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CASE REPORT

**ASSESSMENT OF KNOWLEDGE, PRACTICE AND  
ATTITUDE ON MENSTRUAL HYGIENE AMONG MEDICAL  
STUDENTS IN A TEACHING HOSPITAL.**Divya.G<sup>1\*</sup>, Naveena. R<sup>1</sup>, Pavithra. B<sup>1</sup>, Sri Kiruthika.K<sup>1</sup>, Ashwini. V<sup>1</sup>, Vinoth Kumar.S<sup>2</sup>, Revinselman. P<sup>1</sup>.<sup>1</sup>Department of Microbiology, Shri Sathya Sai Medical College & Research Institute,  
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othakalmandapam,Coimbatore, Tamil Nadu, India.**Received:** 12 October 2016**Accepted:** 28 December 2016**Published:** 31 January 2017**Abstract:**

*Menstruation is a monthly occurring physiological process among women when she enters adolescence. Menstruation requires certain requirement and facilities, lacking of which restricts their health and self confidence. The objective of the study was to assess the knowledge, attitude and practice of menstrual hygiene among medical students. A pre formed Self-developed, pre-validated questionnaire was used. The protocol and purpose of the study was explained to students and requested to complete the questionnaire. Data collected were entered in Microsoft Excel and analyzed. Out of 300 students, 270 gave completed response. Mean age of menarche was 12 years. The main source of information regarding the menstrual practice was found to be mother 79.25%. About 68.6% students were aware that menstruation is a physiological process, where as 20% thought that it was a curse of god. Majority of them 80% responded menstrual blood was impure and excessive bleeding will lead to anemia. 100% of the students followed proper sanitary habits. 97.03% of them used sanitary napkins instead of sanitary towels /cloth as menstrual absorbent. 74% girls had regular menses with moderate blood. Menstrual disturbance was seen among 74% of the girls. 60.6% girls were forced to follow different restrictions like not allowed to visit holy places. From our study we came to know that majority of the Medical students have proper knowledge regarding menstrual hygiene. Medical student being a health care professional in future will help in giving proper knowledge about menstrual hygiene and bring in a disease free and healthy society.*

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**INTRODUCTION:**

Menstruation is a significant process that begins in the life of a girl at the time when she enters or is about to enter adolescence [1]. According to WHO the adolescent period lies between 10-19 years, during which the transition from childhood to adult takes place along with pubertal development and sexual maturation [menarche][2].

Even though menstruation is a natural process, it is linked with several misconceptions and malpractices which may result in adverse health outcomes. Menstruation requires access to appropriate materials and facilities, without which females suffer from poor menstrual hygiene which restricts their movement and self confidence. Poor hygiene during menstruation has been associated with serious ill-health, including reproductive tract and urinary tract infections [4,5]. Awareness regarding the need for information about healthy menstrual practices is very important. Special health care needs and requirements of women during monthly cycle of menstruation are collectively given the term "Menstrual hygiene" [6]. Menstrual hygiene is an issue that is insufficiently acknowledged and has not received adequate attention in the reproductive health and Water, Sanitation and Hygiene [WASH] sectors in developing countries including India. Hence, good menstrual hygiene is therefore crucial for the health, education and dignity of girls and women [7].

Studies that make the issue visible to the concerned policymakers and inform practical actions are very much warranted. Many studies have assessed the knowledge, attitude and practices of menstrual hygiene among school girls. As doctors are the main health care providers, they play an important role in guiding the people about menstrual hygiene thus; their knowledge helps in transforming the community practices. Therefore, there is the need to investigate menstrual hygiene and self care practices among medical students. With this background the present study was undertaken to assess the knowledge, attitude and practice of menstrual hygiene among medical students.

**MATERIALS AND METHODS:**

A cross sectional observational study was conducted among 300 medical students belongs to 1<sup>st</sup>, 2<sup>nd</sup> and 3<sup>rd</sup> year MBBS of Shri Sathya Sai Medical College and Research Institute. A pre formed Self-developed, pre-validated questionnaire was used. All the students included in this study were explained about the protocol and purpose of the study and requested to complete the questionnaire.

**RESULT:**

A total of 300 girls of 1<sup>st</sup> year, 2<sup>nd</sup> year and 3<sup>rd</sup> year MBBS students [78+122+100] were included in the

study. Of which 270 students [68+110+92] gave complete response and the remaining 30 incomplete questioner were excluded from the study.

About 66.7% of girls belong to 18-20 years of age group, followed by 33.3% in 21-22 years of age group. As most of the students are from well educated background, majority of them [70.3%] were aware of menstruation before attaining menarche. First year students were more aware when compared to second and third year, this is mainly due to the current women development programs in their schooling and exposure regarding menstrual hygiene through social media and network. This throws a light on the positive attitude towards the development of women's health in our society **TABLE 1**

Mean age of menarche was 12 years with ranges from 8-18 years as shown in **TABLE 2**.

The main source of information regarding the menstrual practice was found to be mother [79.25%], followed by sister [8.8%], friends [6.6%] and teacher [5.18%] as depicted in **CHART 1**. Out of 270 students included in this study 43.7% was feared where as 38.5% felt embarrassed when they undergone menarche, the remaining 17.7% of the students showed no reaction.

About 68.6% of the students had the knowledge that menstruation is a physiological process, 20% thought that it was a curse of god. Majority of the study population [84.8%] responded that menstrual blood is impure and almost equal number of participants [80%] answered that excessive bleeding will lead to anemia. This shows that the medical students were well aware of the physiological changes occurred during menstruation. This awareness gives a good positive sign for the betterment of the menstrual hygiene among the patients who is consulting them **TABLE 2**.

262 girls [97.03%] used sanitary napkins as absorbent during menstrual cycle, 4[1.48%] of girls used sanitary towels /cloth as menstrual absorbent the remaining 4[1.48%] was found to use tampons [**CHART 2**]. This shows that the students were aware of the consequences [Toxic shock syndrome toxic disease] of using sanitary towel and tampons.

Majority of the medical students [100%] followed proper sanitary habits of washing their hands after changing their pads to prevent contamination. They also followed other sanitary habits like using soap and water for washing their external genitalia [64.4%] to prevent infection, 66% changed their undergarments twice a day. About 62.9% of the girls change their sanitary pad 4 hours once followed by 34.8% in 6 hours, 1.48% in 8 hours and 0.74% once daily during first two days of their menstrual cycle, which can avoid moist environment for the growth of the bacteria and fungus. These practices reveal that there is a better

understanding on hygienic practice during menstruation among our study group medical students [TABLE 3].

Out of 262 girls who were using sanitary napkins, 120 [44.4%] store it in the bathroom, 104[38.5%] store it along with the cloths whereas 38[14%] do not store it in their house. It was seen that 200 [74%] girls had regular menses with moderate blood flow 224 [82.9%]. 70 [25.9%] had Irregular menses of which 40 was found to have Poly cystic Ovary Syndrome, 20 had thyroid disorders remaining 10 were anemic. Menstrual disturbance was seen among 74% of the girls among which high frequency of lower abdominal pain was observed in 65.6% of girls followed by 43.3% of back ache, 26.6% of mood swings, 23% of fatigue and weakness and 8% of head ache as depicted in TABLE 4, CHART 3.

**Table 1: Awareness Regarding the Menstruation before Menarche Among Medical Students**

Awareness of menstruation before menarche	Total number of 1 <sup>st</sup> year students [%]	Total number of 2 <sup>nd</sup> year students [%]	Total number of 3 <sup>rd</sup> year students [%]	Total number [%]
YES	64 [94.1]	70 [63.6]	56 [60.8]	190 [70.3]
NO	4 [5.8]	40 [36.36]	36 [39.1]	80[29.6]
Total	68[100]	110[100]	92[100]	270[100]

**Table 2: Knowledge/Perception Regarding Menstruation**

S.NO	VARIABLE	TOTAL[N=270]	PERCENTAGE %
1	AGE OF MENARCHE		
	8-10	4	1.48
	10-12	124	45.9
	12-14	122	46.6
	14-16	14	5.1
	16-18	2	0.74
2	AWARNESS OF MENSTRUATION BEFORE MENARCHE		
	YES	190	70.3
	NO	116	42.9
3	REACTION TO FIRST MENSTURAL BLEED		
	FEAR	118	43.7
	EMBARASSED	104	38.5
	NO REACTION	48	17.7
4	MENSTURAL BLOOD IMPURE		
	YES	228	84.4
	NO	42	14.8
5	EXCESSIVE BLEEDING LEADS TO ANEMIA		
	YES	216	80
	NO	54	20
6	WOMEN HAVE MENSES DURING PREGNANCY		
	YES	0	0
	NO	270	100
7	CAUSE OF MENSTRUATION		
	a) PHYSIOLOGICAL	186	68.6
	b) CURSE OF GOD	54	20
	c) DISEASE	25	9.25
	d) DON'T KNOW	5	1.85

Overall 39.2% of the students were aware of different types of myths followed during menstruation. Girls were forced to follow different restriction based on the various practices in different families. Among all the mentioned restrictions, 60.6% girls were not allowed to visit holy places during menstruation in all the religions. Apart from that, restrictions like avoid sleeping on routine bed, avoid touching stored food, other family members, playing outside home, avoid going to college were also followed. Various restriction as mentioned are depicted in CHART 4.

TOTAL NO. OF STUDENTS=300

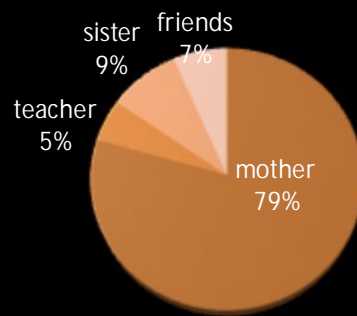
I YEAR MBBS =78

II YEAR MBBS =122

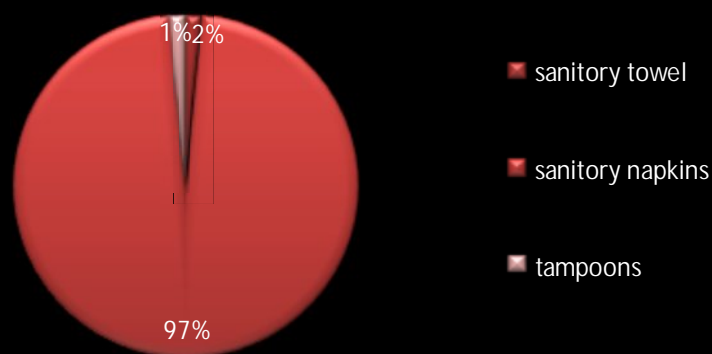
III YEAR MBBS =100

Total respondent= 270

### CHART 1: Distribution of Source of Information



### CHART 2: Absorbent used



**Table 3: Practice of Menstrual Hygiene among Students**

S.NO	VARIABLE	TOTAL [N=270]	PERCENTAGE%
1	<b>NO. OF TIMES OF CHANGING UNDERGARMENTS</b>		
	ONCE A DAY	92	34
	TWICE A DAY	178	66
2	<b>WASH HANDS AFTER CHANGING PADS</b>		
	YES	270	100
	NO	0	0
3	<b>MEDIUM USED TO WASH VAGINA</b>		
	WATER ONLY	96	35.5
	WATER AND SOAP	174	64.4
4	<b>CHANGING PAD</b>		
	4 HRS	170	62.9
	6 HRS	94	34.8
	8 HRS	4	1.48
	ONCE A DAY	2	0.74
5	<b>PLACE OF STORAGE</b>		
	BATHROOM	120	44.4
	WITH CLOTHES	104	38.5
	NOT STORED	38	14

Table 4: Information / Attitude towards Menstrual Hygiene

S.NO	VARIABLE	TOTAL [N=270]	PERCENTAGE%
1	<b>MENSES</b>		
	REGULAR	200	74
	IRREGULAR	70	25.9
2	<b>MENSTRUAL FLOW</b>		
	MILD	16	5.9
	MODERATE	224	82.9
	HEAVY	26	9.6
	ONLY SPOTTING	4	1.48
3	<b>MENSTRUATION A DISTURBANCE</b>		
	YES	200	74
	NO	70	25.9
4	<b>AWARE OF MYTHS</b>		
	YES	106	39.2
	NO	164	60.7

Chart 3: Premenstrual syndrome symptoms

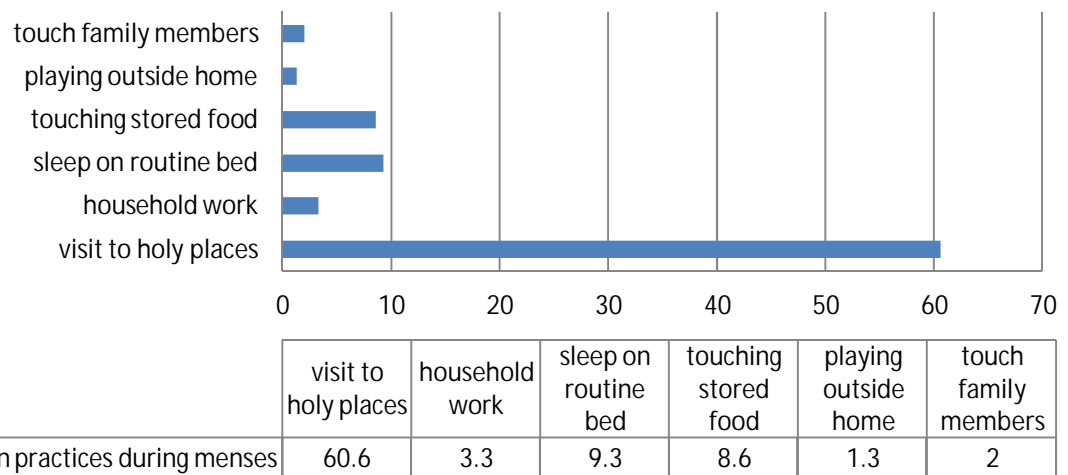
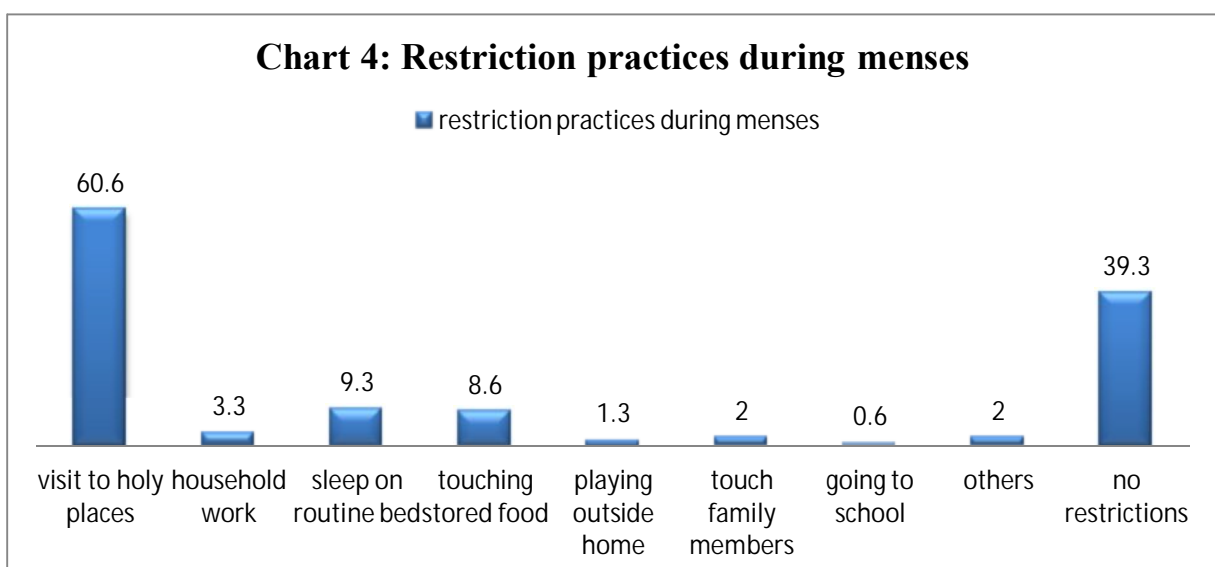


Chart 4: Restriction practices during menses



**DISCUSSION:**

Menstrual hygiene is a taboo, a topic that most women in India are uncomfortable discussing in public. Many studies have been published on menstrual hygiene but majority of them have been done in rural areas, urban areas and in school girls. But there are very few studies done among medical students in our locality. Hence this study will be helpful to assess the awareness regarding menstrual hygiene among future doctors who is going to form a disease free society.

In our study 70.3% of the students had previous knowledge of menstrual practices before attaining menarche due to women development programs in their schooling and awareness through social media and network. This is high when compared to another study [67.61%] done among medical students in Rajasthan [8]. But various studies done among rural and urban school adolescent girls [9,10] showed very less [40.6%, 38.5%] awareness regarding menstrual hygienic practices, this could be mainly because of unawareness and lack of educational background.

In the present study, the mean age of menarche was found to be 12, which was almost similar to the others reports done in different region, the mean age was 12.85 in a study done by Thakre *et al.*, [11] and 11.95 years in study done by Yasmin *et al.*, [12].

Information regarding the menstrual habit was first instructed by mother [79.25%] to majority of our study population, which is in accordance with results of Neelimasharma *et al.*, [8] Dasgupta A *et al* [13] in which mother was first informer in 35.22% & 37.5% of girls respectively and also by Thakre *et al* [11], KalpanaKatiyar *et al* [14] documented that 66.9% of urban adolescent females of Meerut learned about menstrual practices from mother.

We have observed a very good knowledge regarding the physiology of menstrual hygiene among our study group of medical students. About 80% of the students answered that menstrual blood is impure and excessive bleeding will lead to anemia. Whereas, a study done among school students at Bangalore [15] stated that only 64% of the students were aware that menstrual blood was impure and 46% students answered excessive bleed will lead to anemia.

In contrast to the most of the study done earlier [11] [13][16] 17], our study population followed highest percentage of proper hygienic practices, like use of napkins [97%] instead of tampons and towels, washing their hands after changing their pads [100%], using of soap and water for washing their external genitalia [64.4%], changing their undergarments twice daily [66%], change their sanitary pad 4 hours once [62.9%] respectively. This could be due to advertisements and their educational status that brought them awareness

regarding good healthcare practices during menstruation. The place of storage of the pads/ Napkins also places an important role in hygienic practices. Improper storage of which will results in contamination and harboring of dust and insects. About 44.4% of our students followed the practice of storing the absorbents in the bath room which was similar to that of the study done by Madhusudan *et al.*, [15].

Nowadays the major problem among adolescent girls and women is irregular periods. Though various study [8,18] had revealed high frequency of menstrual related disorders among the present younger generation students, our study stated less 26% of the students with irregular menses. This shows proper healthcare practices and food habits of the medical students.

Similar to the studies done by Neelima Sharma *et al.*, Kalpana Katiyar *et al.*, [8,10] our report also showed about 74% of the girls suffered from any one of the menstrual disturbances.

There were many myths revolving around menstruation. About 40% of the girls were aware of myths followed during menstruation. Of which restriction to visit holy places were common accounting for 60.6%, followed by restrictions like avoid sleeping on routine bed, avoid touching stored food, other family members, playing outside home and avoid going to college. Similar restrictions were followed among all the population of girls all over the country [8,17,19,20]. This implies that people still believe something which is not a fact. This attitude has to be changed in future.

**CONCLUSION:**

Healthy practices are important for health and well being of individuals. Among females menstrual period is one such expected time to adopt hygienic practices. Due to certain cultural and religion restrictions followed in our society, many young girls lack appropriate and sufficient information regarding menstrual hygiene, results in unhealthy behavior during their menstrual period. Most of the girls learned menstrual hygiene from their mother but still they were scarred of 1st menstrual bleed this implies that mothers are hesitating to inform about menstruation to their child before they attain menarche. Also there were many misconceptions and superstitions are still been followed in our society this has to be changed. So education system and also mothers must come forward to inform the girls about secondary sexual characteristics and menstruation before menarche. In our study we came to know that majority of the girls have proper knowledge regarding menstrual hygiene. Medical student being a health care professional in future will help in giving proper knowledge about menstrual hygiene and bring in a disease free and healthy society.

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