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Indian Journal of Obstetrics and Gynecology Research

Journal homepage: [www.ijogr.org](http://www.ijogr.org)

## Original Research Article

## Knowledge, awareness and practices regarding menses and its hygiene among adolescent girls

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## ARTICLE INFO

## Article history:

Received 11-11-2020

Accepted 05-09-2021

Available online 26-11-2021

## Keywords:

Menses

Girls

School

KAP

## ABSTRACT

**Introduction:** Menstruation is a physiological process which starts around 11-16 yrs of age in most girls and continues throughout the reproductive life until menopause. During these years females spend one-sixth of their time menstruating and in discomfort. It is of utmost importance that hygienic practices are followed for a healthy and safe life. Various social and cultural taboos and habits have clouded the situation along with restricted facilities creating a disease burden such as genital infections and menstrual problems, including missed days at schools and work. It is the responsibility of the policy makers and also the health care workers to help in bridging the gap of lack of knowledge and availability of resources in creating a female hygiene friendly infrastructure in all the places.

**Objectives:** The study was conducted to assess the knowledge and awareness about menarche and menstrual cycle in school going girls. Also it was carried to study the prevailing practices of menstrual hygiene among the adolescent girls. The various sociocultural restrictions and taboos under practice in relation to menstruation and were analysed the reasons alongwith their solutions to improve the present situation of female hygiene practices were tabulated.

**Materials and Methods:** A semi structured, question answer style written survey was conducted among adolescent girls aged 11-18 yrs from nearby schools of Index Medical College, with help of PG resident doctors and medical interns. The survey was followed by educational and awareness talk on female hygiene practices that need to be followed.

**Results:** The result of the study were as follows-56.4%% were aware about menstruation before attaining menarche, and 88.20% had attained menarche at the time of study. 68.5% had mother as first informant, 40.3% knew about menstruation only after getting their 1<sup>st</sup> period. 28.5% felt insecure, 18.4% had anxiety, 30.5% were worried about menstruation. 95.5% perceived menstruation as a natural process, 98.6% used sanitary pads for bleeding, 1.4% used old cloth. 98.6% cleaned private parts during menses of which 75.3% used only water. Only 78.1% had the facility to change pads in school, of which only 58.9% changed pads in school. 90.4% had a daily bath during menses. 38.6% were not allowed to pray. 5% were not allowed to attend school, 8.3% were not allowed to sleep on their regular bed, and 11% were asked not to touch family members. 5% were restricted from playing outside and were not even allowed to go out of their home. 81.3% shared their menstrual health problems with mother.

**Conclusion:** This study provided an understanding of perception of menstruation among school going girls. It also deals with the understanding of the society that still menstruation is not taken as a natural process, but rather as a curse and menstruating girls and women are being put under a lot of restrictions due to such practices. Lack of proper infrastructural facilities are a reason why so many girls drop out and restrict their attendance at school after menarche and much still needs to be done in this field to ensure smooth and healthy transition of adolescent girls into adulthood.

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## 1. Introduction

Menarche is the onset of menstruation and marks an important benchmark in the growth of females,<sup>1</sup> which is normally attained between 11 to 16 years of age.<sup>2</sup> It is the threshold which the body crosses and enters the active phase of reproduction, which is established by onset of menstruation along with various changes in the physiological and anatomic activities of the body that transform little girls into young women. Of all the changes that occur in the female, menstruation is by far the most significant one. It leads to anxiety, discomfort and in many cultural practices carries with it a taboo restricting many girls from various social, cultural and educational activities.<sup>3,4</sup>

In many cultures of India and the world, menstruation is still considered something unclean,<sup>5–8</sup> bad and even cursed.<sup>9</sup> It is surprising and also saddening to note what mental agony all young girls have to go through during the menstruation phase due to these cultural habits.<sup>10,11</sup> Girls typically miss a major chunk of the (20%) school attendance after attaining menarche in India, due to the non-availability of clean washroom facilities.<sup>12–15</sup> Furthermore, the school dropout rate has been shown to increase after menarche.<sup>16–19</sup> Menstrual hygiene is something which should be taught to girls right from the beginning, so that they lead a happy and healthy life, which would later transcend into a healthy reproductive career.<sup>20</sup> The social and cultural taboos create a barrier for easy and free talk and practices related to the menstrual hygiene that should be followed by a female.<sup>7,11,21</sup> Lack of infrastructural planning for these taboos, reaffirms this barrier.<sup>17–19,22</sup> It is the responsibility of health care workers, policy makers and family members to ascertain, that their daughters feel safe, happy and confident during their transcending into adulthood. The girls need not be ashamed of a natural phenomena, and which is an important step for their health.

## 2. Objectives

The study was conducted with the objective of assessing the knowledge and awareness about menarche and menstrual cycle among the general population especially females. Further, to study the prevailing practices of menstrual hygiene among the adolescent girls. The study also included various sociocultural restrictions and taboos under practice in relation to menstruation and to evaluate the reasons and their solutions in improving the present situation of female hygiene practices in India.

## 3. Materials and Methods

A semi structured, questionnaire based survey was conducted among adolescent girls aged 11-18 yrs from

nearby schools of a Medical Institute, with the help of postgraduate students and medical interns. After the survey an educational and awareness talk on the hygiene practices to be ideally followed by each female was discussed and elaborated.

The present study was conducted in the department of Obstetrics and Gynecology, Index Medical College, Indore. It was a community based cross sectional study conducted in the schools adjoining and near the institute. Ethical clearance and permission was obtained from the institutional ethics committee. The study period was 3 months and conducted between November 2019 to January 2020 in the schools near Index Medical College Hospital and research center, Indore, Madhya Pradesh.

The study was conducted in a written paper based question answer format, after getting permission and approval from the school authorities. Consent was obtained from the students and their parents for participation in the study. The data was collected using a semi-structured questionnaire printed in both Hindi and English. Postgraduate residents and MBBS Interns after approval formalities from school authorities arranged for a meeting with girls on a set date and after collection of the filled forms were entered into Google forms software. Windows office was also used for manual assessment of data.

Girl students from classes 6<sup>th</sup> to 12<sup>th</sup> were provided with an assessment form which included demographic data and health, hygiene and cultural practices related questions. They were explained about each question and full confidentiality was maintained. The student were provided with adequate time to fill up the questionnaire. After the survey a talk and presentation was given to educate the participants about the basics of menstruation and various measures to maintain health and hygiene during that period, followed by a question and answer session for discussing and clearing their doubts.

In the inclusion criteria all girls between age groups of 9 to 18 years were the target participants. Girls aged less than 9 years or more than 18 years were excluded from the study. Even girls or their parents who did not give their consent were excluded from the participants group.

## 4. Results & Observations

A total of 478 girls, from 8 schools participated in the present study. Figure 1 shows the distribution of the participating girls. Majority of the girls were of 14 years of age. Figure 2 shows the pattern of girls as per their religion. 90.9% girls were Hindu. Rest 9.1% was constituted by other religion girls - Muslims, Buddhists, Sikh, Christians and Parsi.

Parent's education is also an important aspect of child's education, perception as well as understanding. (Figures 3 and 4). 24.30% fathers were graduates while majority of the mothers 30.8% were uneducated. This scenario carries an

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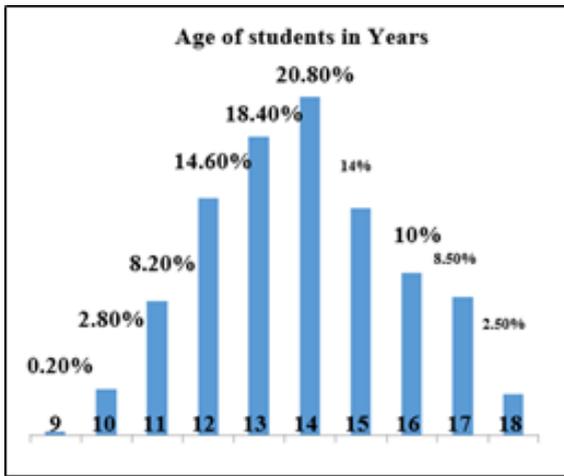


Fig. 1: The age distribution of girls in the study

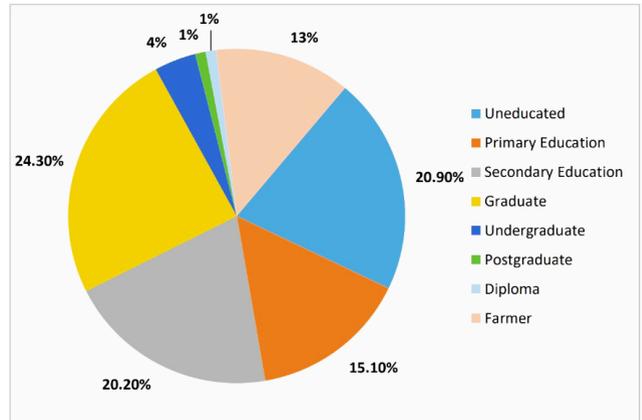


Fig. 3: Father's education

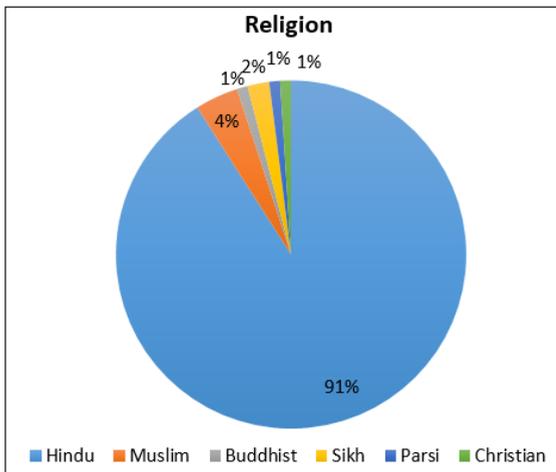


Fig. 2: Religion

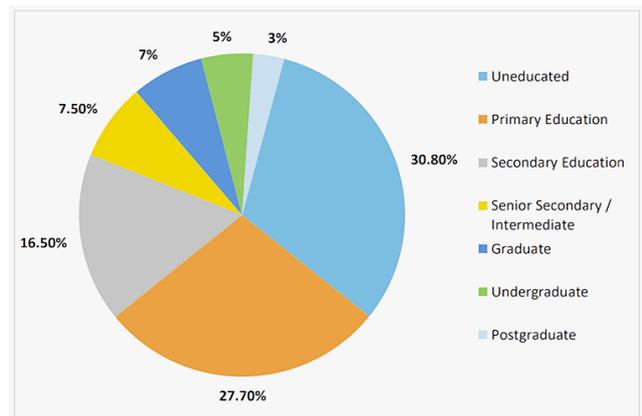


Fig. 4: Mother's education

important landmark in the child's mental status as evident in this study. 88.2% participating girls had attained menarche at the time of start of study. (Figure 5).

An interesting observation was related to the awareness among these girls about menstruation. 56.4% participants had awareness about menstruation even before having their first period. This could be attributed to education from mother and also awareness by the peer groups. 40.3% developed self awareness after having their first period. (Figure 6) A mixed pattern of reaction was noted in relation to the first menstruation. Although there were overlapping reactions but the majority 30.5% got worried and tensed. Next in line was insecurity as reported by 28.5% girls. An interesting point to note was that 15% girls commented on sexuality stating that boys too should face this issue (Figure 7).

Social and peer group taboo alongwith family pressure was evident when the question of restrictions during the

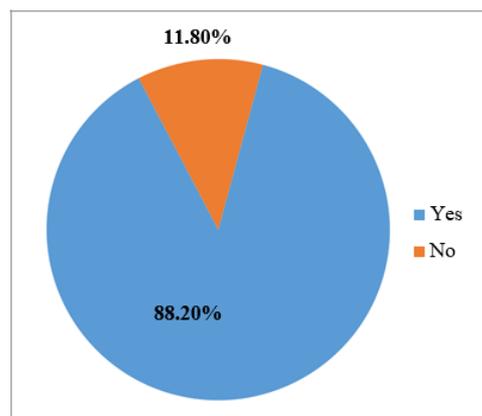
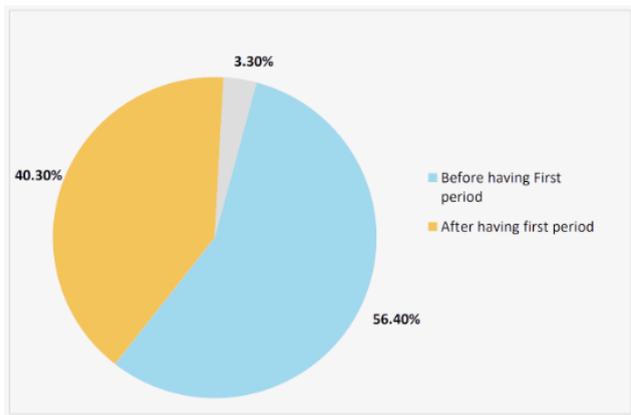
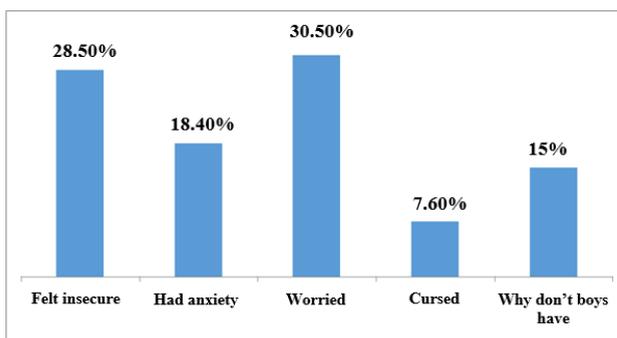


Fig. 5: Menarche attained

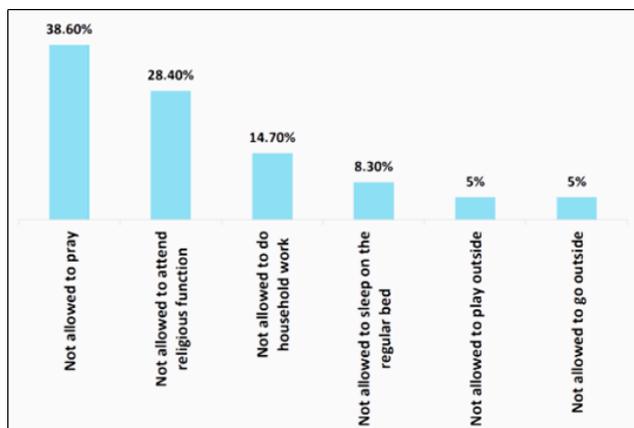


**Fig. 6:** Awareness about menstruation



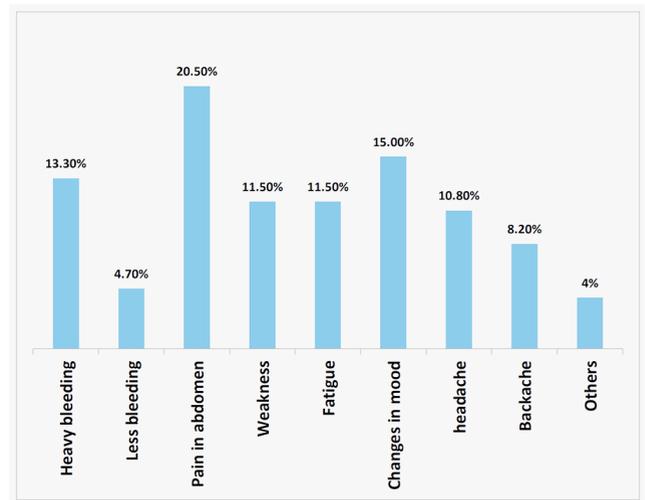
**Fig. 7:** Reaction after having first menstruation

menstrual phase was put forward to them. 38.6% responded mentioning that they were not allowed to pray during those days while next in line were girls 28.4% stating that were not permitted to attend religious functions (Figure 8). Other restrictions included – limitations to do routine household activities, had to sleep on a different bed, were not allowed to play or move outside.

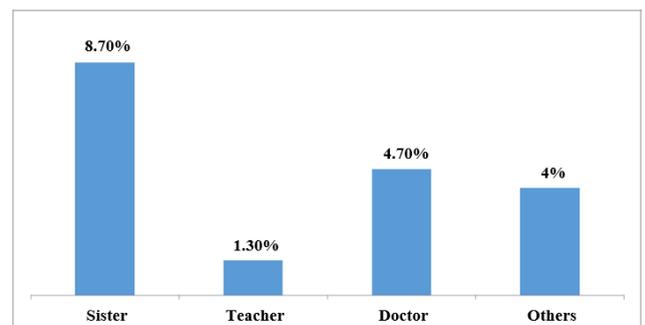


**Fig. 8:** Restrictions during menses

The girls also displayed various health issues during their menstrual phase. The different complaints reported included abdominal pain (20.5%), mood swings (15.0%), heavy bleeding (13.3%), weakness (11.5%), fatigue (11.5%), headache (10.8%), backache (8.2%), less bleeding (4.7%), and miscellaneous in 4% girls (Figure 9). Sharing of their health problems was an important issue among the girls. Their best companion was mothers and peer group friends followed by their sisters, teachers or the doctors. (Figure 10).



**Fig. 9:** Health problems during menses



**Fig. 10:** Sharing health problems with

Table 1 shows the hygienic measures and practices during the menstrual phase. Numerous ill practices were followed by the participant girls. For example disposal of pads or clothes were done in an unhygienic or improper manner. Majority 82.2% threw the used cloth or pad in the dustbin after wrapping in old paper or newspaper. 16.4% threw it in open dustbin without any cover, while 1.4% reused the clothes after washing. (Table 1). Taking a daily bath during the menses and cleaning of the private parts all carried social taboos along with them. 90.4% took daily bath even during their periods. Rest 9.6% responded by stating

**Table 1:** Hygiene measures and practices during menstruation

Thought	Natural	Curse	Disease	Don't know
	95.9%	3%	-	1.1%
Source of bleeding	urine	uterus	vagina	don't know
	-	43.8%	30.1%	36.1%
Days of bleeding	<2 days	3-5 days	>5 days	Don't know
	5.5%	57.5%	37%	-
Interval	<28 days	28-32 days	>32 days	don't know
	19.2%	69.9%	10.9%	-
Use during menses for bleeding	Sanitary pads	cloths	Menstrual cups	Others
	98.6%	1.4%	-	-
Change of pads/ cloths	1 pad/day	2 pads/day	3 pads/day	>3 pads/day
	5.5%	63%	31.5%	-
Method of disposal	Throw in open	Throw in dustbin	Throw in dustbin after wrapping in paper	Reuse cloth after washing
	-	16.4%	82.2%	1.4%
Daily bath during menses	yes	no	don't want to answer	
	90.4%	3%	6.6%	
Cleaning private parts during change of pads	yes	no	don't want to answer	
	98.6%	1.4%	-	
Cleaning of private parts using	water	soap	Antiseptic solution	Intimate hygiene wash
	75.3%	11%	9.6%	4.4%

**Table 2:** Comparison of Results with various published studies

Questions	Present study, Indore 2019-20	Raina D, Balodi G, 2014 (Dehradun) <sup>23</sup>	Bhutan MHM report 2018 <sup>24</sup>	Santina T et al, 2013 (Lebanon) <sup>25</sup>
<b>Knowledge before menarche</b>				
Yes	61.6%	34.67%	83.9%	95.4%
No	38.4%	65.33%	16.1%	4.6%
<b>Source of information</b>				
Mother	68.5%	48%	42%	86.9%
Sister	8.2%	6%	15.6%	21.6%
Friend	17.8%	12%	13.5%	33.2%
Teachers	4.1%	6.66%	27.1%	-
<b>Source of bleeding</b>				
Uterus	48.3%	12%	59.4%	-
Other than uterus	51.7%	32.67%	40.6%	-
<b>Material used</b>				
Sanitary pad	98.6%	28%	91.9%	100%
Old cloth	1.4%	62.67%	0.9%	-
New cloth	-	9.335	-	-
<b>Material for cleaning</b>				
Water	75.3%	58%	27.7%	40.9%
Soap	11%	39.33%	68.6%	42.2%
Antiseptic	9.6%	2.67%	-	-
Intimate wash	4.1%	-	-	7.5%

**Table 3:** Comparison of Results with various published studies

	Present study, Indore 2019-20	Raina D, Balodi G 2014 <sup>23</sup>	Bhutan MHM report 2018 <sup>24</sup>
<b>Method of disposal</b>		* 56% burn it	
Throw in open	-	-	17.9%
Throw in dustbin	16.4%	16%	
Throw in dustbin after wrapping in paper	82.2%	-	55.1%
Wash and reuse	1.4%	28%* don't dispose	8.5%
<b>Change pad in school</b>			
Yes	58.9%	16%	-
No	41.1%	84%	-
<b>Restrictions</b>			
Not to pray	38.6%	-	-
Not attending religious functions	28.4%	81.3%	-
Not attending school	2.9%	-	-
Not to do household work	14.7%	30.6%	17.2%
Not to touch food/pickles	41.2%	61.3%	43%
Not to touch family members	11.8%	50.6%	20%
Not to play outside	5%	45.5%	70.3%

no or didn't prefer to answer. Similarly, 98.6% cleaned their private parts during the menstrual phase. Some used only plain water while others used soap, antiseptic solution or hygienic wash solution for cleaning. (Table 1)

A comparative table with those of the published literature is depicted in Table 2.

The survey showed that 56.4% females were aware about menstruation before attaining menarche, and 88.20% had attained menarche at the time of study. 68.5% of the respondents had mother as first informant, 40.3% knew about menstruation only after getting their 1<sup>st</sup> period. Regarding their feelings 28.5% felt insecure, 18.4% had anxiety and, 30.5% were worried about menstruation. Coming to their perception 95.5% considered menstruation as a natural process, while 3% felt it as a disease or abnormality, or having cursed 43.8% could identify uterus as the source of bleeding Rest 56.2% could not clarify on the bleeding source. 98.6% used sanitary during menstruation, 1.4% used old cloth. 98.6% cleaned their private parts during menses of which 75.3% used only water. Only 78.1% girls had the facility to change pads in their school, of which only 58.9% changed pads during the school hours. 90.4% took a regular daily bath during the menses. It was surprising to note that 38.6% girls were not allowed to pray during their menses and 28.4% weren't allowed to attend religious functions. 5% were not permitted to attend school, 8.3% were not allowed to sleep on their regular bed, and 11% became untouchable and were asked not to touch family members. 5% girls were restricted from playing outside and were not even allowed to go out of their home. 81.3% shared their menstrual health problems with their mother.

## 5. Discussion

The above study and many more have brought to light the need for awareness programs and educational platforms to talk about the basics of female hygiene and how to economically achieve them.<sup>17,18,22</sup> Since mothers were found to be the sole source of information about menstruation for maximum girls<sup>23-25</sup> and even the first person they would confide into in case of any health problem, it is of utmost importance that mothers are educated about the same and taught hygiene measures to take care of themselves and their daughters.

It was observed that not all schools had clean toilet facilities along with disposal and cleaning facilities,<sup>18,22</sup> infrastructural planning should be undertaken to make schools and most buildings to aid and support the basic facilities to maintain female hygiene. The social taboos are a very important factor in making girls feel inferior or untouchable,<sup>11</sup> which should be eradicated by introducing dialogues and awareness. For this purpose local leaders, religious leaders and celebrities should be involved by the government in helping to spread the awareness and also promote hygienic measures. Sanitary pad vending machines should be installed in easy to access locations and buildings for public use. These machines dispense pads at a cheap rate, thus providing an easy access to each girl and woman.

Along with this, proper disposal facilities should be made available, and installing special bins in buildings and schools to inculcate the habit of adequate disposal of used pads should be promoted.

This study and others conducted to understand the perception of menstruation among females and society has led to understanding that still menstruation is not taken as a

natural process, but rather as a curse and menstruating girls and women are being put under a lot of restrictions due to such practices. Also lack of proper infrastructural facilities are a reason why so many girls drop out and restrict their attendance at school after menarche and much still needs to be done in this field to ensure smooth and healthy transition of adolescent girls into adulthood.

## 6. Conclusion

The present study is a very pertinent one highlighting both the prevailing social taboos on one end as well as the newer mind set of the girls and their parents related to the menstrual phase. Even few schools have adopted to the newer concepts and requirements. Good number of girls have started using hygienic and disposable sanitary pads as against the unhygienic cloths. Sanitisation during menses, proper disposal of the used pads, mental balance are other important aspects indicating a major change in the scenario. However, existence of stigmas such as banning girls from praying or attending any religious functions are important and to be considered.

## 7. Source of Funding

None.

## 8. Conflict of Interest

The authors declare no conflict of interest.

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**Cite this article:** Bhadoria S, Jain PG, Puloriya K, Chouhan N. Knowledge, awareness and practices regarding menses and its hygiene among adolescent girls. *Indian J Obstet Gynecol Res* 2021;8(4):518-524.