

Research Article

A study on perception and practice of menstruation among school going adolescent girls in district Ambala Haryana, India

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ABSTRACT

Background: Adolescence is a highly dynamic period characterized by rapid growth and development. Adolescent girls have limited knowledge about menstruation and its hygiene, this study will be carried out among the school going adolescents in rural and urban area of Ambala district with the following aims and objectives, Status of knowledge of school going adolescent girls about menstruation and their practice during menstruation.

Method: A cross-sectional study was conducted in Ambala district Haryana, sample were taken by multi-stage random sampling during June to December 2015. A total 400 adolescents were taken from class 9th to 12th from four Secondary schools two from urban and two from rural school. Data were collected by interview method with the help of a pre-tested predesigned semi structures questionnaire.

Results: Mean age of adolescent girls was 15.26±1.61 years. 95% of adolescent's attained menarche at the time of interview; Mean age of menarche in the study subjects was 12.21±1.70 year. 51.2% girls had negative reactions to menarche like scared, upset/guilt discomfort etc. Common problem reported by adolescents girls were abdominal pain 77.6%, approx. 9.7% adolescent girls did not practice any restriction during menstruation. Most common restriction were restricted from physical activities and visit religious place, mother was the main sources of knowledge regarding menstruation. Majority of girls had not heard about menstruation at the time of menarche (55.7%) while 65.3% were afraid after first menstruation.

Conclusion: Low level of knowledge about menstruation, poor menstrual hygiene was found in our study. There is a different type of misconception, myths, restriction and lack of menstruation related knowledge. Education regarding menstruation reproductive health with more focus on menstrual hygiene should be made a part of school curriculum.

Key words: Menstruation, Adolescent girls, Rural school

INTRODUCTION

The term adolescence comes from Latin word meaning "to grow to maturity".¹ W.H.O. has defined adolescence as a period between 10-19 years.² According to UNICEF report (The State of World's Children 2011), it is estimated that there are 1.2 billion adolescents aged 10-19 years in the world, forming 18% of world population and about 88% of them lives in developing countries. In India, adolescence accounts for 20% of countries

population.³ In Haryana, adolescent constitute 21% of total population, (Census 2011). By year 2025, the population of adolescents in developed and developing countries would be around 19% and 27% respectively.⁴

Health problems of adolescents are interrelated. They include poverty, unemployment, gender and ethnic discrimination and impact of social change on family and communities.⁵ In females, the problem originates right when the girl enters puberty, starting from anxiety related

to developing parts of body and menstruation till late adolescent period when she faces problem related to sexuality. Menstruation is a natural phenomenon among matured females who experience shedding of blood for 1-7 days every month from the age of maturity until menopause.⁶ Various aspects such as physiology, pathology and psychology of menstruation have been found to associate with health and wellbeing of women; hence it is an important issue concerning morbidity and mortality of female population. On the other hand, hygiene-related practices during menstruation are of considerable importance for reproductive health, poor practices increase vulnerability to reproductive tract infections.⁷

Menstrual problems are generally perceived as only minor health concerns and thus irrelevant to the public health agenda, particularly for women in developing countries who may face life-threatening conditions. Menstruation is a normal physiological process that begins during adolescence and may be associated with various symptoms, occurring before or during the menstrual flow. The normal menstrual pattern is such that age of menarche is less than 16 years, length of menstrual cycle 24-32 days, length of flow 3-7 days and amount of flow #80mL. Common menstrual disorders include heavy flow (menorrhagia), unusually light (hypo menorrhea), unusually frequent (polymenorrhea), unusually infrequent (oligomenorrhoea) and unusually painful (dysmenorrhea). Women can experience a variety of menstrual disorders. The most prevalent menstrual disorders among adolescents are excessive uterine bleeding, dysmenorrhea and premenstrual syndrome. Dysmenorrhea, usually of the primary type, is a common symptom and a common cause of school absenteeism among adolescents. Most studies on dysmenorrhea have focused on adolescents. Although it is normal physiological process, many adolescents have little or no information about normal and abnormal menstruation. There is a lack of current information concerning the knowledge and attitudes of rural adolescents regarding menstruation. Both boys and girls are interested in knowing more about normal and abnormal menstruation; the girls so that they could make correct decisions on when to seek medical attention and boys so that they could support their female friends.⁸ The studies have dearth of information in the medical community and lay public about normal vs. abnormal menstrual bleeding. The literature suggests that menstrual problems may be as common in developing countries as they are in developed countries, and that when services are available, this will prompt women to seek care for menstrual complaints.

METHODS

A cross-sectional study was design to find the patern and perception about menstruation among school going adolescents girls in rural and urban area of ambala district haryana, study was conducted for 6 months from July 2015 to December 2015. A total 400 adolescents were

taken from different school, simple random sampling technique was used for sample collection, in Ambala total 224 senior secondary and higher secondary school were located in rural and urban area of, we take two school from rural area and two school from urban area, adolescent girls in the age group 13-19 years of age and who study in class 9th to 12th were included and those who had not given consent and who had not completed questionnaires were excluded from study. A self-designed semi-structured self-report pretested questionnaire were used, the study was conducted after obtaining written permission from district education officer, Ambala. Permission was also obtained from the principals of the selected schools and informed consent was taken from the study participants in the language they understand. Approval was also taken from ethics committee of the institute MMIMSR Ambala. The completed questionnaires were compiled and entered into microsoft excel and analysed using spss version 21, Proportions were calculated and χ^2 test was used to assess the association of various factors with menstruation. A p value of <0.05 was considered significant.

RESULTS

The study was conducted among 400 adolescent girls from urban and rural area of Ambala, out of 400 girls 358 were included in this study, response rate was 89.5%, mean age of adolescents girls were 15.26 ± 1.61 year, 68.8% belongs to Hindu by religion and 51% from joint family.

About menstrual status among adolescent girls, (Table 1) 340 (95%) of adolescents attained menarche at the time of interview, only 18 (5%) did not attain menarche, 18 (16%) of adolescent did not attain menarche in the age group 13-16 year, whereas all had attained menarche in the age group 16-19year. 159 (92.5%) had attained menarche from rural area, where as in urban area 181 (97.3%) had attained menarche. This difference was found to be statistically highly significant. About the age of menarche (Table 2), 177 (52.1%) of girls attained menarche in 11-13 years from both groups (urban & rural). Mean age of menarche in the study subjects was 12.21 ± 1.70 year. However, in urban areas, the mean age of menarche among the girls was earlier (11.42 ± 1.66) years and in the rural areas, it was later (13.12 ± 1.24 years). 248 (73.0%) adolescents' girl attained menarche before 13 year and 92 (27.0%) girls attained menarche after 13 years. 141 (41.5%) of adolescents knew about menstruation before attainment of menarche. However, in urban areas, awareness about menstruation before attainment of menarche was higher 88 (48.6%) as compared to rural areas 53(33.3%) ($P=0.004$). 174 (51.2%) girls had negative reactions to menarche like scared 71 (20.9%), upset/guilt 61 (17.9%), discomfort 42 (12.4%) and 166(48.8%) had positive reactions towards menarche. Rural adolescents 66 (41.5%) and urban 100 (55.2%) had positive reaction. Negative attitude was

higher among rural adolescents 93 (58.5%) as compared to urban adolescents 81 (44.8%) ($p = 0.004$). Material used during menstruation shows that more than half 174 (51.2%) of the adolescents use sanitary pad and 138 (40.6%) use old cloth while rest use both. However in

urban girls, the use of sanitary pads was 122 (67.4%) and in rural girls, it was 52 (32.7%). The use of old clothes was 88 (55.5%) in the rural girls and 50 (27.6%) in the urban girls and this difference was found to be statistically significant ($p < 0.001$).

Table 1: Distribution of adolescent about their present menstrual status (n=358).

	Menstruation status		Total	
	Present	Absent		
Age in year				
13-16	94(84.0%)	18(16.0%)	112(100%)	$\chi^2=35.2, p<0.001$
16-19	245(100%)	(0%)	245(100%)	
Place				
Rural	159 (92.5%)	13(7.5%)	172(100%)	$\chi^2=4.44, p<0.035$
Urban	181(97.3%)	5(2.7%)	186(100%)	

Table 2: Perception about menstruation among adolescent girls (n=340).

	Rural	Urban	Total	
Age of menarche				
8-10	5(3.1%)	67(37.1%)	72(21.2%)	$\chi^2 - 53.04, P < 0.001$ Mean age 12.21±1.7
11-13	92(57.9%)	85(45.7%)	177(52.1%)	
14-16	62(39.0%)	29(17.2%)	91(26.8%)	
Knowledge regarding menstruation				
Yes	53 (33.3%)	88(48.6%)	141(41.5%)	$\chi^2 - 8.148,$ $P = 0.004$
No	106(66.7%)	93(51.4%)	199(58.5%)	
Reactions towards menarche				
Normal	66(41.5%)	100(55.2%)	166(48.8%)	$(\chi^2 = 13.373, df=3,$ $P=0.004)$
Upset	26(16.4%)	35(19.3%)	61(17.3%)	
Scared	38(23.9%)	33(18.2%)	71(20.9%)	
Discomfort	29(18.2%)	13(7.2%)	42(12.4%)	
Material used				
Sanitary pad	52 (32.7%)	122 (67.4%)	174(51.2%)	$\chi^2 = 40.944, df=2,$ $P < 0.001$
Old cloth	88 (55.5%)	50 (27.6%)	138(40.6%)	
Both	19 (11.9%)	9 (5.0%)	28 (8.2%)	

Table 3: Material used related to socio-demographic (n=340).

	Absorbent material used during menstruation			Total	
	Sanitary PAD	Old CLO	Both		
Educational status of mother					
Illiterate	1 (2.3%)	31 (72.1%)	11 (25.6%)	43 (100%)	$\chi^2 = 138.489,$ $df=10, P < 0.001$
Primary school	16 (55.2%)	10 (34.5%)	3 (10.3%)	29 (100%)	
Sec. school	9 (13.0%)	52 (75.4%)	8 (11.6%)	69 (100%)	
Sen. Sec. school	124 (70.9%)	45 (25.7%)	6 (3.4%)	175 (100%)	
Graduate	19 (100%)	0 (0%)	0 (0%)	19 (100%)	
Post graduate	5 (100%)	0 (0%)	0 (0%)	5 (100%)	
Socio economic status					
Class I	31 (100%)	0 (0%)	0 (0%)	31 (100%)	$\chi^2 = 142.542,$ $df=8, P < 0.001$
Class 11	64 (96.9%)	2(3.1%)	0 (00%)	66 (100%)	
Class 111	44 (50.6%)	37 (43.7%)	5 (5.7%)	86 (100%)	
CLASS 1V	11 (18.6%)	38 (64.4%)	10 (17.0%)	59 (100%)	
CLASS V	24 (24.5%)	61 (62.2%)	13 (13.3%)	98 (100%)	

Table 4: Menstrual problem and restriction among adolescents.

Menstrual Problems	Rural	Urban	Total*	Average number
Pain abdomen	105 (66.0%)	159 (87.8%)	264 (77.6%)	Symptoms – 2.21, Urban - 2.66 Rural -1.71
Irregular period	21 (13.2%)	76 (42.0%)	97 (28.5%)	
Headache /irritation	39 (24.5%)	58 (32.0%)	97 (28.5%)	
Loss of appetite	28 (17.6%)	42 (23.2%)	70 (20.6%)	
Pain in leg	79 (49.7%)	146 (80.7%)	225 (66.2%)	
Activities restriction				
Physical activity	35 (22.0%)	51 (28.2%)	86 (25.3%)	Restriction -1.92 Urban -1.75 Rural -2.1
Religious place	151 (94.96%)	156 (86.2%)	307 (90.3%)	
Kitchen work	61 (38.36%)	49 (27.0%)	110 (32.4%)	
Eat certain food items	105 (66.0%)	46 (25.4%)	151 (44.4%)	
No restriction	10 (6.28%)	23 (12.7%)	33 (9.7%)	

To find out the association between educational status of mothers and absorbent material used among adolescents. It was found that (Table 3), illiterate mother’s daughters use old cloths 31 (72.1%), where no old cloth was used by daughters of graduate and post graduate mother’s daughter. As the level of educational status of the mother increased, the use of sanitary napkin by their daughters also increased. Statistically very highly significant association was seen between educational status of mothers of adolescent girls and absorbent material used during menstruation. Higher number of sanitary pads used by class I, II and III (100%.96.96% and 50.6%), and higher number of old cloth used among lower class III, IV, and V (43.7%, 64.4%, 62.2%) respectively. Girls with better socio-economic status have used sanitary pads than cloth piece. Statistically very highly significant association was observed between socio economic status of adolescent girls and absorbent material used during menstruation.

Common problem (Table 4) reported by adolescents girls was abdominal pain 264 (77.6%), followed by pain in leg 225 (66.2%), had headache/Irritation 97 (28.5%), and 70 (20.6%) had Loss of Appetite. Average number of menstrual symptoms was 2.21. However average number of menstrual symptoms was higher among urban adolescent’s girls (2.66) as compared to rural (1.71). 33(9.7%) adolescent girls did not practice any restriction. Remaining girls practiced different types of restrictions during menstruation. Among them 86(25.3%) of adolescent girls were restricted from physical activities, 307(90.3%) of girls were restricted to visit religious place, 151 (44.4%) adolescents avoid eating certain food items and 110 (32.35%) girls avoided doing kitchen work. Average number of restriction during menstruation was 1.92. However average number of restrictions during menstruation among rural areas (2.1) adolescents was higher as compared to urban areas (1.75). Bar diagram shows that 265 (77.9%) adolescent girls gained information from mother, followed by internet/TV 203 (59.7%), friends 134(39.4%) and teachers 80 (23.5%).

However, internet was the main sources of knowledge 151 (81.2%) among urban adolescents, whereas among rural adolescents girl’s mother was the main sources of knowledge regarding menstruation.

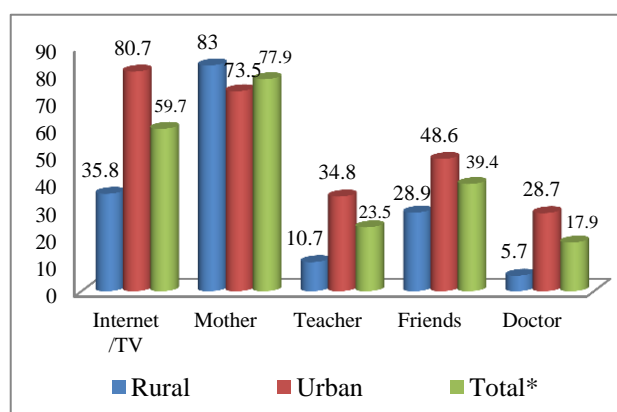


Figure 1: Source of knowledge regarding menstruation among adolescents.

DISCUSSION

In the present study 340 (95%) of adolescents attained menarche at the time of interview. Study done by Mohit RV, et al, in urban area of Maharashtra observed 97.04% girls attained menarche at the time of interview, which was similar to our study.⁹ Another study done by Keerti J, et al from Andhra Pradesh and Kulkarni M, et al from slum area of Nagpur observed 71.39% and 78.67% girls attaining menstruation at the time of study.^{10,11} This difference has been mainly due to different age of study subjects which was (10-19 yrs) while our study was done in (13-19 yrs) age group, and rural and urban area.

Our study reveals that 52.1% of girls attained menarche in 11-13 years, Mean age of menarche was 12.21± 1.70 year. In studies conducted by Kajal J, et al, Sapkota D, et al and Mohit RV, et al mean age of menarche was noted to be 13.16 year, 13.1± 0.9 year, 12.8 year respectively

which was similar to our study.^{9,12,13} Mean age of menarche among the urban adolescent girls was earlier (11.42±1.66) years and in the rural adolescent girls, it was later (13.12±1.241 years). Studies conducted by Thakre SB, et al and Kamath R, et al in Nagpur and Manipal respectively, documented that the mean age of menarche was 12.85 ± 0.867 years and 13.98 year.^{14,15} Whereas in urban areas, the mean age of menarche was (12.76±0.936) and (12.31±0.908) years and in the rural areas, it was (12.86 ± 0.938 years) and (12.39±0.984 years). Statistically highly significant association between age at menarche and socio-economic status. similar finding was reported by Satyavathi K, et al and Bhalla M, et al this may be because of higher socioeconomic status usually associated with small family norm, better living conditions, proper nutrition and many other factors could be reason for earlier growth spurt in turn explaining earlier age at menarche.^{16,17}

The present study showed that 141 (41.5%) of adolescents knew about menstruation before attainment of menarche. Similar finding were observed by Yasmin S, et al, Thakre SB, et al, Shubha D, et al and Sudeshna R, et al who reported prior knowledge before attainment of menarche was 42%, 36.95%, 39% and 42% respectively.^{14,18-20} Awareness about menstruation before attainment of menarche was higher in urban adolescent girls 48.6% as compared to rural girls 33.3%. similar observation was found by Adrija D, et al, Kamath R, et al and Duo DS, et al.^{15,21} These variations can be due to the regional variations (rural Vs urban), different levels of literacy and socioeconomic status.²² It also reflects awareness of girls about menstruation. Study showed that 51.2% girls had negative reactions and 48.8% had positive reactions towards menarche. Higher negative reaction was found by Kamath R, et al, Shanbhag D, et al and Tiwari H, et al.^{15,23,24} The reason for fear and anxiety may be due to attributed to inadequate knowledge, wrong knowledge and low levels of education especially among the mothers.

Adolescents use sanitary pad 51.2% and 40.6% use old cloth, more no of sanitary pad was was ffound by Yasmin S, et al, Muhit IB, et al and Shanbhag D et al.^{18,23,25} More number of Sanitary pad were used by urban girl, Similar finding was found by Thakre SB, et al and this difference was found to be statistically significant (p = 0.001).¹⁴ The present study shows that, most of the illiterate mother's daughter uses old cloths 72.1%, Statistically very highly significant association was seen between educational status of mothers of adolescent girls and absorbent material used during menstruation. A study conducted by Kamath R, et al Karnataka, shows use of sanitary napkin is higher in the urban area and literate mother (75.9%).¹⁵ This might be due to better literacy level of mother and better relation among mother and daughter.

A statistically very highly significant association was observed between socio economic status of adolescent girls and absorbent material used during menstruation.

Similar observations were reported by Omidvar S, et al (P=0.004) and Gilany E, et al, SES was the most influencing factors which influenced the choices for menstrual absorbents.^{26,27} It is established fact that affordability help to acquire healthful behaviours. It is evident from our observations that, use of unsanitary and sub-standard menstrual absorbents was common among girls from low socio economic status. Therefore undoubtedly poverty and low social class play a major role on the choices of absorbents leading to the use of unsanitary materials. It is likely that poor financial resources have contributed to the use of 'multiple material' as menstrual absorbents.

In the present study, 77.9% adolescent girls gained information from mother, followed by internet/TV 59.7%, friends 39.4% and teachers 23.5%) respectively. However, internet was the main sources of knowledge (81.2%) among urban adolescents, whereas among rural adolescents girl's mother was the main sources of knowledge regarding menstruation. A study done by Sadiq MA et al, Sapkota D, et al, ICMR and research carried out by Dasgupta A et al⁷, Omidvar S, et al, Sudhesna R et al and Mitra RS et al also reported similar findings.^{13,20,26,28-30} The important finding reported in this study is that teachers were not considered neither as a good source of information nor were they preferred to provide education regarding these matters. Most common problem was abdominal pain, followed by pain in leg, headache/Irritation, and Loss of Appetite. Average number of menstrual symptoms was 2.21. A study conducted by Patil MS, et al from rural area of bijapur, Majority of adolescent girls had premenstrual symptom with an average 1.25 per adolescent girls, premenstrual symptoms like cramps in 44.6%, followed by abdominal pain in 22.7% and depression was the least common.³¹ Only 6.8% girls were free from premenstrual symptoms, Prasad BG, et al in the study of urban girls from Lucknow observed that 93.8% girls had average 2.2 premenstrual symptoms.³² Majority of girls had abdominal pain (67.2%). In our study average number of symptoms was higher than other study, it is may be due to regional variation.

Present study reveals that only 9.7% adolescent girls did not practice any restriction. Remaining girls 90.3% practiced different types of restrictions such as visit religious place, avoid eating certain food items and avoided doing kitchen work and restricted from physical activities during menstruation. Different restriction was found by Subhash B, et al Sudeshna R, et al, Muhit IB et al, Dasgupta A et al, Adika VO, et al and Sadiq MA et al.^{7,14,20,25,28,33}

CONCLUSION

Mean age of menarche was 12.21±1.7 of years; significant association was seen between age of menarche and SES, low level of knowledge about menstruation before attainment of menarche, especially among rural

adolescents. Negative attitude about menstruation was more among rural adolescents as compared to urban adolescents. Menstrual hygiene was poor among rural adolescents, more no of sanitary pad was used by urban girls. Significant association was seen between mother education and menstrual hygiene and SES and material used during menstruation. There were 2.21 premenstrual symptom per adolescent girls commonest being leg cramps and pain abdomen. Dysmenorrhoea was seen in 28% of the adolescent girls.

Recommendation

Adolescents must be recognized as a priority target group. There were substantial lacunae in the knowledge about reproductive and sexual health. There are different types of misconception, myths, restriction and lack of menstruation related knowledge. There is an urgent need for special policies and programmes to address the problems of adolescents to prevent diseases and promote good health in them. Education regarding reproductive health with more focus on menstrual hygiene should be made a part of school curriculum. Better hygienic practices can be adopted by making low cost sanitary pads available (social marketing). Promotes menstrual hygiene management by which six sanitary pads known as free days was sold at low price by AHSA workers.

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