Type of material used 		$\chi^2 = 0.129$, df = 2, p > 0.05 $\chi^2 = 7.37$, df = 2, p < 0.05					

*Not includes females who are not menstruating now, as some of them had undergone hysterectomy (19 females) or postmenopausal (13 females)

DISCUSSION

In the present study prevalence of RTI/STI was high (44.4%) and was more i.e. 48.0% in females who had their menarche less than 13 years of age and less (35.8%) in those who had their menarche at the age of 13 years and above. **Pant B. (2000)**⁹ also observed that the prevalence of RTI showed a positive association with early age at menarche.

As with the present study, prevalence of RTIs/STIs among menstruating females was 44.2% and among non-menstruating females, it was 46.9%, however menstruating status did not show any significant effect on prevalence of RTI/STI.

Regarding relation of menstrual hygiene with prevalence of RTI/STI, it was seen that prevalence was maximum i.e. 44.8% among those who change pads once or twice a day and minimum (41.9%) in those who change pads 3 times or more a day but this difference was not found to be statistically significant. It showed that frequency of changing pads was not so significant. According to the type of material used, prevalence of RTI/STI was minimum (32.1%) in sanitary pads users and maximum i.e. 59.2% among those who use any other cloth for menstruation. A higher prevalence of RTI in females using any other (dirty) cloth during menstruation is indicative of poor menstrual hygiene and added risk for RTI. Nearly similar findings were observed from the studies of **Pant B. (2000)** who found that the prevalence of RTI was significantly higher in women who used unwashed clothes during menstruation (40.2%) as compared to women who used either washed clothes (23.7%) or sanitary pads (28.6%) and **Dasgupta A (2007)** who reported that prevalence was maximum among girls using old cloth pieces.

CONCLUSION

Good menstrual hygiene is crucial for the health, education, and dignity of young girls and women. This is an important sanitation issue which has long been in the closet and there was a long standing need to openly discuss it.¹⁰ Awareness regarding reproductive health issues for women should be realized and discussed in the community more frequently. There is urgent need to popularize and provide low cost quality sanitary pads in the community to control the major problem of RTIs among women especially in slum dwellers.

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