

A study to assess the knowledge regarding menstrual hygiene among the adolescent girls in selected secondary and higher secondary schools of Nadiad city

UNDER PEER REVIEW

## **ABSTRACT**

### **BACKGROUND**

Menarche represents a significant psychological, social, and behavioral transition for an adolescent girl as she moves from girlhood to womanhood. Despite its importance, menstrual hygiene is often neglected. Adolescence, define as the period between age 12 and 18 for both girls and boys, is a time significant change. For girls, this phase marks the beginning of puberty and the journey towards reproductive maturity. This developmental period is characterized by numerous physiological, behavioral, and psychological changes, with the onset of menstruation being one of the most notable milestones.

There is a significant gap in knowledge about menstruation among adolescent girls. Various studies have highlighted this issue, revealing that girls often have low awareness about menstruation when they first experience it. Social taboos and parents' reluctance to discuss the topic openly have limited girls access to accurate information, particularly in primary and secondary schools. Research has shown that most adolescent girls receive incomplete and incorrect information are mothers, television, friends, teachers, and relatives. However, there has been in sufficient attention to this issue, and the literature on gender mainstreaming the sanitation sector largely ignore menstrual management. It is crucial for women and girls to have the necessary knowledge, facilities, and cultural support to manage menstruation hygienically and with dignity.

### **AIM:**

The goal of the study is to assess the knowledge regarding menstrual hygiene among the adolescent girls in selected secondary and higher secondary schools of Nadiad city.

### **OBJECTIVES:**

1. To assess the level of knowledge regarding menstrual hygiene among the adolescent girls of secondary and higher secondary schools of Nadiad city.
2. To find out an association between demographic variables and the knowledge of menstrual hygiene among the adolescent girls of secondary and higher secondary schools of Nadiad city.

### **METHODOLOGY:**

**DESIGN AND SETTING:** A Quantitative research approach with descriptive research design used in this study. The study was conducted in the secondary and higher secondary schools of Nadiad city. The sample was selected through a Non-Probability Convenient Sampling technique. The tool validation from various experts, all questions were given to the adolescent girls and information given by the samples are kept confidential. Prior to data collection written setting permission obtain from selected school principals of Nadiad city. The total sample size was 100 samples.

### **The tool consists of following**

**SECTION 1:** Sociodemographic variables

**SECTION 2:** Structured Knowledge Questionnaire

**Statistical Analysis:** The data were analyzed using SPSS and the results were recorded as frequencies, means+\_ standard deviations (SD) and P values. Tables and figures were used for comprehensive viewing of the results. The Chi- square test was used for categorical variables. A p value of < 0.05 was taken as the criteria of significance for all purposes.

There Are total 16 multiple choice questions. Each question has 1 mark, so the total marks are 16. Knowledge regarding menstrual hygiene among adolescent girls classified with different categories, Good Knowledge (8%), Average Knowledge (73%) and Poor Knowledge (19%).

### **Results:**

The results of the study provide insights into the knowledge regarding menstrual hygiene among the adolescent girls in selected secondary and higher secondary schools of Nadiad city. The majority of participants aged, the participant's age is 14-15.1 years (22%), 15.1-16 years (26%), 16.1-17 years (29%) and 17.1-18 years (13%). Regarding education, the participant's education is 9<sup>th</sup> (17%), 10<sup>th</sup> (21%), 11<sup>th</sup> (32%), and 12<sup>th</sup> (30%). Regarding age of menarche, the participant's age of menarche is 12-13 (45%), 13.1-14 (48%), and 14.1-15 (7%). Regarding education of family, the participant's family education is illiterate (11%), primary (40%), secondary (42%), and graduate (7%). Regarding type of family, the participant's family is nuclear (20%), joint (80%), and any other specified (0%). Regarding family income, the participant's family income is 5000-10,000 Rs (42%), 10,001-20,000 Rs (24%), 20,001-30,000 Rs (22%), and >30,000 Rs (12%). Regarding toilet facility, the participant's availability of toilet facility is yes (98%) and no (2%). Regarding prior information, the participants have prior information yes (99%) and no (1%). Regarding source of information, the participant's source of information are parents (74%), teachers (3%), friends (6%), and health workers

(17%). Regarding topic included in the syllabus, the participant's topic included in syllabus is yes (37%) and no (63%). Regarding use of sanitary pads, the participants using sanitary pads yes (99%) and no (1%).

**CONCLUSION:**

The study reveals that the Knowledge regarding menstrual hygiene among adolescent girls classified with different categories, Good Knowledge (8%), Average Knowledge (73%) and Poor Knowledge (19%).

**KEY WORDS:** Assess, Adolescent girls, Menstrual hygiene, Knowledge.

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## INTRODUCTION

Menarche represents a significant psychological, social, and behavioral transition for an adolescent girl as she moves from girlhood to womanhood. Despite its importance, menstrual hygiene is often neglected. Adolescence, defined as the period between age 12 and 18 for both girls and boys, is a time of significant change. For girls, this phase marks the beginning of puberty and the journey towards reproductive maturity. This developmental period is characterized by numerous physiological, behavioral, and psychological changes, with the onset of menstruation being one of the most notable milestones.<sup>[1]</sup>

There is a significant gap in knowledge about menstruation among adolescent girls. Various studies have highlighted this issue, revealing that girls often have low awareness about menstruation when they first experience it. Social taboos and parents' reluctance to discuss the topic openly have limited girls' access to accurate information, particularly in primary and secondary schools. Research has shown that most adolescent girls receive incomplete and incorrect information from mothers, television, friends, teachers, and relatives.<sup>[1]</sup> However, there has been insufficient attention to this issue, and the literature on gender mainstreaming the sanitation sector largely ignores menstrual management. It is crucial for women and girls to have the necessary knowledge, facilities, and cultural support to manage menstruation hygienically and with dignity.<sup>[2]</sup>

Adolescent health lacks a structured implementation program both in health facilities and in the community. The Rastriya Kishor Swasthya program has not yet achieved uniform implementation. Most studies focus on knowledge about menstruation and the use of sanitary napkins. This study aims to provide in-depth details on early hygiene and social parameters that can be utilized for demand generation and service delivery in adolescent health programs. Very few studies have included detailed aspects of menstrual practices among adolescent girls. Therefore, it was considered relevant to investigate menstruation knowledge and practices among school-going adolescent girls. The present study was conducted to determine the age of menarche among the girls and to understand their menstrual patterns and hygiene practices.<sup>[2]</sup>

The World Health Organization (WHO) defines adolescence as the period between 12 and 18 years of age. Menarche is a significant milestone in a woman's life, making the

beginning of reproductive capability. However, there is a significant lack of information on menstrual preparedness and management among adolescent girls.<sup>[3]</sup>

In Indian society, menstruation is still often seen as unclean or dirty. The connection between socioeconomic status, menstrual hygiene practices, and reproductive tract infection are significant. Menstruation is a natural and unique phenomenon designed for women experiences significant reproductive changes from onset of menstruation until menopause. Adolescence is a period of physical, psychological, and reproductive development that typically occurs from puberty to legal adulthood.<sup>[3]</sup>

Menstrual hygiene management should be an essential part of health care. The United Nations defines adequate menstrual hygiene management as women and adolescence girls using clean material to absorb or collect menstrual blood. Which can be changed privately as often as needed during their menstrual period. This also included using soap and water for body washing as needed and having access to facilities for disposing of used menstrual materials. In poorer countries, girls and women face significant challenges in achieving adequate menstrual management.<sup>[3]</sup>

Menstruation is often surrounded by psychological and religious barriers due to a lack of knowledge about its scientific process. Many girls living in slum areas are unaware of what actually occurs during the menstrual cycle. Despite being a natural process, menstruation is associated with various community perception and practices, which can sometimes lead to negative health outcome.<sup>[4]</sup>

Menstrual hygiene is an essential aspect of a women's life. The physiology, pathology of menstruation are closely linked to women's health and well-being, making it a crucial issue related to morbidity and mortality among females. During menstruation, women are most vulnerable to developing reproductive tract infection, urinary tract infections, and various sexually transmitted diseases. Menstrual hygiene addresses the specific healthcare need of women during their monthly menstrual cycle. Therefore, increasing knowledge about menstruation from a young age can promote safe practice and help reduce the suffering of millions of women.<sup>[4]</sup>

Teacher has positive impact and significant influence children's minds. However, menstrual hygiene is rarely discussed in school curriculums, despite being included in the millennium development goals. To understand the consequences and importance of menstrual

hygiene practices among adolescent girls, it is essential to study current practices. This understanding will help in planning future intervention effectively.<sup>[4]</sup>

Against this backdrop, a study was conducted among adolescent girls in an urban slum area to assess their knowledge, beliefs, sources of information, and practices related to menstrual hygiene. The study also aimed to identify menstrual patterns and problems, as well as the status of hygiene and restrictions observed by adolescent girls during menstruation.<sup>[4]</sup>

## **METHODS**

This descriptive study was conducted after institutional ethical committee approval. A pre-validated Knowledge questionnaire was circulated to 100 adolescent girls from selected secondary and higher secondary schools of Nadiad city by used non-probability Convenient Sampling technique from .25/06/2024 to 29/06/2024. Written informed consent was obtained from all participants under and who belong under 18 years of age, with parental consent provided through an assent form. For Knowledge questionnaire tool regarding knowledge of menstrual hygiene, the total score is 0 and total maximum score is 15. The cut off score and category were calculated as indicate good Knowledge, indicate average knowledge and below 15 indicate poor knowledge regarding knowledge of menstrual hygiene. The adolescent girls were included from selected secondary and higher secondary schools of Nadiad city. Data of components were distributed in percentage-based Age, Education, Age of menarche, Education of mother, Type of family, Family income, Toilet facility, Prior information, Source of information, Topic included in syllabus, Use of sanitary pads. The association between knowledge regarding menstrual hygiene with their selected demographic variables determined.

### **Ethical consideration:**

Ethical approval for the present study was obtained from Institutional Ethics Committee for Human Research of Maganbhai Adenwala Mahagujarat University, Nadiad.

(**Approval No:** MAM Uni/IECHR/2024/62) (**Ref. No:** IEC-MAM Uni/2023-24/62)

## **RESULT**

Demographic data of 100 students were normally distributed. The majority of participants aged, the participant's age is 14-15.1 years (22%), 15.1-16 years (26%), 16.1-17 years (29%) and 17.1-18 years (13%).Regarding education, the participant's education is 9<sup>th</sup> (17%), 10<sup>th</sup> (21%), 11<sup>th</sup> (32%), and 12<sup>th</sup> (30%).Regarding age of menarche, the participant's age of menarche is 12-13 (45%), 13.1-14 (48%), and 14.1-15 (7%).Regarding education of family, the participant's family education is illiterate (11%), primary (40%), secondary (42%), and

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**Table-1: - Analysis of Socio Demographic variables of community people.**

<b>SR NO</b>	<b>DEMOGRAPHIC DATA</b>	<b>FREQUENCY N = 100</b>	<b>PERCENTAGE</b>
<b>Age</b>	14-15 years	22	22%
	15.1-16 years	26	26%
	16.1-17 years	39	39%
	17.1-18 years	13	13%
<b>Education</b>	9 <sup>th</sup> std	17	17%
	10 <sup>th</sup> std	21	21%
	11 <sup>th</sup> std	32	32%
	12 <sup>th</sup> std	30	30%
<b>Age of Menarche</b>	12-13 years	45	45%
	13.1-14 years	48	48%
	14.1-15years	07	07%
<b>Education of family</b>	Illiterate	11	11%
	Primary	40	40%
	Secondary	42	42%
	Graduate	07	07%
<b>Type of family</b>	Nuclear	20	20%

	Joint	80	80%
	Any other specified	00	00%
<b>Family income</b>	5000-10,000 Rs	42	42%
	10,001-20,000 Rs	24	24%
	20,001-30,000 Rs	22	22%
	>30,000 Rs	12	12%
<b>Toilet Facility</b>	Yes	98	98%
	No	02	02%
<b>Prior information</b>	Yes	99	99%
	No	01	01%
<b>Source of information</b>	Parents	74	74%
	Teachers	03	03%
	Friends	06	06%
	Health workers	17	17%
<b>Topic included in study</b>	Yes	37	37%
	No	63	63%
<b>Use of sanitary Pad</b>	Yes	99	99%
	No	01	01%

In the level of knowledge regarding menstrual hygiene among adolescent girls, there are 08 (08%) students having good knowledge, 73 (73%) having average knowledge and 19 (19%) having poor knowledge regarding menstrual hygiene. The mean score of knowledge is 10.1200 and standard deviation is 1.90311. (Table-2)

**Table-2: The level of knowledge regarding menstrual hygiene among adolescent girls in terms of Frequency and Percentage.**

Sr. No.	Level of Knowledge	Frequency	Percentage	Mean	Standard deviation
1.	Good	08	08%	10.1200	1.90311
2.	Average	73	73%		
3.	Poor	19	19%		
<b>TOTAL</b>		<b>100</b>	<b>100%</b>		

**Table-3: Association between the knowledge regarding menstrual hygiene among adolescent girls with their selected demographic variables. n=100**

Demographic Data	Frequency (F)	Percentage (%)	Level of Knowledge			Chi Square Value ( $\chi^2$ )	Tabulated value p-value P<0.05
			Good	Average	Poor		
<b>Age</b>							
14-15 years	22	22%	16	0	6	3.805	0.703
15.1-16 years	26	26%	19	3	4	Df=6	
16.1-17 years	39	39%	29	4	6		
17.1-18 years	13	13%	9	1	3		
<b>Education</b>							
9 <sup>th</sup> std	17	17%	10	0	7	10.275	0.114
10 <sup>th</sup> std	21	21%	15	1	5	Df=6	
11 <sup>th</sup> std	32	32%	26	3	3		
12 <sup>th</sup> std	30	30%	22	4	4		
<b>Age of Menarche</b>							
12-13 years	45	45%	34	1	10	5.818	0.213
13.1-14 years	48	48%	33	7	8	Df=4	
14.1-15 years	07	07%	36	0	1		
<b>Education of mother</b>							
Illiterate	11	11%	6	0	5	7.047	0.317
Primary	40	40%	30	4	6	Df=6	
Secondary	42	42%	31	4	7		
Graduate	07	07%	6	0	1		
<b>Type of Family</b>							
Nuclear	20	20%	12	1	7	4.228	0.121
Joint	80	80%	61	7	12	Df=2	
Any other specified	00	00%	0	0	0		

<b>Family Income</b>							
5,000-10,000/-	42	42%	28	2	12	10.217	
10,001-20,000/-	24	24%	20	2	2	Df=6	
20,001-30,000/-	22	22%	18	1	3		
>30,000/-	12	12%	7	3	2		0.116
<b>Toilet Facility</b>							
Yes	98	98%	71	8	19	0.755	0.686
No	02	02%	2	0	0	Df=2	
<b>Prior Information</b>							
Yes	99	99%	73	8	18	4.306	0.116
No	01	01%	0	0	1	Df=2	
<b>Source of Information</b>							
Parents	74	74%	50	8	16	9.328	
Teachers	03	03%	2	0	1	Df=6	0.156
Friends	06	06%	4	0	2		
Health workers	17	17%	17	0	0		
<b>Topic included in Syllabus</b>							
Yes	37	37%	24	1	12	8.170	0.017
No	63	63%	49	7	7	Df=2	
<b>Use of Sanitary Pads</b>							
Yes	99	99%	72	8	19	0.374	0.830
No	01	01%	1	0	0	Df=2	

There is association between level of knowledge regarding menstrual hygiene with their selected demographic variables. Fisher Chi square test has been applied as some cells have p value more than 0.05, it is seen that attending the class is not significantly associated with the scores while association between knowledge regarding menstrual hygiene with their selected demographic variables. Fisher Chi square test has been applied as some cells have p value less than 0.05, it is seen that attending the class is significantly associated with the score. The knowledge mean is 10.1200 with SD 1.90311 and obtained “r” value is 0.85 which was calculated by Karl Pearson correlation coefficient method.

## DISCUSSION

This study was done to assess the level of knowledge regarding menstrual hygiene among adolescent girls. It showed an overall average knowledge and significant association between level of knowledge and demographic variables regarding menstrual hygiene.

A study done by Prakash Mathiyalagen, Birundhanjali Peramasamy (2017) who found fair level of knowledge regarding menstrual hygiene towards adolescent girls, in this study 51.7% of respondents were not aware of menstruation before attaining menarche; 71.5% and 61.2% were not known about the cause and source of the menstrual bleeding, respectively; 78.1% used only sanitary pads whereas 21.9% used both old clothes and sanitary pads as the absorbents.

Another study was done by Anchanaganga Hassan Kailasraj, Vidya Basavaraju (2020) who found level of knowledge in urban and rural areas. Among 380 study subjects 43.4% were aware about menstruation before attaining menarche, 62.4% were aware that menstruation is a natural process. Majority of study subjects (58.9%) were using sanitary pads during menstruation and 46.8% of study subject's changes absorbents twice a day.

According to Savita Kumari et.al. The authors found that out of 150 adolescent girl's majority of the girls (67.3%) had below average knowledge about menstrual hygiene whereas 16.7% girls had average knowledge. Only 16% girls had good knowledge about menstrual hygiene.

As per findings of study of Tarhane S. et.al found that 89% girls thought menstruation to be a normal process, 79% girls used sanitary napkins while 21% girls used clothes as absorbent during menses. The authors found that mothers were the primary source of information in 88% girls.

A community-based cross-sectional study involving 200 adolescent girls done by Kalita D et. al. found that 92% of the respondents knew about menstruation before menarche. As high as 92% of the respondents believed that menstruation occurs due to natural or hormonal cause, whereas 1.5% considered it as a disease process. 81.5% girls used commercially available sanitary pads and 78.5% girls cleaned external genitalia with soap and water. All the participants avoid attending religious occasion, followed by kitchen work (57.5%), marriage party (31.5%), and 30.5% of them were sleeping separately. 46% of the respondent avoid sour food during menstruation. The study concluded that false perceptions, ignorance, and unsafe practices are still prevailing in the community.

Our study states that adolescent girls have an average knowledge regarding menstrual hygiene suggesting that girls are aware about menstrual hygiene but there is lack of knowledge regarding menstrual hygiene.

## **CONCLUSION**

According to findings of this study, the adolescent girls have average knowledge regarding menstrual hygiene. There is significant association between level of knowledge regarding menstrual hygiene with selected demographic variables. There is positive correlation between level of knowledge and significant association between level of knowledge with their demographic variables regarding menstrual hygiene among adolescent girls. Age, education, age of menarche, education of mother, type of family, family income, toilet facility, prior information, source of information, topic included in syllabus, and use of sanitary pads of study has a considerable impact on one's level of knowledge regarding menstrual hygiene. Although the majority lack adequate level of knowledge. This emphasizes the need for targeted educational interventions to improve understanding and promotion of knowledge regarding menstrual hygiene.

### **Limitation:**

Since the study focuses only on 100 adolescent girls from the selected secondary and higher secondary schools of Nadiad city, the findings may not be applicable to other school going girls in other regions or to the general population. The study might have been conducted within a limited timeframe, which could have impacted the depth of data collection and analysis. A longer duration might have allowed for a more comprehensive study. As a descriptive study, this research might only provide a snapshot of the knowledge of adolescent girls at a particular point in time. It cannot capture changes or trends in these factors over time.

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