

## Knowledge of Menstruation and Menstrual Hygiene among Adolescent School Girls: A Cross Sectional Study

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### Abstract:

**Background:** In many developing countries like India, a culture of silence surrounds the topic of menstruation and related issues; as a result, many young girls are having lack of appropriate and sufficient information regarding menstrual hygiene. This may result in incorrect and unhealthy behavior during their menstrual periods.

**Objectives:** To assess knowledge and impart health education regarding menstruation and menstrual hygiene among adolescent school girls.

**Methods:** A cross sectional study was conducted in two Govt. Senior Secondary Girls Schools, Jhalrapatan. All the eligible girls, aged 10 to 19 years and who have menarche, were included for study. Data was collected by pre-designed Questionnaire which includes socio-demographic information, knowledge about menstruation and menstrual hygiene and general physical examination. At the end of session, concern health education was delivered by LMO. The obtained data was analyzed by using SPSS software. Chi-Square test was used for significant association and p value less than 0.05 was considered as significant.

**Results:** Out of 375 girls, 45.6% girls had good knowledge about menstruation and menstrual hygiene. Mother was found to be the first source of information in most of the girls. Mean age of menarche was 12.78±1.2 years. Regular cycle was reported by 68.8% of girls. Sanitary napkins were used by 84% of girls while clothe was used by 16% of girls. Association of knowledge was found significant with age (p=0.018), class standard (p<0.0001) and literacy status of mother (p=0.012). Religious activities were restricted (66.4%) during periods in both Hindu and Muslims religion.

**Conclusion:** Less than 50% of adolescent girls had adequate knowledge of menstruation and menstrual hygiene. Mother was first source of information in most of girls and it also depends on mother's literacy status. Taboo's related to menstruation still persist in the society.

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### Introduction

Adolescence is a phase of transition from girlhood to womanhood started and marks the onset of female puberty, this period of attaining reproductive maturity between the ages of 10-19 years is marked by a number of physiological and psychological behavioral changes and most important one is the onset of menstruation. [1] Women spend several days of their lifetime in this phase and practically there are more needs to be addressed during this period. But due to associated shame, superstitions, myths related with this biological phenomenon their capability to address

this basic need of menstrual hygiene remains unnoticed. This impacts into poor menstrual hygiene. Among adolescent girls and women menstruation is a key indicator of vitality. India's 113 million adolescent girls are particularly vulnerable at the onset of menarche which occurs between 11-15 years. [2] The menarche is one part of the maturation process, but it is often, culturally defined as the indicator of girl's maturity and readiness for marriage and sexual activity. An adolescent girl having better knowledge regarding menstrual hygiene and safe practices will be less

vulnerable to Reproductive Tract Infections and its consequences in near future. Therefore, increased knowledge about menstruation right from childhood may escalate safe practices and may help in mitigating the suffering of millions of women. [3] Access to safe menstrual hygiene practices is their right which most of them are not able to avail. [4] These younger generations are tomorrow's parents. The reproductive health decisions that they make today will affect the health and wellbeing of their upcoming generations and their community. Even though all initiatives took place, by government of India, a major section of the adolescent girls do not have a prior awareness about the menstrual cycle and its hygienic practices leading to poor menstrual hygiene. [5] Implications of girl's response to menarche are not only restricted to current and future health concerns but it also has religious and menstrual hygiene awareness significance. It is also helpful in collecting the data about its knowledge and social beliefs of menstruation in the society.

#### Aim & Objectives

- To assess knowledge of adolescent school girls on menstruation and menstrual hygiene.

- To impart health education regarding menstrual hygiene and practices.

#### Materials and Methods

**Study Design:** A Cross sectional study.

**Study Setting:** Two Govt. Senior Secondary Girls Schools situated at Urban field practice area (Jhalarpatan) of department of community medicine in the Jhalawar district.

**Study Period:** In the month of October and November 2023.

**Study Population:** Adolescent school girls.

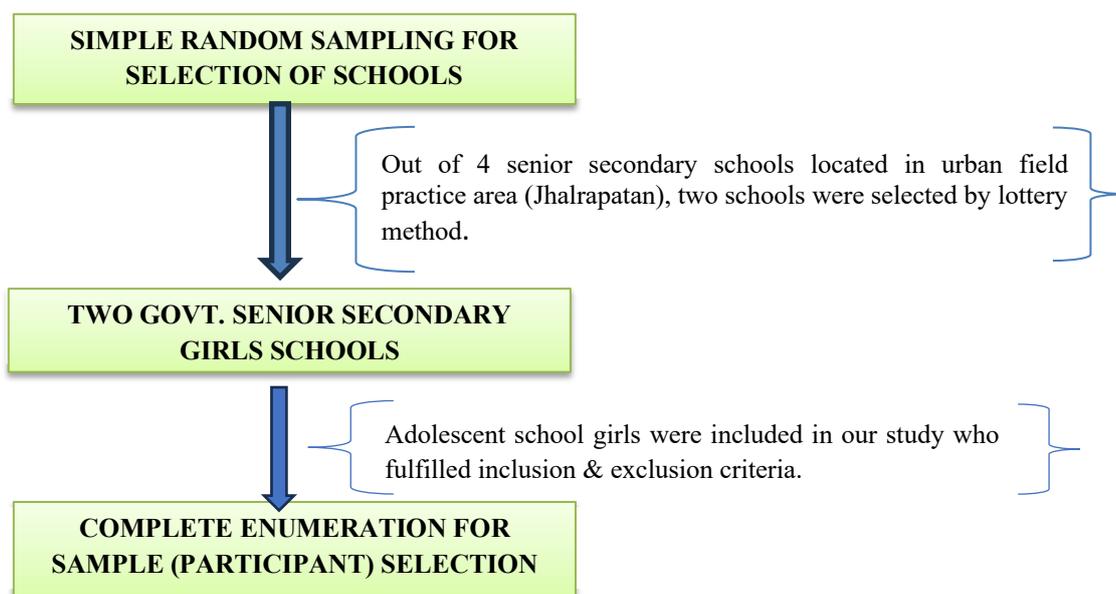
#### Inclusion Criteria:

- Adolescent girls aged 10 to 19 years who have menarche.
- Consenting participants.

#### Exclusion Criteria:

- Girls who were absent at the time of survey.

#### Sampling and Sample Size



**Study Tools and Materials-** A predesigned, pretested semi structured questionnaire was used encompassing of Part 1- where personal information such as age, family size, family income was enquired; Part 2 - menstrual history like duration of menstrual cycles, menarche, dysmenorrhea etc; Part 3 - menstrual hygiene practices like use of sanitary pads, their disposal, washing of external genitalia were asked and Part 4 - myths related to menstruation like restrictions in sleeping, playing, using of washroom, household chores etc were enquired.

#### Procedure of Data Collection

All the school girls in the age group 10-19 years who fulfilled inclusion and exclusion criteria were recruited standard wise and questionnaire were delivered by two female health educators in their local language (Hadoti). After the completion of questionnaire, General physical examination was done by LMO and health education was given by LMO on Menstrual hygiene and practices, prevention of anemia and exercises for painful menses.

**Statistical Methods**

Collected data were coded appropriately, entered in a Microsoft Excel spreadsheet, and later cleaned for any possible errors in SPSS Statistics for Windows v.26.0 (IBM Corp., Armonk, NY). Analysis was also carried out using SPSS. The descriptive analysis of categorical data is presented as frequencies and percentages. The chi-square test was used to assess the association between two categorical variables and  $p < 0.05$  was considered statistically significant.

**Ethical Issues**

- The present study was conducted after getting permission from Institutional Ethical

Committee of Jhalawar Medical College (JMC), Jhalawar.

- After explaining Aim and Objective, advantage and disadvantage Informed/written consent was obtained from District education officer of Jhalawar and Principal of schools.

**Results:**

A total of 375 girls participated in the study, out of which 45.6 % of girls had good knowledge regarding menstruation and menstrual hygiene. Mean age of menarche was 12.78+1.2 years. 54.4% girls were found anemic on general examination.

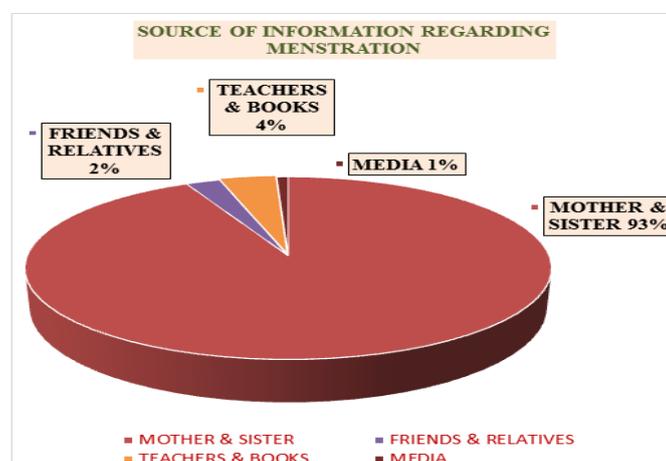
**Table 1: Association of knowledge regarding menstruation according to their sociodemographic variable.**

Category	Variables	Knowledge Regarding Menstruation		Total n (%)	p-value
		Good (n=171)	Poor(n=204)		
Age	11-14	52(37.7%)	86(62.3%)	138	0.018*
	15-18	119(50.2%)	118(49.8%)	237	
Religion	Hindu	145(44.6%)	183(55.4%)	328	0.357
	Muslim	17(58.3%)	14(41.7%)	31	
	Jain	9(0%)	7(100%)	16	
Standard Studying In	7	9(21.4%)	33(78.6%)	42	<0.0001*
	8	18(40.0%)	27(60.0%)	45	
	9	39(34.2%)	75(65.8%)	114	
	10	69(54.8%)	57(45.2%)	126	
	11	36(75.0%)	12(25.0%)	48	
Father's Education Status	Literate	147(47.1%)	165(52.9%)	312	0.189
	Illiterate	24(38.1%)	39(61.9%)	63	
Mother's Education Status	Literate	90(52.6%)	81(47.4%)	171	0.012*
	Illiterate	81(39.7%)	123(60.3%)	204	

\* Statistically significant association was found.

As shown in socio demographic profile (Table No. 1), their age ranges between 11-18 years. Maximum number of girls being between 15-18 years of age i.e. 63.2%. Majority of girls were from Hindu religion (328) followed by Muslims (31) and Jain (16). Out of 375 girls participated 69(54.8%) girls were having good knowledge regarding

menstruation those studying in 10<sup>th</sup>std. Most of the participant's father were literate as compared to mothers' education status. Association of knowledge was found significant with age ( $p=0.018$ ), class standard ( $p<0.0001$ ) and literacy status of mother ( $p=0.012$ ).



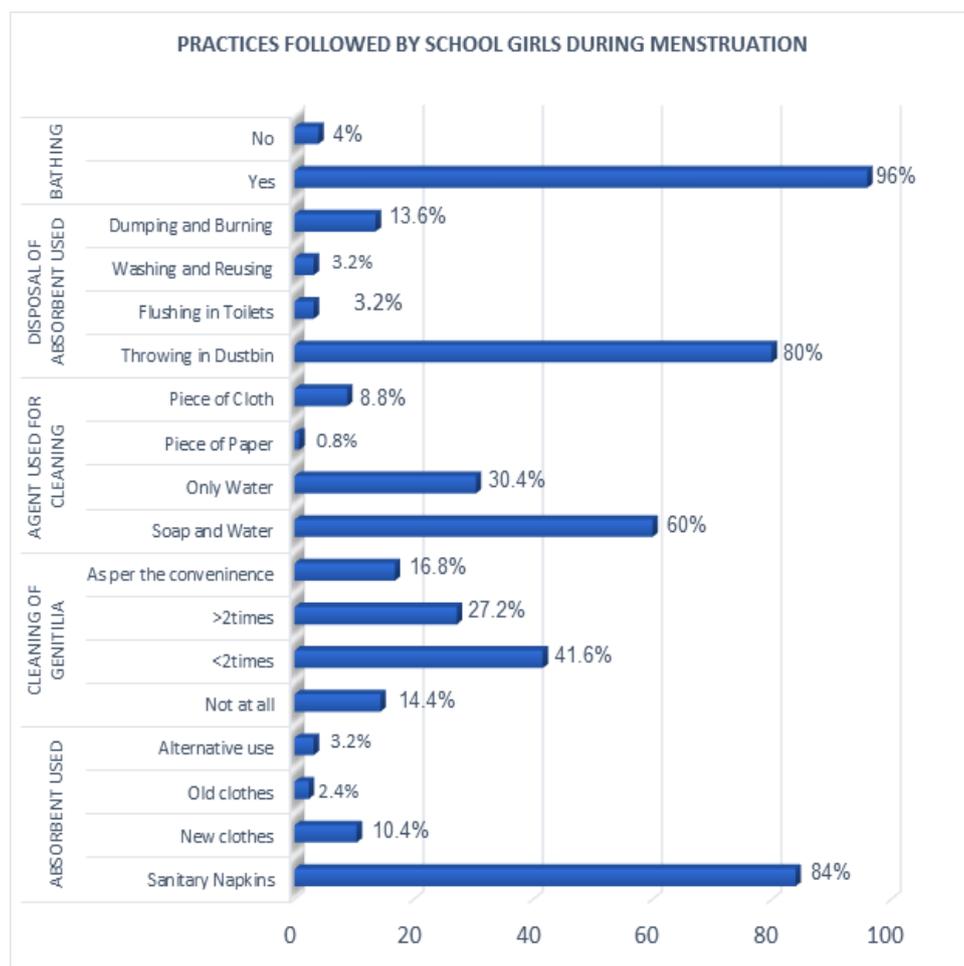
**Figure 1: Source of information regarding menstruation**

Mother and sister (93%) were found to be the first source of information in most of the girls followed by Teachers and books 4%, Friends and relatives 2% and Media 1%.

**Table 2: Distribution of girls according to menstrual history and restrictions during menstruation**

Category	Variables	Frequency (n=375)	Percentage
Duration of Menstrual Bleeding	< 3 Days	18	4.8%
	3 To 5 Days	297	79.2%
	>5 Days	60	16.0%
Duration of Menstrual Cycle	<28 Days	36	9.6%
	28 to 30 Days	324	86.4%
	>30 Days	15	4.0%
Regular Or not?	Regular	258	68.8%
	Irregular	117	31.2%
Pain during Menstruation	Yes	315	84.0%
	No	60	16.0%
Household Chores	Yes	126	33.6%
	No	249	66.4%
Sleeping Separately	Yes	177	47.2%
	No	198	52.8%

As shown in Table 2, Majority of girls menstrual duration for around 3-5 days around i.e.79.2% and out of the total studied participants 31.2% had irregular periods. Around 84% of the participants had history of pain during menstruation. It was found that in majority of the girls, religious activities were restricted during periods in both Hindus and Muslims i.e. 66.4% while sleeping separately were observed in 47.2% of girls.



**Figure 2: Practices followed by school girls during menstruation**

Sanitary napkins were used as absorbent by 84% of girls during menstruation. About 60% of girls used soap and water for cleaning of genitalia. 80% of them disposed absorbent by throwing in dustbin followed by dumping and burning i.e. 13.6%.

### Discussion

- In present study the age of participants was between 11 to 18 years and the mean age of menarche is  $12.78 \pm 1.2$  years. Mother and sister (93%) were found to be the first source of information regarding menstruation. About 84% girls used sanitary napkins as absorbent. Subita P. Patil et al conducted a cross sectional study among 180 adolescent girls and found that 76% of the girls were aware about menstruation before its onset and mothers (85%) were the source of information. The mean age of menarche was  $12.5 \pm 2(0.85)$  years. Around 78% girls used commercial sanitary pads[5].
- In present study 31.2% girls had irregular periods. Association of knowledge was found significant with age ( $p= 0.012$ ), class standard ( $p<0.0001$ ) and literacy status of mother ( $p=0.018$ ). Mitali G. Patel et al conducted cross sectional study, out of the total studied participants 22% had irregular periods. The association between the pre-menarche knowledge and mother's literacy status was not found significant [6].
- Deshmukh V et al conducted study on 1000 female high school and junior college and pharmacy college students, found that 68.2% of girls had good knowledge regarding menstruation and menstrual hygiene. While in present study we found 45.6% of girls had good knowledge. [7]
- Agarwal AK study shows 71.96% girls suffer from dysmenorrhoea after menarche [8]. In our study 84% of girls were having painful menses. More than 5 days duration of blood flow was found among 25% by Chinta K. et al, Andhra Pradesh [9] and it was 16% in present study.
- More than Half of the participants clean their genitalia with soap and water or antiseptic solution in this study. Similar findings were found by Gupta N et al. [10] Burning as method of disposal of absorbent was used by 13.6% girls in current study while it was 11% by Subita P Patil et al. [5]
- More than Half of the study participants in our study were not allowed to do household chores. A number of studies Khanna A et al, Mudey AB et al, reported different restrictions during menstruation. [11,12]

### Conclusion

- Most common age of menarche is found in range of 12-13 years. In most of the girls, duration of menstrual period is 3-5 days. Nearly half of the girls have adequate knowledge about menstruation. Mother and sister are the most common source of information for most of the girls before menarche. Pain in the abdomen is the most common symptom during menstruation. Most of the girls are using sanitary napkins and cleaning the genitalia with soap and water after every use of toilet.
- In our study hygiene during menstruation was not up to the mark, so there is a need to educate the adolescent girls about healthy and hygienic practices during menstruation and to prevent the reproductive tract infections. Hence the health education was given by LMO.
- Teacher's parents should educate the girls prior to attaining menarche and proper hygienic practices should be followed. Menstruation should not be treated as dirty and it should not be a hindrance to daily activities. Sanitary pads should be made available at affordable price and it should be easily available. Clean toilet facilities, water facilities and facilities to dispose sanitary pads should be made available at schools. In depth study to be conducted to find out the reasons, factors affecting menstrual hygiene practices at the community level.

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Ethical approval: The study was approved by the Institutional Ethics Committee

### References:

1. Adolescents in India. A Profile. World Health Organization. 2003. Available at: [http://www.whoindia.org/LinkFiles/Adolescent\\_Health\\_and\\_Development\\_\(AHD\)\\_UNFPA\\_Country\\_Report\\_.pdf](http://www.whoindia.org/LinkFiles/Adolescent_Health_and_Development_(AHD)_UNFPA_Country_Report_.pdf) (Accessed on December 2023)
2. Menstrual Hygiene Management National Guidelines (December 2015) | Ministry of Drinking Water and Sanitation, GOI [Internet]. Mdws.gov.in. 2019 [cited 28 May 2019]. Available from: <https://mdws.gov.in/menstrual-hygiene-managementnational-guidelines-december-2015>
3. Sangeeta Kansal, Sweta Singh, Alok Kumar, Menstrual Hygiene Practices in Context of Schooling: A Community Study Among Rural Adolescent Girls in Varanasi, Indian Journal of

- Community Medicine/Vol 41/Issue 1/January 2016.
4. Rajsinh V. Mohite, Vaishali R. Mohite, Menstrual hygiene practices among slum adolescent girls, *Int J Community Med Public Health* .2016 Jul;3(7):1729-1734
  5. Priya S et al. A study of menstrual hygiene and related personal hygiene practices among adolescent girls in rural Puducherry *Int J Community Med Public Health*. 2017 Jul;4(7):2348-2355
  6. Subita P. Patil, Harshal Kumar N. Mahajan, A Cross Sectional Study Regarding Menstrual Hygiene Practices and Myths among Rural Adolescent Girls, *Healthline Journal Volume 10 Issue 1 (January-June 2019) pg 55 to 61*
  7. Deshmukh V, Sandhu GK, Rachakonda L, Kakde M, Andurkar SP. Knowledge, attitudes and practices (KAP) regarding menstruation among girls in Aurangabad, India and their correlation with sociodemographic factors. *Int J Reprod Contracept Obstet Gynecol* 2019; 8:979-87.
  8. Patel, D. M. G., Mahyavanshi, D. D. K., &Nayak, D. S. KAP study on menstruation and menstrual hygiene among college girls - a cross sectional study. *International Journal of Medical and Biomedical Studies*, 2019; 3 (9),223-231.
  9. Agrawal AK, Agrawal A. A study of dysmenorrhea during menstruation in adolescent girls. *Indian J Community Med* 2010; 35:159-64
  10. Gupta N et al. A cross-sectional study on menstrual hygiene practices among school going adolescent girls (10-19 years) of Government Girls Inter College, Saifai, Etawah *Int. J Community Med Public Health*. 2018 Oct;5(10):4560-4565
  11. Khanna A, Goyal RS, Bhawsar R. Menstrual practices and reproductive problems: a study of adolescent girls in Rajasthan. *J Health Manag.* 2005; 7:91-107.
  12. Mudey AB, Keshwani N, Mudey GA, Goyal RC. A cross-sectional study on the awareness regarding safe and hygienic practices amongst school going adolescent girls in the rural areas of Wardha district. *Global Journal of Health Science* 2010;2(2):225-31