

**MENSTRUAL PATTERN AND PRACTICES OF MENSTRUAL HYGIENE AMONG
ADOLESCENT GIRLS AND YOUNG WOMEN RESIDES IN RURAL AREA OF
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ABSTRACTS

Menstruation is a natural and normal biological process experienced by all adolescent girls and women in reproductive age. **Aim & Objectives:** The aim of study is to determine the patterns of menstruation and awareness about menstrual hygiene and other aspects of menstruation in rural areas. **Material and Methods:** In this cross-sectional study, total 171 participants were enrolled; the desired information's were collected by personal interview with a self designed questionnaire. Statistically data were analyzed by using Microsoft Office Excel sheet 2007 and expressed in form of number and percentage. **Results:** Age of menarche in majority of participants 79 (46.19%) between 12-13 years; menstrual cycles were irregular in 42 (24.56%) subjects. 117 (68.42%) females reported 3-5 days blood flow during menstruation, 24 (14.03%) less than 3 days and 30 (17.54%) had ≥ 5 days of menstruation. 12 (7.01%) girls reported scanty blood loss, 135 (78.94%) medium blood flow and 24 (14.03%) heavy blood flow, length of cycle was shorter than <21 days in 36 (21.05%), between 21-35 days in 123 (71.93%) and longer than 35 days in 12 (7.01%). PMS were present in 113 (66.08%) and dysmenorrhea in 64 (37.42%) females. 18 (10.52%) had poor personal hygiene; 36 (21.05%) participants used sanitary pads, 104 (60.81%) had history of social withdrawal during menstruation. 100% participants were restricted to inter in the temple and prayers the god, 99 (57.89%) avoided to touch the pickles. **Conclusion:** The significant number of participants had irregular menstrual cycles, abnormal duration of blood flow and abnormal amount of blood loss during menstruation. PMS and dysmenorrhea are most common menstrual disorder. Hence these females need improvements in terms of knowledge and awareness about menstrual hygiene and other aspects of menstruation.

KEYWORDS: Menstrual patterns, Menstrual Hygiene, Premenstrual symptoms (PMS), Dysmenorrhea.**INTRODUCTION**

Menstruation is a natural and normal biological process experienced by all adolescent girls and women in reproductive age.^[1] In most females, it occurs between the ages of 10-16 years; however, it has a remarkable range of variation.^[2] In an adult woman, cycles typically range between 21 and 35 days.^[3] The duration of menstrual flow normally ranges from two to seven days;^[2] mean duration of menses is 4.7 days; 89% of cycles last in 7 days, the average blood loss per cycle is 35 ml. Recurrent bleeding in excess of 80 ml per cycle's results in anemia.^[3] Dysmenorrhea is the most common gynecologic disorder among female adolescents, with a prevalence of 60% to 93%.^[3] Knowledge of the length and variation of the menstrual cycle is necessary for reproductive females education and for identifying deviations from normal and to guide clinical

evaluation.^[4] The common menstrual disorder in female adolescents are amenorrhea, abnormal/excessive uterine bleeding, dysmenorrhea, and premenstrual syndrome.^[4] There are over 355 million menstruating women and girls in India,^[5] but millions of women across the country still face significant barriers to a comfortable and dignified experience with menstrual hygiene management (MHM). 71% of girls in India having no knowledge of menstruation before their first period.^[6] 70% of women in India cannot afford to buy sanitary pads.^[7] Almost 88% of women and girls in India use homemade alternatives, such as an old cloth, rags, hay, sand, or ash.^[8] Poor hygiene and inadequate self-care practices are major determinants of morbidity and other complications among this age group.^[9] Isolation of the menstruating girls and restrictions being imposed on them in the family, have reinforced a negative attitude

towards menstruation.^[10] These restrictions are laid on young girls from participating in household and other religious activities during menstruation. These restrictions extend to eating certain foods like jaggery and papaya as well.^[11,12] Hygiene related practices of women during menstruation are of considerable importance, especially in terms of increased vulnerability to reproductive tract infections (RTI).^[13] Women having better knowledge regarding menstrual hygiene and safe practices are less vulnerable to RTI and its consequences.^[14] Frequent menstrual disorders have impact on women's health status and quality of life; hence the evaluation and treatment of menstrual complaints should be given a higher priority in primary care programs.

MATERIAL AND METHODS

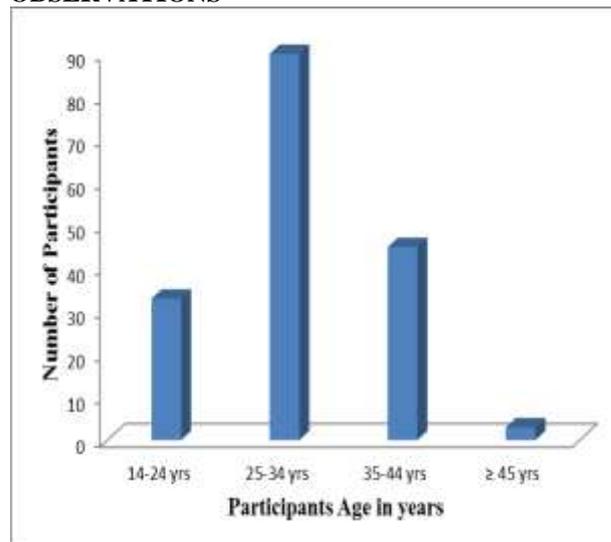
This descriptive, cross-sectional study, carried out in the department of physiology, SS Medical College in collaboration with rural PHC Devalab, Rewa, MP between 15 July to 30 September. Total 171 participants were enrolled in the study. All females of reproductive age group; who gave consent were enrolled and those who did not give consent were excluded from study. Data were collected after taking their informed consent from young females and adolescent girls at villages near to PHC. The participants were explained about the purpose of study and they were also explained that they could refuse the questionnaire without any hesitation. The participants were selected randomly by house-to-house surveys as well as from those reproductive age group females who attending PHC OPD; the desired information's were collected by personal interview with a self designed questionnaire. The questionnaire contained information regarding demographic parameters, socio-economic status, work habits, dietary habits, and age at menarche, menstrual cycle characteristics, total days of bleeding, regularity of cycle, knowledge and perception regarding menstruation, personal hygiene, menstrual hygiene etc. Statistically data were analyzed by using Microsoft Office Excel sheet 2007 and expressed in form of number and percentage.

Table 1: Distribution of participants (reproductive females of rural areas) on basis of Socioeconomic and educational status (N=171).

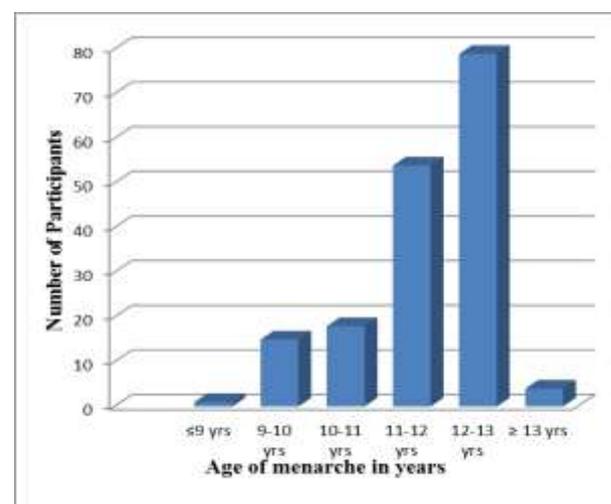
S. No.	Socioeconomic status	Participants (reproductive females of rural areas)	
		Number	Percentage
1	Upper SES	Nil	0.0%
2	Lower Middle SES	120	70.17%
3	Lower SES	51	29.32%

S. No.	Educational status	Number	Percentage
1	Up to 5 th Class	63	36.84%
2	Up to 8 th Class	42	24.56%
3	Up to 12 th Class	45	26.31%
4	Bachelor	21	12.23%
5	Master	Nil	0.0%

OBSERVATIONS



Graph. 1 Age group wise distribution of participants (reproductive females of rural areas).



Graph.2 Menarche age wise distribution of participants (reproductive females of rural areas).

Table 2: Distribution of participants (reproductive females of rural areas) on basis of their menstrual pattern (N=171).

S. No.	Pattern of menstruation	Participants (reproductive females of rural areas)		
		Number	Percentage	
1	Menstruation pattern	Regular	129	75.43%
		Irregular	42	24.56%
2	Duration of blood flow	≤ 3 days	24	14.03%
		3-5 days	117	68.42%
		≥ 5 days	30	17.54%
3	Amount of blood loss/cycle (Average)	Scanty	12	7.01%
		Moderate	135	78.94%
		Heavy	24	14.03%
4	Interval between two cycles	≤ 21 days	36	21.05%
		21-35 days	123	71.93%
		≥ 35 days	12	7.01%

Table 3: Distribution of participants (reproductive females of rural areas) on basis of problems associated at / during menstruation (N=171).

S. No.	Problems associated during menstruation	Participants (reproductive females of rural areas)		
		Number	Percentage	
1	Overall menstrual problem	122	71.34%	
2	Symptoms appear 2-5 days before Menses (Pre-Menstrual symptoms)	No	56	32.74%
		Yes	113	66.08%
3	Pain and 1 st 1-2 days during menses (Dysmenorrhea)	No	107	62.57%
		Yes	64	37.42%

Table 4: Distribution of participants (reproductive females of rural areas) on basis of awareness about menstrual hygiene (N=171).

S. No.	Personal Hygiene during menstruation	Participants (reproductive females of rural areas)	
		Number	Percentage
1	Good	72	42.10%
2	Fair	81	47.36%
3	Poor	18	10.52%
S. No. Uses of Absorbent (Types)			
1	Cloth piece	60	35.08 %
2	Sanitary pad	36	21.05%
3	Both Cloth piece / Sanitary pad	63	36.84%
4	Cotton piece or Home made	12	7.01%
5	Others	Nil	0.00%
S. No. Disposal of Absorbent			
1	Dustbin	66	38.59%
2	Burning	87	50.87%
3	Burrowing in toilet	Nil	0.00%
4	Thrown in open place	18	10.52%

Table 5: Distribution of participants (reproductive females in rural areas) on basis of affected routine activities, withdrawal behavior and nature of restriction during menstruation (N=171).

S. No.	Social / routine activities Absenteeism	Participants (reproductive females of rural areas)	
		Number	Percentage
S. No.	Routine activities affected		
1	Yes	90	52.63%
2	No	81	47.36%
S. No.	Social Withdrawal		
1	No	57	33.33%
2	Yes	104	60.81%
S. No.	Social Withdrawal from		
1	Friends	30	28.84%
2	Relatives	47	45.19%
3	Both and all others	27	25.96%
S. No.	Nature of restriction	Number	Percentage
1	No restrictions	Nil	00%
2	Yes restrictions	171	100%
3	To enter in temple and prayers	171	100%
4	Enter the kitchen	24	14.03%
5	Avoided hair washing	148	86.54%
6	Avoided to touch to certain foods eg. pickle	99	57.89%
7	Avoided going out	57	33.33%

RESULTS

In this study total 171 rural residence females were analyzed. Age of the participants was varied between 14 and 45 years. Most of participants 90 (52.63%) were belong to 24-24 years age group followed by 45 (26.31) 35-44 yrs, 33 (19.29%) 14-24 yrs and 3 (1.75%) in more than 45 yrs. (*Graph 1*) Age of menarche in majority of participants 79 (46.19%) between 12-13 years, followed by 31.57% in 11-12 yrs, 10.52% in 10-11 yrs and 8.77% in 9-10 yrs of age. (*Graph 2*) Most of participants 120 (70.17%) were belonging to the middle lower SES followed by 51 29.32% lower SES and there are nil participants that were belonging to upper SES. Educational status of most of participants 63 (36.84%) was 5th class followed by 45 (26.31%) 12th, 42 (24.56%) 8th and 0.0% master. (*Table 1*) The menstrual cycles were regular in 129 (75.43%) and irregular in 42 (24.56%) subjects. 117 (68.42%) girls reported 3-5 days blood flow during menstruation, 24 (14.03%) less than 3 days and 30 (17.54%) had ≥ 5 days of blood flow; 12 (7.01%) girls reported scanty blood loss, 135 (78.94%) medium blood flow and 24 (14.03%) had heavy blood flow; the length of cycle was shorter than <21 days in 36 (21.05%), between 21-35 days in 123 (71.93%) and longer than 35 days in 12 (7.01%). (*Table 2*) The overall prevalence of menstrual problem is 122 (71.34%), in which premenstrual symptoms were present in 113 (66.08%) girls and dysmenorrhea in 64 (37.42%). (*Table 3*) Among total participants 72 (42.10%) had good and 18 (10.52%) had poor personal hygiene; 36 (21.05%) participants used sanitary pads, 60 (35.08%) used cloth piece and maximum 63 (36.84%) were used both cloth piece and sanitary pads. The most, 87 (50.87%) participants disposed off their used napkin by burning followed by thrown 66 (38.59%) in a dustbin and 18

(10.52%) in open land space. (*Table 4*) In our study 90 (52.63%) females presented with affected routine activity, and 104 (60.81%) had history of social withdrawal during menstruation; of these 47 (27.48%) from relatives, 30 (17.54%) from friends and 27 (15.78%) from relatives, friends and all others. In this study 100% of participants faced some types of restriction during menses. 100% participants were restricted to inter in the temple and prayers the god, 99 (57.89%) participants avoided to touch the food such as pickles, 24 (14.03%) participants did not enter the kitchen and 57 (33.33%) girls avoid to outing. 148 (86.54%) female avoid their hair washing during menses. (*Table 5*).

DISCUSSION

Menstruation is a natural and normal biological process experienced by all adolescent girls and women in reproductive age. In this study majority (45.61%) of participants attain their menarche between 12-13 yrs this was similar to many studies such as *Paria B et al*^[15] study in which mean age of menarche is 12.24 ± 0.7261 , *Barthalakashmi J et al*^[16] study conducted in school girl of class 8th to 12th in which menarche age was 12.9 ± 1.2 yrs. The mean age of menarche in *Amita S et al*^[3] study, conducted in medical students was $12.5 (\pm 1.52)$ yrs were also similar to our study. The various other studies showed dissimilar result to our study such as *Prajapati D et al*^[17] and *Dambhare DG et al*^[18] study in which mean age of menarche was 13.44 ± 1.35 yrs, and 13.67 yrs respectively. This difference in the age of menarche may be influenced by several factors such as nutritional status, body stature, socioeconomic status and education status of participants. In this study most of participants (70.15%) were belonging to the lower middle SES and

most participants (36.84%) had 5th class educational status; 5.26% had abnormal family history of menstruation. In our study 7.01% girls reported scanty blood loss, 78.94% normal blood flow and 14.03% had heavy blood flow. 68.42% girls had 3-5 days duration of blood flow during menstruation, 14.03% had less than 3 days and 17.54% had ≥ 5 days, this was dissimilar to *Patil MS et al*^[19] in which 87.7% menstruated between 3-5 days and only 5.9% had menstrual period for more than 5 days. The several other studies had similar results; including *Jogdand K et al*^[20] and *Balsubramaniam P et al*^[21] in which 76.65% and 84% participants menstruate within 3-5 days respectively. In a *Malaysian study*,^[22] 88.2% girls had menstrual flow periods for 3-5 days. In present study menstrual cycle was repeat within or less than 21 days in 21.05%, between 21-35 days in 71.93% and longer than 35 days in 7.01% participants, this was similar to *Dambhare et al*^[18] in which inter-menstrual periods in 69.52% of participants was between 21-35 days, in 13.73% it occurs between 36-45 days and in 8.38% it occurs after 45 days. The result of our study is just opposite to *Sangwan G et al*^[23] study in which inter-menstrual interval was 21-35 days in 80.1%, ≤ 21 days in 4.6% and ≥ 35 days in 15.3% of participants. The overall prevalence of abnormal length of menstrual cycle (≤ 21 days or ≥ 35 days) in our study was 28.06%, this was similar to *Ambade R et al*^[24] in which about 30% participant experienced to abnormal menstrual cycle length. In a *Malaysian study*^[22] 62.8% girls had cycle length between 21-35 days. In present study 24.56% subjects had irregular and 75.43% had regular menstrual cycles, this was approximate similar to *Lee HK et al*^[22] in which 30.48% girls had irregular cycle and dissimilar to *Patil MS et al*^[19] study in which only 7.5% girls had irregular cycle. Overall prevalence of the menstrual disorders in the present study was 71.34%, which was more than *Dinesh K et al*^[25] in which it occurs in 64.1% girls. Amongst these; PMS was more common (66.08%) than dysmenorrhea (37.42%) in the present study, this was dissimilar to *Amita S et al*^[3] in which dysmenorrhea is the most common (73.83%) gynecological problem associated with female medical students. Among total participants 42.10% had good and 10.52% had poor personal hygiene. 21.05% participants used sanitary pads, 35.08% cloth pieces and maximum 36.84% were usage both cloth pieces and sanitary pads to absorb the blood. This was similar to *Mohite RV et al*^[26] and *Prajapati D et al*^[17] study in which only 12.6% slum girls were used sanitary napkins and 89.5% rural girls of Kheda District Gujarat were using cloth during menstruation respectively. The usage of sanitary napkins were more compare to our study in *Gupta A et al*^[27], *Gupta M et al*^[28] and *Srivastava S et al*^[29] study in which 52.02% girls relied exclusively on sanitary napkins; 49.35% girls in Indore and 76% of the girls in Bhopal were used sanitary pads respectively. The usage of sanitary napkins were very less compare to our study, in slum girls of Solapur where only 1.4% girls were used sanitary pads, compare to non-slum areas where 97.73% girls usage sanitary pads although the girls did not

belong to affluent families.^[30] *Kendre and Ghattegi et al* this may be due to expensiveness and unavailability of Sanitary napkins in rural and slums areas. The most of participants disposed off their used napkin by burning (50.87%) followed by thrown in a dustbin (38.59%) and in open land space (10.52%). In our study, 100% of participants faced some types of restriction during menses. 100% participants were restricted to inter in the temple and prayers god, this was more than *Gupta A et al*^[27] study in which 75.02% girls were not allowed in temples. In our study 57.89% participants avoided touching the food such as pickles, 14.03% participants did not enter the kitchen and 33.33% girls avoid to outing. *Garg et al*^[31] reported that the vast majority of girls in a Delhi slum continue to experience restrictions on cooking, work activities, bathing and religious practice during menstruation. 86.54% females avoid their head washing, 60.81% participants withdrew their social relations; 27.48% from relatives, 17.54% from friends and 15.78% from relatives, friends and all others during menses in present study, this result was opposite to *Srivastava S et al*^[29] study in which 78.4% girls had daily baths and the rest bathed on 5th or 7th day of menses.

CONCLUSION

The lowest age of menarche is 9 years and highest age of menarche is 16 years. In this study menarche age was found to be an average. The menstrual disorders among females were common, PMS and dysmenorrhea were a widespread problem among them. They need improvements in terms of knowledge and awareness about menstrual hygiene and other aspects of menstruation. Sanitary napkins should be made easily available and make an educational programs at PHC level by female physicians or nursing staff in the community which help fight the taboo against menstruation.

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