

Menstrual Pattern and Prevalence of Menstrual Disorders among Young Women and Adolescent Girls Reside In Rural Area of Central India, Rewa, MP

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Abstract: Menstruation is a natural, normal biological process experienced by all adolescent girls and women in reproductive age. The aim of study is to determine the patterns of menstruation and identify the prevalence of common menstrual disorders among women of reproductive age groups resides in rural areas. In this cross-sectional study, total 171 participants were enrolled; the desired information's were collected by personal interview with a self-designed questionnaire which contained information regarding demographic parameters and menstrual cycle characteristics and prevalence of menstrual problems. Statistically data were analyzed by using Microsoft Office Excel sheet 2007 and expressed in form of number and percentage. The age of menarche in majority of participants 79 (46.19%) between 12-13 years; menstrual cycles were regular in 129 (75.43%) and 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, cycle length 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%). The overall prevalence of dysmenorrhea was 64 (37.42%). Dysmenorrhea affected daily activities in 90 (52.63%) participants. Premenstrual symptoms were present in 113 (66.08%) girls. The result of study concluded that significant number of participants had irregular menstrual cycles, abnormal duration of blood flow and abnormal amount of blood loss during menstruation. PMS and dysmenorrheal were most common menstrual disorder.

Keywords: Menstruation, biological, menstrual, menarche.

INTRODUCTION

Women and girls constitute half of India's population, 1 yet gender disparities remain a critical issue in India impacting women and girls' education, health, and workforce participation. The Global Burden of Disease approach incorporates assessment of morbidity and quality of life in identifying priorities. Yet, although investigations in various developing countries reveal that women are concerned by menstrual disorders, little attention is paid to understanding or ameliorating women's menstrual complaints[2] Menstruation is a natural, normal biological process experienced by all adolescent girls and women in reproductive age. The onset of the first menstrual period is a qualitative event of major significance in a woman's life, denoting the achievement of a major functional state [3]. For most females, it occurs between the ages of 10-16 years; however, it shows a remarkable range of variation [4].

The normal range for ovulatory cycles is 21-35 days. While most periods last 35 days, duration of menstrual flow normally ranges from two to seven days. For initial years after menarche, irregular cycles are common [4, 5]. Knowledge of the length and variation of the menstrual cycle is necessary for patient education and for identifying deviations from normal to guide clinical evaluation [5]. Among the gynaecological problems, menstrual problems are said to be the major ones especially among adolescent females [5]. Menstrual disorders are a common presentation by late adolescence, 75% of girls experience some problems associated with menstruation [6]. The common menstrual disorders for female adolescents are amenorrhea, abnormal/excessive uterine bleeding, dysmenorrhea, and premenstrual syndrome [5]. Dysmenorrhea is a common problem in women of reproductive age. Primary dysmenorrhea is defined as painful menses in women with normal pelvic anatomy,

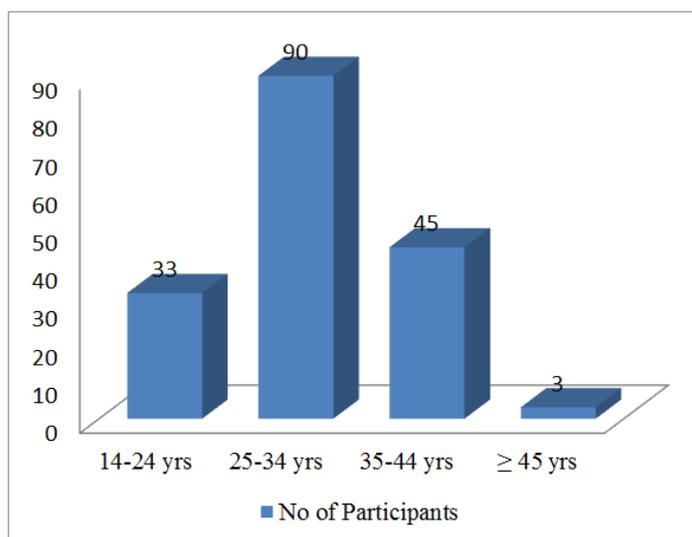
usually begins during adolescence[6] Hence this study was conducted to determine the patterns of menstruation and identify the prevalence of common menstrual disorders among women of reproductive age groups resides in rural areas.

MATERIALS AND METHODS

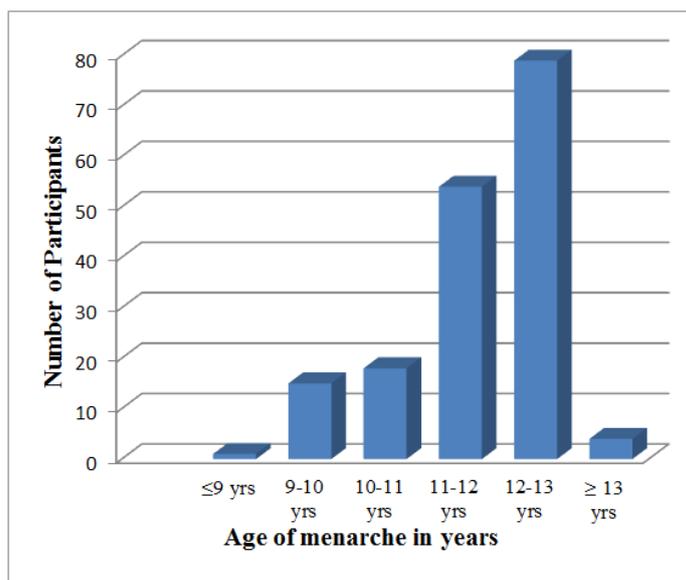
This descriptive, cross-sectional study, carried out in the department of physiology, SS Medical College in association with rural PHC Devtalab, Rewa, MP between 15 July to 30 September, 2018. Total 171 females of reproductive age group; including adolescent girls and young women who gave consent were enrolled in this study and those who did not give consent were excluded from study. Data were collected from reproductive age group of females at villages near to PHC after obtaining their informed consent; the participants were selected randomly by house-to-house

surveys as well as females of reproductive age groups that attending PHC OPD. Participants were explained about the purpose of study and they were also explained that they could refuse the questionnaire and refusal would not in any way reflect on their personal relation with data collecting physician and nursing staff. The desired information's were collected by personal interview with a self-designed questionnaire which contained information regarding demographic parameters, socio-economic status, work habits, dietary habits, and menstrual cycle characteristics, total days of bleeding, regularity of cycle and prevalence of menstrual problems. Statistically data were analyzed by using Microsoft Office Excel sheet 2007 and expressed in form of number and percentage.

Observations



Graph-1: Age wise distribution of participants



Graph-2: Age of menarche wise distribution of participants

Table-1: Distribution of participants (reproductive females of rural areas) on basis of Sociodemographic (Work habit, Socioeconomic status and Family H/O abnormal menses) profile (N=171)

S. No.	Work habit	Participants (N=171)	
		Number	Percentage
1	Heavy worker	09	5.26%
2	Moderate	153	89.47%
3	Sedentary	09	5.26%
	Socioeconomic status	Number	Percentage
1	Upper SES	Nil	0.0%
2	Lower Middle SES	120	70.17%
3	Lower SES	51	29.32%
	Family H/O menses	Number	Percentage (N=171)
1	Normal menses	162	94.73%
2	Abnormal menses	09	5.26%

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

S. No.	Pattern of menstruation	Participants (N=171)		
		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%

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 14-24 years age group followed by 45 (26.31%) 35-44 yrs, 33 (19.39%) 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 54 (31.57%) in 11-12 yrs, 18(10.52%) in 10-11 yrs and 15 (8.77%) in 9-10 yrs of age. (*Graph 2*) Most of participants 153 (89.47%) were belong to moderate grade working habit and minimum 9 (5.26%) were heavy workers. 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. Most of these 162 (94.73%) have normal family history of menstruation; only 9 (5.261%) had abnormal menstrual history. (*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 menstruation. 12 (7.01%) girls reported scanty blood loss, 135 (78.94%) medium blood flow and 24 (14.03%) heavy blood flow, cycle length 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*) Premenstrual symptoms were present in 113 (66.08%) girls. The most common symptom was Heaviness of breast 42 (37.16%) followed by Backache 36 (31.85%), Anorexia 18 (15.92%), Depression 15 (13.27%), Abdominal bloating 12 (10.61%), Irritability 12 (10.61%), Anxiety 12 (10.61%) and Weight gain 0 (0%). The prevalence of dysmenorrhea was 64 (37.42%). The most common symptom of dysmenorrhea present in this study is abdominal pain 58 (90.62%) followed by Fatigue 48 (75%), Backache 43 (67.18%), Nausea & vomiting 36 (56.25%), headache 21 (32.81%) and diarrhea 16 (25%) (*Table 3*).

Table-3: Distribution of participants on basis of problems associated at / during menstruation (N=171)

S. No.	Problems associated during menstruation	Participants (N=171)		
		Number	Percentage	
1	Overall Menstrual problems	122	71.34%	
2	Symptoms appear 2-5 days before Menses (Pre-Menstrual symptoms)	No	58	33.91%
		Yes	113	66.08%
		Presenting Symptoms		
		Heaviness of breast	42	37.16%
		Abdominal bloating	12	10.61%
		Weight gain	00	0.0%
		Backache	36	31.85%
		Anorexia	18	15.92%
		Irritability	12	10.61%
		Depression	15	13.27%
		Anxiety	12	10.61%
3	Pain and 1 st 1-2 days during menses (Dysmenorrhea)	No	107	62.57%
		Yes	64	37.42%
		Presenting Symptoms		
		Nausea & vomiting	36	56.25%
		Abdominal pain	58	90.62%
		Diarrhea	16	25.0%
		Headache	21	32.81%
		Backache	43	67.18%
		Fatigue	48	75%

DISCUSSION

Menstruation is a natural, normal biological process experienced by all adolescent girls and women in reproductive age. In this study majority of participants attain their menarche between 12-13 yrs this was similar *Thakre SB et al.* [7] study in which menarche age was 12.85 ± 0.867 . The mean age of menarche in *Amita S et al.* [6] study, conducted in medical students was $12.5 (\pm 1.52)$ yrs also similar to our study. The various other studies showed dissimilar result to our study such as *Kumar A et al.* [8] and *Goel MK et al.* [9] in which age of menarche was 13.02 ± 1.13 yrs and 13.7 yrs respectively. Age of the participants was varied between 14 and 45 years. Most of participants were belong to 24-24 year's age group. Most of participants were belong to moderate grade working habit. Most of participants were belonging to the lower middle SES and there are nil participants who belonging to upper SES. Most of these had normal family history of menstruation, only 5.26 % have abnormal menstrual history. In this study 24.56% subjects had irregular and 75.43% had regular menstrual cycles, this was approximate similar to *Lee HK et al.* [10] in which 30.48% girls had irregular. In our study 7.01% girls reported scanty blood loss, 78.94% medium 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 of blood flow duration, this was dissimilar to *Patil MS et al.* [11] 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.* [12] and *Balsubramaniam P et al.* [13] in which 76.65% and 84% participants menstruate within 3-5 days respectively. In a *Malaysian* study [10], 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 the *Dhingra R et al.* [14] in which 9.9% girls had their menstrual cycle between 45-60 days. The overall prevalence of abnormal menstrual cycle (≤ 21 days or ≥ 35 days) in our study was 28.06%, this was similar to *Ambade R et al.* [15] in which about 30% participant experienced to abnormal menstrual cycle length. A study conducted by *Shrivastava P et al.* [16] reported that the length of cycles in 5.2% girls had ≤ 21 days and 20.3% had 30-45 days. Overall prevalence of the menstrual disorders in the present study was found to be 80.11%, which was more than *Dinesh K et al.* [17] in which it occurs in 64.1% girls. Amongst these; PMS was more common (66.08%) than dysmenorrhea (62.57%) in the present study, this was dissimilar to *Amita et al.* [6] in which dysmenorrhea is the most common (73.83%) gynecological problem associated with female medical students. Dysmenorrhea is an important menstrual disorder in adolescence, and common in young women with ovulatory cycles. It is an important public health problem among the female population. The prevalence of dysmenorrhea in our study was 37.42%, this was dissimilar to *Wasnik VR et*

al. [18] and Suresh KK et al.[19] study in which prevalence was 62.3%, and 65.02% respectively. The prevalence was higher than our study was reported in Jayashree R et al. [20] and Harlow et al. [21] study; 74% and 71.6% respectively. The prevalence of dysmenorrhea was similar to our study was reported in Sharma P et al. [22] study (33%). The most common symptom of dysmenorrhea in this study was abdominal pain (90.62%) followed by fatigue and backache. This was similar Shrivastava P et al.[16] study in which amongst menstrual problem, abdominal cramps/pain being the most common (40.5%) but the prevalence was much less compare to our study. In our study premenstrual symptom has been reported as the most distressing problems associated with menstrual cycle. Premenstrual symptoms were present in 66.08% participants in this study, which was less than various studies like Ambade R et al.[15] which had 75.4%, Malaysian study[10] had 75% and an Ethiopian study[23] in which 99.6% student had at least one premenstrual symptoms. The most common symptom in our study was heaviness of breast followed by backache, anorexia, depression, abdominal bloating, irritability and anxiety. This was similar to Amita S et al. [6] study and dissimilar to Sheetu et al. [24] in which 51.5% girls have premenstrual syndrome with headache, depression.

CONCLUSION

The lowest age of menarche is 9 years and highest age of menarche is 16 years. In this study age of menarche was found to be an average. The age of menarche may be influenced by several factors such as nutritional status, body stature, socioeconomic status and education status of participants. The menstrual disorders were common in this study among reproductive females; dysmenorrhea and PMS were commonest problem. Dysmenorrhea is an important menstrual disorder in adolescence and common in young women with ovulatory cycles. It is an important public health problem among the female population.

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