

# A Community Based Study on Menstrual Hygiene among Reproductive Age Group Women in a Rural Area, Tamil Nadu

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## ABSTRACT

**Background:** Women suffer due to their ignorance on hygienic requirement during menstruation. Hygiene-related practices of women during menstruation are of considerable importance, as it has a health impact in terms of increased vulnerability to reproductive tract infections (RTI). **Aims:** This study aims to assess the hygienic practices during menstruation and influence of socio-demographic factors on menstrual hygienic practices among women of reproductive age-group. **Subjects and Methods:** It is a cross-sectional community-based study conducted among 200 women of reproductive age group (15-45 years) in a rural field practice area, VMKV Medical college, Salem in Oct-Dec 2013 by using simple random sampling technique. Using structured pretested questionnaire, women were interviewed regarding their sociodemographic history and menstrual hygiene practices. **Result:** Majority of study population, 36% (72/200) belonged to the 21-30 year age group. About 75% (150/200) were married. Majority of women were unskilled workers 35% (70/200), had primary education 43.3% (86/200), and 54.3% (108/200) belonged to lower middle class. The mean age of menarche among the reproductive age-group women was 13.15 years. Majority of women 51.8% (104/200) used cloth during menstruation; about 45.7% (91/200) used the same cloth by washing and reusing every month. There was a significant influence of sociodemographic factors and hygienic practices during menstruation ( $P < 0.001$ ). **Conclusion:** Most women were found to follow unhygienic practices. Hence, efforts such as improving female literacy and health education regarding the various risk factors should be made by the policy makers to increase menstrual hygiene among rural population.

**KEY WORDS:** Menstrual hygiene, reproductive age-group women, rural area

## INTRODUCTION

Menstrual hygiene and management is an issue that is insufficiently acknowledged and has not received adequate attention. The lack of menstrual hygiene among rural population is alarming, and there is an immediate need for policy-making and awareness programs to be initiated.<sup>[1]</sup>

Menstrual hygiene is a taboo subject; a topic that many women in South Asia are uncomfortable discussing in public. Naturally, topics that are excluded from public talks are most likely to be discarded without giving much importance. This is compounded by gender inequality, which excludes women and girls from decision-making processes. Hygiene-related practices of women during menstruation are of considerable importance, as it has a health impact in terms of increased

vulnerability to reproductive tract infections (RTI). The interplay of socioeconomic status, menstrual hygiene practices, and RTI are noticeable. Today millions of women are sufferers of RTI and its complications and often the infection is transmitted to the offspring of the pregnant mother.<sup>[2]</sup>

Reproductive Tract Infections (RTIs), which have become a silent epidemic that devastate women's life, are closely interrelated to poor menstrual hygiene. The use of rags and old clothes is a rule rather than exception in rural areas of India. Unclean rags and old clothes increase the chances of RTIs including urinary, vaginal, and perineal infection. Very often, serious infections are left untreated and may sometimes lead to potentially fatal toxic shock syndrome. Untreated RTIs are responsible for 10-15% of fetal wastage and 30-50% of prenatal infection. Increasingly, RTIs are also linked with the incidence of cervical cancer, HIV/AIDS, infertility, ectopic pregnancy, and a myriad of other symptoms.<sup>[3]</sup>

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Women having better knowledge regarding menstrual hygiene and safe practices are less vulnerable to RTI and its consequences. Therefore, increased knowledge about menstruation right from childhood may escalate safe practices and may help in mitigating the suffering of millions of women. The first step is raising awareness, hygiene education and promotion, the provision of affordable and accessible products and facilities, and waste management.

There is a cyclical causal relationship between the neglect of menstrual hygiene and low levels of awareness amongst communities, practitioners, and policymakers, which needs to be broken. The negative effects of this neglect are far-ranging on the lives of women and on the achievement of wider development goals.<sup>[4]</sup>

This study aims to assess the hygienic practices during menstruation and influence of socio-demographic factors on menstrual hygienic practices among women of reproductive age-group.

## SUBJECTS AND METHODS

This is a cross-sectional, community-based study conducted in Oct-Dec 2013 for a period of 3 months among 200 women of reproductive age group (15-45 years) in a rural field practice area, VMKV Medical college, Salem after obtaining ethical clearance from the institution and informed consent from the reproductive age-group women. The sample size 200 was calculated by taking into consideration 19% of women under 15-45 years in the community at 95% Confidence Interval and 3% permissible error covering  $\pm 1.96$  under normal distribution curve, with the application of the formula [ $\pm 1.96 \sqrt{Pq/n} = \pm 0.03$ ].

A structured pretested questionnaire was used, referred from other studies,<sup>[5-7]</sup> and validated by standard questions on menstrual hygiene along with testing by pilot study. By using simple random sampling technique, women were selected and interviewed regarding their sociodemographic history, age of onset of menstruation, and menstrual hygiene-related practices such as use of cloth or sanitary pads during menstruation, disposal of pads, reuse of cloths, daily bathing using soap, and genital hygiene by washing with soap and water during menstruation.

## ANALYSIS

### Statistical analysis

Statistical tests like Chi-square and Proportions were used for analysis by using SPSS software.

## RESULTS

Table 1 shows the socio-demographic profile of the study population. It was found that majority of study population 36% (72/200) belonged to 21-30 years of age. This was followed by women of age 31-40 years, 34.5% (69/200). Young girls of 15-20 years constituted 22% (44/200) and women of age 41-50 years were of 17.5% (15/200). The mean age of reproductive age-group women was 29.2 years.

Majority of women 60% (120/200) attained menarche at the age of 13-15 years, followed by 37% (74/200) at the age of 10-12 years and 3% (6/200) at the age of 16 and above. The mean age of menarche among reproductive age group women was 13.15 yrs.

About 75% (150/200) were married, while 25% (50/200) were unmarried. Majority of women had primary education 43.3% (86/200), followed by 28.5% (57/200) higher secondary schooling, 20.5% (41/200) illiterate women, and 8% (16/200) graduates. The number of unskilled workers were more 35% (70/200), followed by 28.5% (57/200) semiskilled workers, 22.5% (45/200) skilled workers, and 14% (28/200) students.

It was found that majority of women 30% (60/200) belonged to lower middle class, followed by 24.5% (49/200) belonged to upper lower class and upper class. About 14% (28/200) belonged to lower lower class and 7% (14/200) belonged to upper middle class.

**Table 1: Socio-demographic profile of the study population**

Socio-demographic profile	Number of women, n=200	Percentage
Age group		
15-20	44	22.0
21-30	72	36.0
31-40	69	34.5
41-50	15	7.5
Age of menarche		
10-12	74	37
13-15	120	60
16 and above	6	3
Marital status		
Married	150	75
Unmarried	50	25
Educational status of women		
Illiterate	41	20.5
Primary	86	43.0
High school	57	28.5
Graduate	16	8.0
Women occupation		
Unskilled	70	35
Semiskilled	57	28.5
Skilled	45	22.5
student	28	14
Socioeconomic status of women		
Lower lower	28	14
Upper lower	49	24.5
Lower middle	60	30
Upper middle	14	7
Upper class	49	24.5

Table 2 shows menstrual hygiene practices among study population. Majority of women 52% (104/200) used cloth during menstruation. About 35% (70/200) used sanitary pads, while 13% (26/200) preferred both cloth and sanitary pads. The number of women who used same cloth every month after washing and reusing constituted 45.5% (91/200), while 19.5% (39/200) used new cloth each time of menstruation. The number of women using antiseptic lotion to wash the cloth were 13.4% (27/200) only, while 51.5% (103/200) did not use any antiseptic lotion to wash the cloth used during menstruation.

Majority of women 32% (64/200) changed 2-3 sanitary pads per day, followed by 13.5% (27/200) women who changed less than 2 sanitary pads per day, and 2.5% (5/200) women changed 4-5 sanitary pads per day. It was found that among women who used sanitary pads majority of them 32.5% (65/200) threw it in dust bin and 15.5% (31/200) burned it. Among those who used clothes, 45.5% (91/200) women washed and reused it while 19.5% (39/200) used new cloth. It was found that around 16.5% (33/200) had poor genital hygiene during menstruation, while 83.5% (167/200) maintained genital hygiene during menstruation by washing after changing of the pads.

Table 3 shows influence of sociodemographic factors and hygienic practices during menstruation. It was found that among 70 unskilled workers, majority 64.3% (45/70) used cloth during menstruation, while among 57 semiskilled workers, majority 54.4% (31/57) used cloth, whereas among skilled workers and students, majority 53.3% (24/45) and 71.4% (20/28) used sanitary pads during menstruation, respectively. This difference was found to be statistically significant ( $P < 0.001$ ).

It was found that among illiterate women, majority 95.1% (39/41) used cloth during menstruation while among those who had primary education, majority 59.3% (51/86) used cloth whereas among those who had completed high school and graduation, majority 70.2% (40/57) and 93.7% (15/16) used sanitary pads during menstruation, respectively. This difference was found to be statistically significant ( $P < 0.001$ ).

It was found that among those who were married, majority 62.7% (94/150) used cloth during menstruation, while among those who were unmarried, majority 60% (30/50) used sanitary pads during menstruation. This difference was found to be statistically significant ( $P < 0.001$ ).

It was found that socioeconomic classes influenced on menstrual hygiene practices. Among Lower lower, upper lower, and lower middle class women, majority 100% (28/28), 53% (26/49), and 55% (33/60) women used cloth during menstruation, while among those of upper middle class and

**Table 2: Practices of menstrual hygiene among study population**

Menstrual hygiene practices	Number of women, n=200	Percentage
During menstruation		
Use cloth	104	52
Use sanitary pad	70	35
Use both cloth and sanitary pad	26	13
Use same cloth every month		
Yes	91	45.5
No	39	19.5
Use antiseptic lotion for cloth		
Yes	27	13.4
No	103	51.5
Number of pads changed every day		
<2	27	13.5
2-3	64	32.0
4-5	5	2.5
Disposal practices		
Throw the pad or cloth	65	32.5
Burn it	31	15.5
Wash and reuse the cloth	46	23.0
Use new cloth each time	84	42.0
Genital hygiene		
Yes	167	83.5
No	33	16.5

**Table 3: Relationship of sociodemographic profile and practice of menstrual hygiene of the study population**

Sociodemographic variables	Menstrual hygiene practices (%)			Total n=200	Level of significance
	Use cloth	Use pad	Use both cloth and sanitary pad		
Women occupation					
Unskilled	45 (64.3)	15 (21.4)	10 (14.3)	70	$\chi^2=32.85$ $P<0.001$
Semiskilled	31 (54.4)	11 (19.3)	15 (26.3)	57	
Skilled	20 (44.4)	24 (53.3)	1 (2.3)	45	
student	8 (28.6)	20 (71.4)	0 (0)	28	
Total	104	70	26	200	
Women education					
Illiterate	39 (95.1)	2 (4.9)	0 (0)	41	$\chi^2=27.18$ $P<0.001$
Primary	51 (59.3)	13 (15.1)	22 (25.6)	86	
High school	13 (22.8)	40 (70.2)	4 (7.0)	57	
Graduate	1 (6.3)	15 (93.7)	0 (0)	16	
Total	104	70	26	200	
Marital status					
Married	94 (62.7)	40 (26.7)	16 (10.7)	150	$\chi^2=16.34$ $P<0.001$
Unmarried	10 (20)	30 (60)	10 (20)	50	
Total	104	70	26	200	
Socioeconomic status					
Lower lower	28 (100)	0 (0)	0 (0)	28	$\chi^2=34.56$ $P<0.001$
Upper lower	26 (53.0)	14 (28.6)	9 (18.4)	49	
Lower middle	33 (55)	12 (20)	15 (25)	60	
Upper middle	2 (14.3)	12 (85.7)	0 (0)	14	
Upper class	15 (30.6)	32 (65.3)	2 (4.1)	49	
Total	104	70	26	200	

upper class, majority 85.7% (12/14) and 65.3% (32/49) used sanitary pads during menstruation. This difference was found to be statistically significant ( $P < 0.001$ ).

## DISCUSSION

In the present study, majority of women 120 (60%) attained menarche at the age of 13-15 years, followed by 74 (37%) at the age of 10-12 years and 6 (3%) at the age of 16 and above. The mean age of menarche among reproductive age group women was 13.15 years.

Similarly, a study by Kamaljit *et al.* found that the age of menstruating girls ranged from 10 to 15 years with maximum number of girls falling between 12 and 15 years of age, and the mean age of menarche of the respondents has been observed as 12.5 years.<sup>[5]</sup> A similar study conducted by Deo *et al.*<sup>[6]</sup> reported that the age of menstruating girls ranged from 12 to 17 years, with maximum number of girls between 13 to 15 years of age, whereas in a study carried out in Rajasthan by Khanna *et al.*,<sup>[7]</sup> the mean age at menarche was found to be 13.2 years.

Our study shows that majority of the women preferred cloth pieces rather than sanitary pads as menstrual absorbent. Only 35% women used sanitary pads during menstruation. It was observed that the usual practice was to wash the cloth with soap after use and keep it at some secret place till the next menstrual period. To keep the cloth away from prying eyes, these are sometimes hidden in unhygienic places. Privacy for washing, changing, or cleaning purpose is something very important for proper menstrual hygiene. In a study conducted in Rajasthan by Khanna *et al.*,<sup>[7]</sup> three-fourths of the girls used old cloth during their periods and only one-fifth reported using readymade sanitary pads. Similarly, a study regarding menstrual hygiene practices by Kamaljit *et al.*<sup>[5]</sup> found that 68.7% girls used sanitary pads and 30 (10.0%) respondents practicing any cloth or rag/cotton during menstruation.

Regarding the method of disposal of the used material, most of the women 45% reused cloth pieces. In a similar study conducted among 664 schoolgirls aged 14-18 years in Mansoura, Egypt by El-Gilany *et al.*,<sup>[8]</sup> the different aspects of personal hygiene were generally found to be poor, such as not changing pads regularly or at night and not bathing during menstruation, with lack of privacy being an important problem.

A study by Ray Sudeshna *et al.* found good menstrual hygiene was more among girls with literate mothers, girls studying in more than grade 10 in school, having prior knowledge about menstruation before menarche, usage of proper sanitary latrine at home, and exposure to advertisements promoting usage of sanitary towels in mass media.<sup>[9]</sup>

A study by Shamima Yasmin *et al.* found that out of 147 respondents, 62 (42%) girls were aware about menstruation prior to attainment of menarche. Hand-washing was regular among 91.8% but 16.3% washed only with water. Similarly, washing of private parts were regular among 76.9% but 74.1% used only water no soap, there is significant relationship between hygienic practices followed and presence of continuous supply of water and presence of exclusive toilet of their family.<sup>[10]</sup>

A study by Salve *et al.* found that 93 (49%) rural and 94 (71%) urban girls had started menarche, regularities of menstruation was better in rural girls, i.e. 87 (94%) compared to urban girls, 53 (56%). Percentage of using market available sanitary napkins was more in urban girls 56 (60%) compared to rural girls 6 (06%), whereas homemade sanitary napkins were used by 87 (94%) rural girls and 38 (40%) urban girls and this difference was statistically significant amongst rural girls. Female teacher was the main source of knowledge 89 (47%) in rural areas while it was the mother in urban area 48 (36%). Knowledge about reproductive system, determination of fetal sex, age of marriage, etc., was better amongst urban girls. Social taboos such as separate sitting, restriction on attending school, and social functions were more amongst rural girls while sanitary facilities such as attached toilet, full wall bathroom, sufficient water, etc., were less in rural areas.<sup>[11]</sup>

Out of total 360 adolescent girls, 257 (71.39%) girls have attained menarche. Maximum number of girls (72.77%) attained menarche in the age range 12-14 years. About 15.96% girls reported blood flow for more than 5 days. In 66.54% girls, menstrual cycle was of 28-32 days.<sup>[11]</sup>

A study by Keerti Jogdand *et al.* found that only 36.19% girls were aware regarding menstruation prior to the attainment of menarche. About 53.7% girls reported use of sanitary pads during menstruation, 34.63% girls reported use of old clothes during menstruation, and 11.6% reported of having used both, similar to youngsters in our study. About 78.99% girls were not allowed to attend religious occasions, 22.97% and 20.63% girls, respectively, were restricted from doing routine household work and playing.<sup>[12]</sup>

## CONCLUSION

Menstrual hygiene, a very important risk factor for reproductive tract infections, is a vital aspect of health education for adolescent girls. Educational television programs, trained school nurses/health personnel, motivated school teachers, and knowledgeable parents can play a very important role in transmitting the vital message of correct menstrual hygiene to the adolescent girl of today.

Efforts such as improving the female literacy and health education on the various risk factors should be made by the policy makers to increase menstrual hygiene among rural population. Adoption of high quality menstrual hygiene will play an important role in prevention of RTI and Cancer of cervix among the women population. Therefore, promoting positive attitudes towards management of menstruation and related problems among the adolescent girls is the need of the hour.

## RECOMMENDATIONS

A separate National health policy concentrating on improvement of menstrual hygiene, thereby prevention of reproductive tract infections, is needed along with continued health education to measure the success of interventions aimed at improving the menstrual hygiene practices among women. Establishment of a comprehensive school health education program with instruction in hygienic practices related to menstruation is the need of today. Universalized use of sanitary pads or absorbent material needs to be advocated to every adolescent girl by making the easy availability through social marketing.

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