

Original Research Article

A study of menstrual hygiene among rural adolescent school girls in rural field practice area of a medical college, Davangere- a cross sectional study

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ABSTRACT

Background: Adolescence in girls signifies the transition from girlhood to womanhood; one fifth of world population is between 10 and 19 years old. Menstruation is a phenomenon unique to the females. Menstruation is a monthly occurrence that requires access to appropriate materials and facilities, without which, females suffer from poor menstrual hygiene which restricts their movement and self-confidence. Increased knowledge about menstruation right from childhood may escalate safe practices and may help in mitigating the suffering of millions of women.

Methods: A cross sectional study was conducted among 200 adolescent girls in a rural field practice area of S. S. Institute of Medical Sciences. Data on socio-economic variables and menstrual characteristics were collected using pre-tested questionnaires for a period of two months from September to October 2018.

Results: Total of 200 girls was interviewed. 87.6% of the girls were aware about menstruation prior to the attainment of menarche. Mothers were the first informants in about 56.5% girls. Overall 51.5% adolescent girls were using sanitary napkins as menstrual absorbent, while 45.6% were using used cloths. 97.6% girls practiced different restrictions during menstruation. Some of the sociodemographic factors like religion, type of family and mother's education, SES were significantly associated with menstrual hygienic practices.

Conclusions: There is a need to educate the girls about menstruation, its importance and hygiene maintenance; to enable them to lead a healthy reproductive life in future.

Keywords: Adolescent girl, Menstrual hygiene, Sanitary pad

INTRODUCTION

Adolescence in girls signifies the transition from girlhood to womanhood, one fifth of world population is between 10 and 19 years old. Menstruation is a phenomenon unique to the females. The onset of menstruation is one of the most important changes occurring among the girls during the adolescent years. The first menstruation (menarche) occurs between 12 and 17 years with a mean of 14-15 years.¹ Menstrual hygiene is an issue that every girl and woman has to deal with once she enters adolescence around the age of 12 years and until she

reaches the menopause somewhere in her 40's. Overall, a woman spends approximately 2,100 days menstruating which is equivalent to almost six years of her life. Menstruation is a monthly occurrence that requires access to appropriate materials and facilities, without which, females suffer from poor menstrual hygiene which restricts their movement and self-confidence.^{1,2} 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). 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.^{3,4}

In several cultures there are (cultural and religious) taboos concerning blood, menstruating girls and women and menstrual hygiene. In recent years' importance of health counselling for adolescents has been appreciated, but there are no large-scale community based studies to assess awareness about menarche and reproduction in Indian adolescent girls. In India, problems are more difficult and complicated because of marked socioeconomic diversity.⁵ This is an important sanitation issue, which has been in the closet, and still there is a long-standing need to openly discuss it. Good menstrual hygiene is therefore crucial for the health, education and dignity of girls and women. With the above background, this study was undertaken to elicit the knowledge on source of information regarding menstruation, restrictions and customs or rituals practiced during menstruation among the study population.

Objectives

The objectives of the present study were to study the socio-demographic profile of study population and to study the knowledge and practices regarding menstruation among the study population.

METHODS

Type of study

A cross-sectional study.

Study setting

The present study was undertaken among the adolescent high school girls in four high schools coming under Lokikere, primary health centre, a rural field practice area of S. S. Institute of Medical Sciences, Davangere.

Study subjects

The present study was conducted on adolescent high school girls between the age group 10-19 years.

Inclusion criteria

All adolescent girls who are willing to give informed consent to participate in the study.

Exclusion criteria

All the adolescent girls who are mentally challenged.

Study duration

The study period was duration of two months (September to October 2018).

Sample size

All the adolescent girls in 4 high schools coming under Lokikere, primary health centre area (200).

Study instrument

A pre-designed, semi-structured questionnaire.

Method of data collection

The school authorities were contacted and explained about the study. After obtaining the permission from the school authorities, the participants were explained regarding the purpose of the study. The study variables include general information, questions regarding the knowledge and practice of menstrual hygiene.

Written informed consent was taken prior to the data collection. Girls were administered a pre-designed, semi-structured questionnaire which was in local language, Kannada. The girls were instructed on how to fill the questionnaire and explained about each question.

Adequate time was given to fill up the questionnaire. This was followed by a session educating the girls about the normal physiology of menstruation, the importance of maintaining hygiene and safe hygienic practices during menstruation. Questions and concerns of the participants, if any were also addressed at the end of the session.

Statistical analysis

Data obtained from the study was entered in MS Excel sheet and analysed using Statistical package for social science (SPSS) package version 20.0.

The descriptive statistics were that all qualitative variables are presented as frequency and percentages. Chi-square test of significance was used and p value of less than 0.05 was considered statistically significant. MS Word and Excel have been used to generate graphs, tables.

RESULTS

Sociodemographic profile of the study participants showed that, the age of menstruating girls ranged from 12 to 17 years, (74.5%) girls being between 14 and 15 years of age group, Majority of respondents 156 (78%) were Hindus, 73 (36.5%) girls belonged to class III socioeconomic status (BG Prasad classification.) and nuclear family 85(42.5%) (Table 1).

Among 200 respondents 130 (65%) were not aware of menstruation before menarche. Mother was the first informant about menstruation in case of 154 (77%) girls, other sources of information were sister 25 (12.5%) and friend 9 (4.5%).

Table 1: Sociodemographic profile of the study participants (n=200).

Variables	Frequency	
		N (%)
Age (in years)	12-14	99 (49.5)
	15-17	101 (50.5)
Religion	Hindu	156 (78)
	Muslim	26 (13)
	Christian	18 (9)
Type of family	Nuclear	95 (47.5)
	Joint	60 (30)
	Three generation	55 (27.5)
Socio-economic status	I	52 (26)
	II	44 (22)
	III	73 (36.5)
	IV	22 (11)
	V	9 (4.5)
Mother's literacy	Literate	72 (37.7)
	Illiterate	128 (62.3)
Mother's occupation	Housewife	123 (64.4)
	Labourer	77 (35.6)

Table 2: Knowledge of study participants about menstruation (n=200).

Variables	Frequency	
		N (%)
Knowledge about menarche	Yes	70 (35)
	No	130 (65)
Source of knowledge regarding menstruation	Mother	154 (77)
	Sister	25 (12.5)
	Neighbour	1 (2)
	Friend	9 (4.5)
	Teacher	3 (1.5)
	Health worker	1 (2)
	Others (relatives)	2 (2.5)
Knowledge about menstruation	Normal process unique to female	162 (81)
	Curse of gods	20 (10)
	Disease	10 (5)
	Others	8 (4)
Knowledge about menopause (life long process)	Yes	66 (33)
	No	134 (67)

Majority of the study participants 134 (67%) did not know that menstruation is a lifelong process and 162 (81%) knew that menstruation is a normal process unique to females, 20 (10%) thought it was curse of Gods (Table 2). Regarding practices, overall 103 (51.5%) adolescent girls were using sanitary napkins as menstrual absorbent, while 80 (40%) were using fresh cloths. Majority 31 (37.4%) mentioned disposing problems and high cost 29 (34.93%), being the reason for not using sanitary pads. 51 (52.5) of them dried the cloth away from sunlight, while, 46 (47.5) dried under the sunlight. 90 (92.7%) of them washed the used cloth with soap and water.

Majority of them 180 (90%) of study participants take bath during their menses and 80 (40%) of them clean their

external genitalia twice daily and 60 (30%) clean thrice daily during menses, 142 (71%) use soap and water to clean their genitalia and 44 (22%) of them use just water. 68 (66.1%) do not change pads during school hours. (Table 3).

Study participants had many health problems during menstruation, 113 (56.5%) had pain abdomen, 34 (17%) of them had leg cramps and back pain, 16 (8%) had nausea and vomiting during menstruation (Table 4).

Among 180 who practiced cultural restrictions during menses, 72 (40%) avoid religious functions, 26 (14.44%) do not play or work outside, 20 (11.11%) do not touch other family members (Table 5).

Table 3: Distribution of study participants according to practices during menstruation (n=200).

Variables	Frequency	
	N	(%)
Absorbents used during menstruation	Fresh cloth	80 (40)
	Sanitary pads	103 (51)
	Used cloth	3 (1.5)
	Both cloth and pads	14 (7)
Reasons for not using sanitary pad (n=83)	Lack of knowledge	15 (18.07)
	High cost	29 (34.93)
	Unavailability	2 (2.4)
	Shyness	6 (7.2)
	Disposable problems	31 (37.4)
If cloth place of drying (n=97)	Away from sunlight	51 (52.5)
	Under sunlight	46 (47.5)
Washing of the cloth used (n=97)	Soap and water	90 (92.7)
	Only water	17 (17.3)
Cleaning external genitalia	Satisfactory*	140 (70)
	Not satisfactory	60 (30)
Material used to clean the genitalia	Water	44 (22)
	Soap and water	142 (71)
	Only during bath	41 (7)
Change of pad during school (n=103)	Yes	35 (33.9)
	No	68 (66.1)
Taking bath during menses	Yes	180 (90)
	No	20 (10)
Method of disposal of sanitary pad (n=103)	Burn it	20 (19.4)
	Throw it in the routine waste	70 (67.9)
	Burial	13 (12.6)

*: Satisfactory cleaning of external genitalia: cleaning for more than 2 times a day during menstruation; Unsatisfactory cleaning of external genitalia: cleaning less than or equal to 2 times a day during menstruation.

Table 4: Health problems during menstruation (n=200).

Health problems during menstruation	Frequency	%
Pain in abdomen	113	56.5
Nausea, vomiting	16	8
Headache and irritation	14	7
Palpitation and giddiness	6	3
Leg cramps and back pain	34	17
Loss of appetite	7	3.5
Body ache	10	5
Total	200	100

*: Multiple responses.

Table 5: Distribution of study subjects w.r.t the cultural restriction practiced during menstruation. (n=180).

Restriction practiced	Frequency	%
Avoid religious functions	72	40
To remain separate	14	7.77
Not to touch food	8	4.44
Not to sleep on routine bed	7	3.88
Sit outside the house	13	7.22
Do not touch other family members	20	11.11
Not play or work outside	26	14.44
Not attend school	6	3.33

Continued.

Restriction practiced	Frequency	%
Not eat certain food	4	2.22
Not perform any householdwork	5	2.77
Not strenuous physical activity	5	2.77
Total	180	100

The usage of sanitary napkins during menstruation was significantly associated with the participant’s religion, type of family and mother’s education. Satisfactory cleaning of external genitalia was significantly associated with the participant’s age, socioeconomic status and mother’s education (Table 6).

The hygienic practices of changing sanitary pads regularly and even at school and using adequate number of pads/day was significantly associated with the participant’s religion, type of family and socioeconomic status (Table 7).

Table 6: Association between sociodemographic factors and menstrual hygienic practices.

Variables	Use of material during menstruation			Cleaning of external genitalia				
	Sanitary pad	Old cloth	Both	Unsatisfactory	Satisfactory			
Age	12-14	48	16	37	$X^2=15.11$; 0.44	68	32	$X^2=18.87$; 0.047
	15-17	55	12	32		69	31	
Religion	Hindu	80	14	38	$X^2=24.48$; 0.04	108	48	
	Muslim	23	37	3		34	5	$X^2=9.30$; 0.15
	Christian	1	0	4		5	0	
Family	Nuclear	27	7	31		46	14	
	Joint	26	7	16	$X^2=21.3$; 0.011	32	19	
	Three generation	50	14	21		60	29	$X^2=9.11$; 0.167
SES	I	25	7	23		45	7	
	II	28	8	7		28	16	
	III	26	7	30	$X^2=20.1$; 0.17	46	27	$X^2=11.2$; 0.00
	IV	12	9	10		18	4	
	V	1	6	2		2	7	
Mothers education	Illiterate	37	15	29	$X^2=8.83$; 0.05	69	12	$X^2=16.7$; 0.00
	Literate	66	13	40		77	42	

Table 7: Association between sociodemographic factors and menstrual hygienic practices.

Variables	Change of pad or cloth at school		Number of absorbents used per day				
	Yes	No	<2	>2			
Age	12-14	32	62	$X^2=3.47$; 0.62	58	37	$X^2=19.3$; 0.19
	15-17	41	65		55	50	
Religion	Hindu	52	107		91	65	
	Muslim	15	21	$X^2=9.46$; 0.024	20	19	$X^2=8.64$; 0.04
	Christian	1	4		2	3	
Family	Nuclear	15	45		32	38	
	Joint	19	36	$X^2=5.4$; 0.01	51	19	$X^2=28.30$; 0.001
	Three generation	31	54		41	19	
SES	I	30	31		24	28	
	II	21	23		25	19	
	III	15	58	$X^2=10.5$; 0.01	40	33	$X^2=11.2$; 0.00
	IV	8	14		15	16	
	V	0	1		1	0	
Mothers education	Illiterate	23	58	$X^2=2.87$; 0.5	48	33	$X^2=7.72$; 0.08
	Literate	42	77		65	54	

DISCUSSION

The present study shows that the age of menstruating girls ranged from 12 to 17 years, maximum 74.5% number of girls being between 14 and 15 years of age group. In a study done by Sowmya et al the age of menstruating girls ranged from 14 to 17 years, maximum (76.25%) number of girls being between 14 and 15 years of age group.⁶

Among 200 respondents in the present study, 156 (78%) were Hindus, 26 (13%) girls were Muslims, 10 (5%) were Christians and others were 8 (4%). Majority belonged to extended family 85 (42.5%) and nuclear family 60 (30%). In a study by Ramachandra et al, 92.1% were Hindu, while 7.1% were Muslims and 85% were from nuclear family.⁷

Majority of our study participants belong to class III socioeconomic status. According to a study by Bhattacharyya et al, 275 (60%) were from low socioeconomic status.⁸

Among 200 respondents in our study 130 (65%) were not aware of menstruation before menarche. In a study done by Sowmya et al showed that 12.4% girls were not aware about menstruation prior to attainment of menarche.⁶

In our study, mother was the first informant in case of 154 (77%) girls. Other sources of information were sister 25 (12.5%) and friend 9 (4.5%). In a study done by Nagaraj et al, mother was the source of information 47.03% of study subjects; similarly, mother was prime source of information in studies conducted by Thakre et al (71.3%) and Arora et al (43.3%) among adolescent girls.⁹⁻¹¹

In our study 103 (51.5%) girls used sanitary pads during menstruation, 3 (1.5%) girls used old cloth pieces, 80 (40%) girls used fresh cloth pieces, and 14 (7%) girls used both cloth pieces and sanitary pads during menstruation. Majority of the participants, 35 (36.08%) mentioned disposing problems, high cost 34 (35.05%) being the reason for not using sanitary pads. In a study by Dugani et al 26.3% of study subjects were using sanitary pads.¹² Thakre et al also observed low prevalence (30.8%) of usage of sanitary pads in their study conducted among adolescent girls in a rural area of Nagpur district.¹⁰

In our study, majority of the participants 180 (90%) take bath during their menses, 80 (40%) of the participants clean their external genitalia twice daily, 142 (71%) use soap and water to clean their genitalia and 44 (22%) of them use just water.

In the study by Juyal et al reported that most of the girls took bath daily and 64.78% of girls cleaned their external genitalia with soap and water regularly during the days of menstruation.¹³ Different studies from India and abroad have reported that 34-42.2% adolescent cleaned their external genitalia with soap and water during menstruation. Dasgupta et al reported that 156 out of 160

(97.5%) rural adolescent girls cleaned their external genitalia with soap and water.¹⁴

In our study majority of the participants 113 (56.5%) have pain abdomen, 34 (17%) of them have leg cramps and back pain, 16 (8%) have nausea and vomiting during menstruation. In a study by Nagaraj et al dysmenorrhea was reported by 183 (60.19%) study subjects.⁹ 159 (52.30%) subjects reported PMS. Among the subjects who suffered from PMS, the most common somatic symptom was pain abdomen, which was observed in 115 (72.5%) study subjects. Among the psychological symptoms, depression was most common PMS symptom, which was noted in 71 (44.65%) study subjects.

Among 180 who practice cultural restrictions in our study, 72 (40%) avoid religious functions, 26 (14.44%) do not play or work outside, 20 (11.11%) do not touch other family members. In a study by Dugani et al 12,166 (97.6%) girls practiced different restrictions during menstruation, among them 84 (49.4%) girls did not attend any religious occasion, 13 (7.6%) girls did not eat certain foods such as sour foods, banana, radish and palm, (17.1%) girls did not play, 32 (18.8%) girls did not perform any household work and 8 (4.7%) girls did not attend school.

Among 200 participants in our study, only 81% (162) knew menstruation is a normal process unique to females, rest thought it's a curse of God or disease. In a similar study done in rural Gujarat, which showed that only 31% felt it was a normal phenomenon. There are other similar studies, with similar results with most of the girls thinking that it is a curse of God or sin or a disease.

CONCLUSION

Although knowledge was better than practice, both were not satisfactory. Therefore, the girls should be educated about the significance of menstruation, use of proper sanitary pads or absorbents and its proper disposal. This can be achieved by giving them proper training and health education by teachers, family members, health workers, and media so that there won't be any misconception to the adolescent girls regarding menstrual hygiene.

Recommendations

Health education plays a key role in improving awareness and practices related to menstruation so that girls can manage menstruation with confidence and dignity. Comprehensive and sustained health education needs to be provided to all adolescent girls by health care providers. All mothers need to be educated regarding menstruation and menstruation-related hygiene practices so that they can break the social inhibitions and empower young adolescent girls with proper knowledge. It is also essential to involve lady teachers in schools for sustained health awareness programs in schools.

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