

Research Article

Knowledge of Menstrual Hygiene among Adolescent Girls in a Rural Area of Kanyakumari District of Tamilnadu

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A B S T R A C T

Background: Menstruation is a physiological process and is an important landmark in the process of growth and maturation. It is surrounded by various customs, myths and taboos. For proper menstrual hygiene, requires access to appropriate materials and facilities, without which can lead to poor health consequences.

Objective: To assess the knowledge of menstrual hygiene among adolescent girls in a rural area of Kanyakumari District and to find out the factors related to knowledge of menstrual hygiene.

Materials and Methods: Community based cross sectional study was conducted during January 2016 - June 2017 among 250 adolescent girls, 10-19 years of age group residing in rural area of Kanyakumari district. Adolescent girls were interviewed by a pretested interview schedule to assess their knowledge, attitude and practices regarding menstruation and menstrual hygiene.

Results: Mean age of the study participants is 14.23 years majority of the study participants are currently school going (94.8%) and all the participants' mothers are literate. 48% of the adolescent girls have adequate knowledge about menstruation and menstrual hygiene. Education of mother, education of the participant and socioeconomic status is associated with knowledge.

Conclusion: Less than half of the study participants had adequate knowledge about menstruation and menstrual hygiene.

Keywords: Adolescent Girls, Menstrual Hygiene, Menstruation

Introduction

WHO defines an adolescent as any person between ages of 10 and 19 years.¹ Adolescent is said to be a period of transition from childhood to adulthood. It begins with puberty, a process of physical, psychological and emotional

development triggered by a cascade of endocrine changes, that lead to sexual maturation and reproductive capability.² Globally the number of adolescents is at an all-time high. In 2015, the number of adolescents was 721 million. In 2030 the adolescent population is expected to be 762

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million and by 2040, the world is expected to have 755 million adolescents.³ In India, 21% of the total population are adolescents i.e. 243 million. In 2015 it is estimated that there are about 113 million adolescent girls. This is the largest adolescent population in a single country in the world.⁴ As per 2011 census, there are about 1.24 crore adolescents in Tamilnadu. Majority of adolescents (63.16 %) are in rural areas and 36.83 % are from the urban areas.⁵

The main pubertal change that occurs in adolescent girls is menstruation. It is an important landmark in the process of growth & maturation and prepare them for motherhood.⁶ Menstrual hygiene is an issue that is insufficiently acknowledged and has not received adequate attention.⁷ It has also been largely neglected by the public health and other sectors focusing on sexual and reproductive health and education.⁸ When adolescent girls start menstruating they have little knowledge about menstruation.⁹ Their mothers and other women in their family are shy to talk about menstruation and hygienic practices and they themselves might not be well equipped to discuss the issue. Men and boys know even less and thus the knowledge of menstruation is poor especially in developing countries.¹⁰

The objectives of this study were to assess the knowledge of menstrual hygiene among adolescent girls in a rural area of Kanyakumari District and to find out the factors related to knowledge of menstrual hygiene.

Materials and Methods

This cross-sectional study was carried out from January 2016-June 2017 among adolescent girls, in a rural area of Kanyakumari district Tamilnadu. The sample size was obtained by using the formula $4pq/d^2$. According to a previous study done by Dasgupta A, Sarkar M¹¹ among adolescent girls in West Bengal the percentage of knowledge about menstruation prior to attainment of menarche was 67.5, the p was taken to be 67.5% $q = 100-p = 32.5\%$, with 6% absolute precision the sample size was estimated to be 235. In this study, we took 250 adolescent girls. Multistage sampling technique was used for the selection of samples. Kanyakumari District is divided into nine blocks. One block (Thiruvattar) was randomly selected by lottery method. Thiruvattar block consists of 10 village panchayats and 6 town panchayats. Since only rural area were taken for the study, the 10 village panchayats were included in the study. In each village panchayat, there are about 15 wards. By lottery method, one ward randomly chosen. From each ward by using random number table one house was chosen. From there house to house survey was done till 25 adolescent girls were obtained. If no adolescent girl present in the household selected then next household to the right was approached till an adolescent girl fulfilling the criteria was met.

The inclusion criteria for the study were (i) girls who are in

the age group of 10-19 years (number of years completed on the day of data collection is taken as age); (ii) those girls who have started menstruating and have had three cycles (iii) those girls who are permanent residents of this study area for past one year till date. The exclusion criteria were (i) those girls who were mentally challenged; (ii) those girls who were not willing to participate in the study.

The subjects were interviewed with a pretested interview schedule by principal investigator. The interview schedule was developed through a pilot study conducted among 30 students in a school in Thiruvattar block. Questionnaire was divided into two parts. First part consists of socio-demographic details of the participants and second part consists of questions to assess the knowledge regarding menstruation and menstrual hygiene. Socio-demographic information was collected on age, type of family, education, religion and socio-economic status. The modified BG Prasad scale was used to classify socioeconomic status. Scoring system was used to score the participants knowledge. Each correct response under knowledge was given one point whereas wrong or don't know response was given no mark. On the basis of median score, knowledge of participants was categorized into two categories namely adequate (above median score) and inadequate (below median score).

Statistical Analysis

Data entry was made in the Microsoft Office Excel 2013. Statistical analysis was done with the help of SPSS trial version 20.0. Descriptive statistics, 95% confidence interval, Chi-square test, binary logistic regression and Pearson correlation were used for analysis of data. $p < 0.05$ was considered as significant.

Results

Socio-demographic Characteristics

The age distribution of the study group ranges from 11 to 18 years with a mean age of 14.23 years (95% CI: 14.051, 14.408) and a SD of 1.443 years. The most common age of the study participants is 14 years (28.8%). Majority of the study participants are from nuclear family (59.6%). The rest are from joint family (33.6%) and extended family (6.8%). Among the 250 adolescent girls, Christians forms the majority at 45.6% (114), followed by Hindus at 41.2% (103) and Muslims at (13.2%). Majority of the study participants belongs to lower middle class (48%) followed by middle class (34.4%). Out of 250 adolescent girls 39.6% (99) have siblings or elders who are menstruating. Majority of the study participants siblings or elders are not menstruating (60.4%). Regarding the educational status of the adolescent girls, 94.8% (237) are currently studying and rest of them are not currently studying (5.2%). About 42.8% (107) mothers have high school education, while 41.2% (103) have higher secondary education. Regarding the educational

status of the participant’s fathers, 45.6% (114) having high school education and 27.6% (69) having higher secondary education (Table 1).

Table 1. Socio-demographic characteristics of study population

Characteristics	Frequency	Percentage (%)
Type of family		
Joint	84	33.6
Nuclear	149	59.6
Extended	17	6.8
Religion		
Hindu	103	41.2
Christians	114	45.6
Muslims	33	13.2
Socio economic status		
Upper class	1	0.4
Upper middle class	30	12
Middle class	86	34.4
Lower middle class	120	48
Lower class	13	5.2
Education of participant		
Currently studying	237	94.8
Currently not studying	13	5.2
Education of mother		
Primary	11	4.4
High school	107	42.8
Higher secondary	103	41.2
Graduate	28	11.2
Post graduate	1	0.4
Education of father		
Primary	32	12.8
High school	114	45.6
Higher secondary	69	27.6
Graduate	34	13.6
Post graduate	1	0.4

Menstrual History

The mean age at menarche among all the 250 study participants was 12.17 years with a SD of 0.935. (95% confidence interval: 12.054, 12.285). Majority of the participants felt unpleasant (63.6%) at the time of menarche. Out of 250 study participants 69.2% (173) have regular menstrual cycle. Menstrual period with 5 days of menstrual flow was the most common among the study participants. Among the 250 adolescent girls, 73.2% (183)

have a time interval of 21-35 days between two cycles. But 25.2% (63) have a time interval of more than 35 days between two cycles.

Knowledge of Menstruation and Menstrual Hygiene

Out of 250 adolescent girls 63.2% (158) think that menstruation is a normal body process (Figure 1). Among all the study participants 151 (60.4%) had knowledge about menstruation prior to menarche. Mother (39.2%) are the main source of knowledge regarding menstrual issues followed by teachers (30.4%) and friends (26.4%) (Figure 2). 79.6% (199) of the adolescent girls know about the normal interval of menstrual cycle.

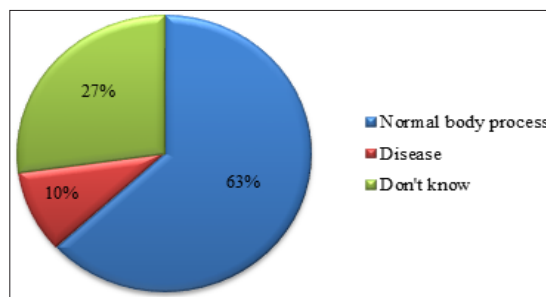


Figure 1. Knowledge about cause of menstruation

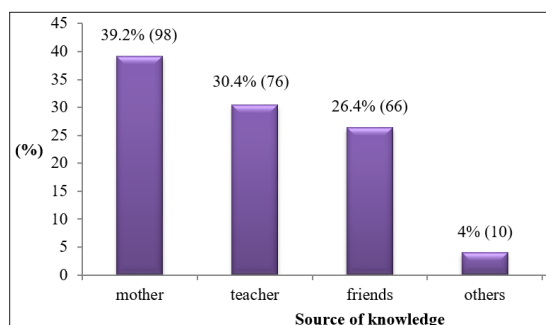


Figure 2. Source of knowledge

Among 250 adolescent girls 67.2% (168) did not know the correct organ from where menstrual blood came from. Only 48.4% (121) girls know that if they neglect menstrual hygiene it can affect their health. 41.6% (104) of the study participants know that they will acquire infection if they don’t use clean pad or cloth. 40% (100) of the girls did not know about the consequences of not using clean pad or cloth. Among 250 adolescent girls 74% (185) girls did not know that suffering from recurrent reproductive tract infection will lead to infertility in the long run. 86.8% (217) of the adolescent girls know that cotton is the most suitable type undergarment to maintain proper hygiene and 10.8% (27) of the girls don’t know the type of material that promotes proper hygiene.

On the basis of median score, knowledge of participants are divided into adequate and inadequate. 48% (120) of the study participants have adequate knowledge about menstruation and menstrual hygiene (Figure 3).

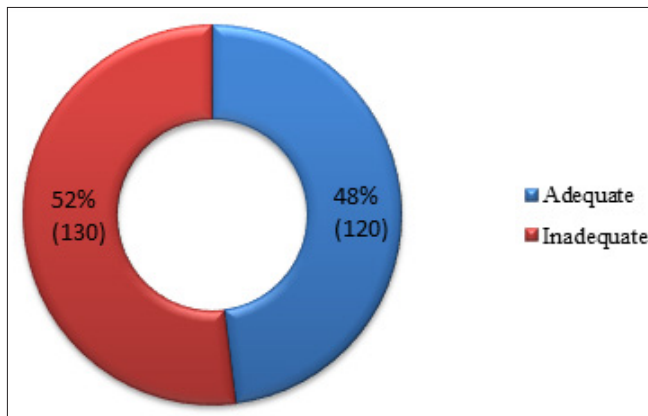


Figure 3. Adequacy of knowledge

Factors Related to Knowledge of Menstrual Hygiene

Better education among mother, better education of the participant and higher socio-economic status ($p < 0.05$) have statistically significant with knowledge.

The factors found to be statistically significant with knowledge, i.e. education of mother, education of the participant and socio-economic status is put into the binary logistic regression model. Education of mother and education of the participant are found to be statistically significant with knowledge ($p < 0.05$).

In this study it is found that there is positive correlation ($r = 0.574$) between age of participant and knowledge ($p < 0.05$).

Table 2. Factors related to knowledge of menstrual hygiene

Variable		Knowledge		Chi- square	P-value
		Adequate N(%)	Inadequate N(%)		
Type of family	Joint	40 (47.6)	44 (52.4)	0.017	0.991
	Nuclear	72 (48.3)	77 (51.7)		
	Extended	8 (47.1)	9 (52.9)		
Education of mother	Primary	2 (18.2)	9 (81.8)	31.14	0.001
	High school	37 (34.6)	70 (65.4)		
	Higher secondary	56 (54.4)	47 (45.6)		
	Graduate	24 (85.7)	4 (14.3)		
	Post graduate	1 (100)	0		
Religion	Hindu	51 (49.5)	52 (50.5)	0.199	0.905
	Christian	54 (47.4)	60 (52.6)		
	Muslim	15 (45.5)	18 (54.5)		
Education of participant	Currently studying	110 (46.4)	127 (53.6)	4.596	0.032
	Not currently studying	10 (76.9)	3 (23.1)		
SES	Upper	1 (100)	0	12.023	0.011
	Upper middle	22 (73.3)	8 (26.7)		
	Middle	43 (50)	43 (50)		
	Lower middle	48 (40)	72 (60)		
	Lower	6 (46.2)	7 (53.8)		
Siblings menstruating	Yes	51 (51.5)	48 (48.5)	0.811	0.368
	No	69 (45.7)	82 (54.3)		
Source of information	Mother	50 (51)	48 (49)	1.449	0.699
	Teacher	34 (44.7)	42 (55.3)		
	Friends	30 (45.5)	36 (54.5)		
	Others	6 (60)	4 (40)		

Table 3. Factors associated with knowledge of menstrual hygiene

Variable	B	S.E	p value	Exp (B)	95% C.I for Exp (B)	
					Lower	Upper
Education of mother	1.034	0.221	0.001	2.812	1.823	4.337
Education of the participant	1.109	0.476	0.020	3.032	1.192	7.709
SES	0.145	0.194	0.454	1.156	0.790	1.692

Discussion

In the present study among all the participants, 63.2% thought menstruation was a normal body process. Thakre SB et al. found that 35% of adolescent girls knew menstruation was a normal physiological process.¹² Tiwari SB et al. reported that 31% adolescent girls of Anand district Gujarat knew menstruation was a normal physiological process.¹³ The difference between our study and the other studies might be due to the mother's education. Present study showed that 60.4% had knowledge prior to menarche. Thakre SB et al. and Nair P et al. reported that 36.95% and 45.7% had knowledge prior to menarche.^{12, 14} Higher percentage in our study might be due to higher literacy rate in our area.

Major source of knowledge about menstruation and menstrual hygiene was mother (39.2%) followed by teacher (30.4%). Juyal R et al. found that major source of knowledge were friends (31.8%) followed by mother (31.2%).¹⁵ Thakre SB et al. showed that mothers were the main source of knowledge (71.33%).¹² Mother and friends were the main source of informants in the study done by Dambhare DG et al. which was 38.15% and 32.26% respectively.¹⁶ Our study showed that 67.2% did not know the correct organ from where the menstrual blood came from. Bhattacharjee S et al. found that 7.8% of the adolescent girls in rural slums of West Bengal did not know the correct organ from where the menstrual blood comes from.¹⁷ This might be due to difference of knowledge among girls of our study and their study.

We found that 48% had adequate knowledge about menstruation and menstrual hygiene, Bhattacharjee S et al. found that there is 20.4% had good knowledge about menstruation and menstrual hygiene, might be due to mothers had higher secondary education and above.¹⁷ Shanbhag D et al. reported that all the adolescent girls didn't had adequate knowledge about menstruation and menstrual hygiene as majority of the mothers were illiterate.¹⁸ Adhikari P et al. reported that 40.6% of the study participants had adequate knowledge.¹⁹ We found that knowledge of menstrual hygiene was associated with education of mother and socio economic status, most of mothers were educated till high school (42.8%) and most of them belonged to lower middle class (48%). Shanbhag

D et al. found that knowledge of menstrual hygiene was associated with socio economic status.¹⁸

The limitation of the present study was, as the study is limited to a particular rural area of Kanyakumari district it might not reflect the situation in the state as a whole. High literacy rate in the district can influence the knowledge of the girls, which may differ in different parts of the state.

Conclusion

The findings of the study led to the conclusion that less than half of the study participants had adequate knowledge about menstruation and menstrual hygiene. In the study about more than half of them had knowledge about menstruation prior to menarche. Mothers were the main source of knowledge about the menstrual issues. Education of mother, education of the participant and socioeconomic status is associated with knowledge.

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Conflict of Interest: None

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