

Original Research Article

Menstrual hygiene: A Cross-Sectional Study Among 1st Year Nursing StudentsGarima Shrivastava¹, Ravindra Wadhvani², Sumit Sinha^{3*}, Vesti Randa⁴¹Department of Physiology, Index Medical College, Indore, M.P., India²Department of Physiology, MGM Medical College, Indore, M.P., India³Department of Internal Medicine, Index Medical College, Indore, M.P., India⁴Department of Physiology, MGM Medical College, Indore, M.P., India

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Abstract

Background: This is a cross sectional study conducted among 1st year undergraduate female nursing students of Government Nursing College, Indore (M.P), study population- All the enrolled female nursing students of 1st year were included in the study. **Objective:** To assess the knowledge about menstrual hygiene among 1st year nursing students and its correlation with the socio-demographic-economic status. To assess the practices and beliefs about menstruation among 1st year nursing students and its correlation with the socio-demographic-economic status. To assess the lacuna in knowledge and practices about menstruation among 1st year nursing students so that proper education can be provided to them. **Method:** This study was conducted to ascertain menstrual knowledge and practices among nursing students. This group of females are the most important hierarchical pillar in regards to policy making and implementation of women health. **Conclusion:** We found their knowledge and practices regarding menstruation satisfactory, still education about this issue need to be imparted at the grassroot level. Anganwadi workers, health care workers, teachers etc. can play a major role in this field. Safe and hygienic menstrual practices need to be promoted by popular medium/cinema/television. All mothers irrespective of their educational status need to be taught about the importance of hygienic practices during menstruation, imparting timely and correct information regarding menses to their daughters and should be encouraged to break the age old myths and taboos regarding it. Teachers and social workers should be involved in broader perspective to bring such changes. This study focuses on nursing students but there is always a scope to conduct more such studies on various other strata of women like adolescent school girls of the area or female labours etc. belonging to similar age group. Parents, teachers, health care workers, social workers, educational media programmes etc. can play important role in spreading correct, safe, and hygienic knowledge regarding menstruation and practices associated with it in the society.

Keywords: menstrual, nursing, students & hygiene.

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Introduction

Menstruation, a unique event in the life of a developing girl child, is one of the milestones of puberty and adolescence. WHO has defined Adolescence as the period between 10-19 years of life[1]. Adolescent girls constitute about 1/5th total female population in the world[2]. Menstruation involves the cyclical shedding of the inner lining of the uterus which is controlled by the hormones produced by the hypothalamus and pituitary glands. The first onset of menstruation also known as menarche, though varies across the globe but most studies suggest that it occurs between ages of 13-15 years[3-8]. Similarly the age of menopause i.e; permanent stoppage of menstruation is generally considered between 45-50 years. A woman therefore spends approximately 2100 days menstruating which is equivalent to almost 6 years of her reproductive life[9]. Whereas in some societies onset of menstruation is celebrated, it is the beginning of imposition of dietary and social restrictions at some places[10-12]. The topic of menstruation still remains taboo in many countries and the discussion of menstruation related problems is treated as shameful[13]. In Indian society, menstruation is considered unclean and generally the menstruating girls are being isolated and restrictions are being superimposed on them in the family, which reinforces a negative attitude towards the phenomenon[14].

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The first menstruation is often horrifying and traumatic to an adolescent girl because it usually occurs without her knowing about it[15]. Several research studies have revealed this gap and they showed that either there was a low level of awareness about menstruation among the girls when they first experienced it or it was incomplete and inaccurate. The main source of information about menstruation are mothers, friends, teachers, relatives, television and internet. The lack of proper knowledge about menstruation not only develops a negative attitude and misconception about this natural physiological process but also leads to unhygienic and unhealthy practices during this period which makes the female vulnerable to reproductive tract infections, pelvic inflammatory disease, urinary tract infection etc and often these infections are transmitted to the offspring's of pregnant women. Since nurses hold a very important position in the hierarchy of health care providers and act as a bridge between the patient and medical fraternity, the assessment of their knowledge and practices about menstruation is of prime importance. Also, they can impart their knowledge to many females at grass root level as nurses are the main and only health care providers in many remote and backward areas in this country. With this background, the present study undertakes the assessment of knowledge, practices and beliefs regarding menstruation among the 1st year nursing students and also to identify the level of menstrual hygiene among them.

Objectives

•To assess the knowledge about menstrual hygiene among 1st year nursing students and its correlation with the socio-demographic-economic status.

•To assess the practices and beliefs about menstruation among 1st year nursing students and its correlation with the socio-demographic-economic status.

•To assess the lacuna in knowledge and practices about menstruation among 1st year nursing students so that proper education can be provided to them.

Methodology

This is a cross sectional study conducted between Feb 2019 to March 2019 among 1st year undergraduate female nursing students of Government Nursing College, Indore (M.P).

Study population- All the enrolled female nursing students of 1st year were included in the study

Inclusion Criteria

- All female nursing students who are between age 17 years to 25 years.
- The nursing students who are unmarried, non pregnant, non lactating females
- The female nursing students who were willing to participate in the study

Exclusion Criteria

- The female nursing students who are less than 16 years or more than 25 years of age
- Married, pregnant or lactating female nursing students
- Unwilling female nursing students or those who refuse to give written consent are excluded from the study

Study Material

The instrument for this study is a self-structured questionnaire which is a collection of ambiguous questions based on knowledge and practices regarding menstruation and also include the demographic

data. The validity of the content was done by reviewing similar previous study papers across the country and globe. After getting the ethical clearance, all the participants were explained about the purpose and objectives of the study. They were thoroughly briefed about the questionnaire and a written participant information document was also given to them so that their queries can be solved. They were assured that their participation in the study is completely voluntary. Willingness to participate in the study was also assured by written and signed consent from the participant. They were assured about the confidentiality of the information provide by them. After delivering the questionnaire, willing participants were requested to answer it within 30 minutes , by marking the option appropriate to them.

Study Variables Measurement

The questionnaire consists of 2 categories; one containing questions related to knowledge and awareness about menstruation like female anatomy and menstrual physiology, hygiene and the second containing questions regarding practices and beliefs about menstruation.

The 'knowledge and awareness category' consisted of 14 questions which were multiple choice questions. Participants were asked to choose one option which they find most appropriate. Similarly the questionnaire on 'practice category' include 8 questions with multiple answer options .The participants had to choose the one option they use to practice.

On obtaining the data from the study sample we calculated the percentage of participants choosing the particular option, in both categories of questionnaires. Results were reported in percentage.

Results

Table 1: Knowledge And Awareness Level Of Participants

S. No	Question	Number (out of 60)	Response Percentage
1)	Knowledge of menstruation before menarche		
a.	Yes	39	65
b.	No	21	35
2)	Source of knowledge about menstruation before menarche		
a.	Mother	27	45
b.	Teacher	05	8.3
c.	Friend	16	26
d.	Sister	05	8.3
e.	Television	01	1.6
3)	Organ of bleeding during menstruation		
a.	Uterus	50	83.3
b.	Ovary	08	13.3
c.	Do not know	02	3.3
4)	Cause of menses		
a.	Physiological	56	93.3
b.	Due to some disease	04	6.66
5)	Is there some toxin in menstrual blood		
a.	Yes	15	25
b.	No	45	75
6)	Reaction on seeing bleeding from genitals for the first time		
a.	Discomfort	32	53.3
b.	Surprise	06	10
c.	Fear and panic	06	10
d.	Indifference	04	6.6
e.	Sad	02	3.3
7)	Do you think menstrual flow is dirty and should be released from the body		
a.	Yes	49	81.6
b.	No	07	11.6
c.	Do not know	04	6.6
8)	Normal interval between 2 menstrual cycles		
a.	21-35 days	56	93.3
b.	Less than 21 days	04	6.6
c.	More than 35 days	00	

9)	Is there a period when women are most fertile		
a.	Yes	42	70
b.	No	08	13.3
c.	Do not know	10	16.6
10)	Can women be ever pregnant during menses		
a.	Yes	15	25
b.	No	39	65
c.	Do not know	06	10
11)	Normal menopausal age		
a.	45-50 yrs	48	80
b.	More than 50 yrs	08	13.3
c.	Less than 45 yrs	03	05
d.	Do not know	01	1.6
12)	1)Can poor menstrual hygiene lead to infection		
a.	Yes	54	90
b.	No	03	05
c.	Do not know	03	05
13)	Should pain during menses be consulted		
a.	Yes	50	83.3
b.	No	10	16.6
c.	Do not know	0	0
14)	Do you know irregular menses lead to organic diseases		
a.	Yes	40	66.6
b.	No	12	20
c.	Do not know	08	13.3

Table 2:Level Of Practices And Beliefs Of Participants

S. No.	Questions	Number (Out of 60)	Percentage of responses
1)	Menstrual Absorbents known		
a.	Sanitary Napkin	56	93.3
b.	Cloth	04	6.6
2)	Menstrual Absorbents used by participants		
a.	Sanitary Napkins	56	93.3
b.	Cloth	04	6.6
3)	Method of disposal of used sanitary pad		
a.	Refuse bin	43	71.6
b.	Burn	11	18.3
c.	Toilet pit	03	5
d.	Bury	01	1.6
e.	Dump	02	3.3
4)	Do you clean your genitals after micturition during menses		
a.	Yes	60	100
b.	No	0	0
5)	How do you clean your genitals during menses		
a.	Water	38	63.3
b.	Water and Soap	19	31.6
c.	Others	03	5
6)	Do you bath during with soap and water during menses		
a.	Yes	55	91.6
b.	No	05	8.3
7)	Do you exercise during menses		
a.	Yes	17	28.3
b.	No	34	56.6
c.	Sometimes	09	15
8)	Various restrictions faced during menstruation		
a.	Religious place/ temples/religious and social occasion	60	100
b.	Consuming certain type of food	09	15
c.	Attending School/Workplace/College	03	5
d.	Routine Household Work	03	5

Discussion

Since long women have been focus of reproductive health activities, more because, burden of sexual and reproductive ill health, malpractices and wrong beliefs fall more on women than men.

Hormonal changes during puberty bring about sexual maturity, psychological, cognitive and physical changes into a girl child to attain womanhood. Therefore, women need to be more recognised and should be given priority in leadership, planning and

implementation and evaluation of policies and services. In this regard, this study focuses on trainee nurses as choice of study group appears to be justified, as they are not only the future potentials as mothers but also strong stakeholders in women reproductive health services. Since menstruation is a physiological process better appreciation of and, attitude towards menstruation are achieved when girl child is aware or knowledgeable about menstruation. In this study total of 60 participants were between 15-19 years where 65% attained menarche between 13-15 years, 25% experienced it when they were <13 years old while 10% attained it after 15 years. In study carried on Nursing students of Saudi students [13] nearly 16% participants had their menarche when they were <10 years. In the study carried out by Shanbagh et al [16], mean age of menarche was 13 years. In another study conducted by Kshirsagar et al [17] 33% attained menarche at 14 years while 30% had it on 13 years. In another study carried by Gupta & Kariwala [18] 75.94% girls were in the age group 13-15 years when they attained menarche while only 2.36% girls were more than 15 years. In their study Dasgupta and Sarkar [19]. 76.2% girls attained menarche when they were 14-15 years. Prajapati and Patel [2] found 50% participants attained menarche during 12-14 years while 19.3% attained it when <12 years. In our study menstrual cycles were regular in 93.3% with duration of menstrual cycle <5 days in 86.7% and 96.6% girls had moderate blood flow. Shanbagh et al [16] found that 63.2% girls had their periods every 4-5 weeks and 66% study population had regular cycles. Kshirsagar et al [17] in their study found that 73% had regular menstruation.

In current study, 43.3% mothers of the participants were educated upto high school, while 20% were graduate and 80% mothers were housewives. Shanbagh et al [16] in their study found that 52.4% mothers were illiterate while only 9.5% completed their primary education.

In comparison to other studies our study had better scenario regarding menstrual history. Good literacy among study population and their mothers lead to good menstrual practices and help seeking behaviour in case of any irregularity or abnormality may be the reason behind this social awareness specially regarding health programmes also add up to the reason behind it.

In this current study 65% of girls knew about menstruation before menarche. Several studies reported low to satisfying levels of awareness of menstruation at menarche between 39.8%- 73.4% [2, 20, 19, 16, 18]

The source of information about menstruation before menarche was mother in 45% followed by friends in 26% respondents in this study. This may be because most of the mothers (43%) were educated upto high school and 20% upto graduation so, the daughters might feel confident enough to discuss the menstruation related challenges with their mothers. Also, due to good level of basic education, mothers too, must be knowing the importance of imparting proper education on this important subject. Prajapati and Patel [2] also found in their study that, 48.9% participants have their first source of menstrual information as their mother. However some studies found just the opposite where teachers or friends were the first source of information regarding menstruation as in study conducted at Ghana [20] which could be due to poor literacy rate and shyness among parents to have discussion on this topic with their daughters.

In this study we observed that 83.3% participants were aware that bleeding during menstruation occurs from uterus. In studies conducted by Prajapati and Patel [2] this awareness was seen in only 17% while in study conducted by Gupta and Kariwala et al [18] they found 31.6% participants aware of this fact. However in study done by Dr. Nirmalya Manna et al [21]. 67.4% participants were knowing that bleeding during menses is from uterus. In this study, since, the participants are nursing students it is quiet likely they must be knowing this fact. In our study we found remarkably that 93.3% participants agreed to the fact that menstruation is physiological process. Shanbagh et al [16] in their study found awareness regarding

this to be 73.7% while Prajapati and Patel [2] found it to be only among 33.3%. However Dr. Nirmalya Manna et al [21] do found this awareness among 88.3% participants and Dasgupta and Sarkar [19] found it to be among 86.2%. Good literacy and social awareness among the participants of our study may be the reason behind this.

75% participants in our study denied the presence of toxin in menstrual blood but 81.6% think that it is dirty and should be removed from the body. This is also observed in study conducted by Singh et al [22] where 77.5% respondents thought it to be dirty, while, one conducted by Najwa Karout [13] found this thinking prevailing among 83% nursing students. Studies conducted by Shanbagh et al [16] found 17% while that by Dr Nirmalya et al [21] found 4.7% participants believe menstruation as curse of God. Prajapati and Patel [2] also found that 21.6% participants believe that there is toxin in menstrual blood. In study conducted on nursing students of Saudi [13] 83% participants believe menstrual bleeding to be dirty and it is good to release it from body. The reason behind this misconception may be because majority of the participants have rural origins and are under influence of age old myths, inspite of the fact that currently they are perusing education in medical field. As far as their knowledge about menstruation is concerned, 93.3% participants in our study were aware about the normal interval between two menstrual cycles. This is quiet a big percentage when compared with the study conducted on nursing students in Saudi [13] where 62% participants were aware of this information. Gupta and Kariwala [18] found that 49% participants were aware of this fact. However Dr Nirmalya et al [21] also found 93% girls were aware of this duration. 65% participants in our study knew that there can't be any pregnancy during menses and 80% were aware of menopausal age also. Shanbagh et al [16] found that only 35.8% girls could associate between menstruation and capacity of women to conceive. The reason we got comparatively better results is the fact that the participants are biology students and must have read this in their high school education.

90% participants in our study believe that poor menstrual hygiene can lead to infections and 66.6% knew that irregular menses can cause organic diseases. Similarly, in a study on nursing students of Saudi 80% participants believe so. In our study 83.3% participants think that pain during menses should be consulted medically and treatment should be taken. However in a Nigerian study [25] only 20% believe to seek medical advice while 53% participants preferred to pray for pain relief. In another study among Jordanian girls [23] 37.7% participants believed in using analgesia during dysmenorrhoea, while in a study conducted in Egypt [24] 50% respondents agreed to seek medical advice for the same. In spite of education, a major role regarding such beliefs is played by immediate society of the participants where seeking medical advice for menstrual problems is still considered prohibited.

In our study, 53.3% girls felt discomfort, while 10% were surprised and 10% panicked & were frightful on seeing bleeding from genitals for the first time.

University students of Ghana [20], in a study showed that 38% participants felt panicky and fear on seeing blood at menarche. Shanbagh et al [16] found 44% participants experienced fear on attaining menarche while Gupta and Kariwala et al [18] found that 47.2% participants felt menstruation as burden. Inadequate knowledge regarding menstruation before menarche may be the reason for such reaction by young girls on attainment of it.

In our study nearly 93.3% participants use sanitary napkins as menstrual absorbents which is much higher percentage than studies conducted by Prajapati & Patel [2] (26%), Shanbagh et al [16] (44%), Gupta and Kariwala et al [18] (63.7%), Kshirsagar et al [17] (54%), Dasgupta and Sarkar [19] (11.25%). The reason behind this may be good literacy among mothers of participants who must have encouraged hygienic menstrual practice since its commencement. Also, the participants themselves are nursing students so they must be having knowledge regarding hygienic practices during menses.

However, nearly 100% university students of Ghana[20] use sanitary napkins as absorbents which is yet to be achieved in our case.

In our study 71.6% participants use refusal bin as method of disposal of used sanitary napkins while 18.3% prefer to burn it. Similarly 59% respondents use refusal bin in study conducted by Evans in Ghana [20]. 64% participants in the study conducted by Kshirsagar et al[17] use dust bin for disposal of used sanitary napkins. Strikingly opposite finding was seen in study conducted by Gupta and Kariwala et al[18] where 51.4% participants dispose off their used sanitary pads to open field and 8.5% dispose off in well or lake. Proper disposal of used sanitary pads is equally important in regards to menstrual hygiene, social health and environmental pollution. Also, it is important to promote use of biodegradable sanitary napkins in this regards.

Almost 100% participants in our study clean the genitals after micturition during menstruation but only 31.6% use soap and water both for cleaning while 63.3% use only water for the same. In study conducted by Shanbagh et al[16]56.8% participants use both soap and water to clean their private parts while 43.2% use only water for it. However in the same study only 53.8% clean their genitals every time after micturition during menstruation. In study conducted by Gupta and Kariwala et al[18]more than half, 52.8%, participants use soap and water to clean genitals. Frequent cleaning of genitals during menstruation prevents any source of infection and must be promoted from the beginning.

As far as bathing during menstruation is concerned, nearly 91.6% participants in our study bath daily with soap and water. Similarly in study conducted by Shanbagh et al[16]nearly 88.8% participants take shower daily during menses. However in study conducted on nursing students of Saudi[13]30.7% participants did not believe in taking warm showers during menstruation while in study done by Evans in Ghana[20] 14% respondents skip bathing with soap and water on the first day menstruation. Bathing though is the most important hygienic practices during menstruation and otherwise, sometimes the social taboos overshadow such healthy practice. In our study more than half, 56.6% participants do not prefer to exercise during menstruation. Discomfort and pain during menses may be reasons for it. 57% nursing students of Saudi[13] too do not prefer any type of exercise during menstruation. The fear of spillage of blood may also be the reason behind this prohibition. In our study almost 100% participants faced social and religious restrictions like prohibition from entering a religious place, which is still a major challenge for modern and civilized society.

15% participants are restricted from consuming a particular food, 5% are restricted from attending work place or school and 5% are restricted from routine household work. Many studies from all around world have shown similar restrictions. In study conducted by Shanbagh et al[16] 94.2% participants were restricted from entering

religious place and 42% were not allowed to consume certain food. In study done by Kshirsagar et al[17] 72.6% faced religious restrictions while 26% face restrictions from household work during menses. Like our study, 100% participants in study done by Gupta and Kariwala[18] faced religious restrictions. In the same study surprisingly, 11% participants were not allowed to sleep on routine bed while 20% participants faced household work restrictions. Dasgupta and Sarkar[19] in their study found that 70.59% participants faced religious restrictions, 50% faced restrictions to consume certain foods, 33.82% face household work restriction while 16% were not allowed to attend school. Food consumption restrictions were also seen in 54.7% participants in the study conducted in Saudi[13].35% respondents from the study done by Prajapati and Patel[2] face religious and social restrictions. These prohibitions imposed on young girls hinder their growth psychologically. These age old taboos need to be changed for the overall health of society.

Conclusion

This study was conducted to ascertain menstrual knowledge and practices among nursing students. This group of females are the most important hierarchical pillar in regards to policy making and implementation of women health. Though we found their knowledge and practices regarding menstruation satisfactory, still education about this issue need to be imparted at the grassroot level. Anganwadi workers, health care workers, teachers etc. can play a major role in this field. Safe and hygienic menstrual practices need to be promoted by popular medium/cinema/television. All mothers irrespective of their educational status need to be taught about the importance of hygienic practices during menstruation, imparting timely and correct information regarding menses to their daughters and should be encouraged to break the age old myths and taboos regarding it. Teachers and social workers should be involved in broader perspective to bring such changes. This study focuses on nursing students but there is always a scope to conduct more such studies on various other strata of women like adolescent school girls of the area or female labours etc. belonging to similar age group. Parents, teachers, health care workers, social workers, educational media programmes etc. can play important role in spreading correct, safe, and hygienic knowledge regarding menstruation and practices associated with it in the society.

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Demographic Details

Table 3: Distribution of participants according to demographic variables

S. No.	Demographic Variables	Number	Percentage
1	Education of father		
a.	Illiterate	5	8.3
b.	Primary	1	1.7
c.	Middle school	1	1.7
d.	High School	21	35
e.	Graduate	25	41.7
f.	Post-Graduate	7	11.7
2	Education of mother		
a.	Illiterate	4	6.7
b.	Primary	3	5.0
c.	Middle school	13	21.7
d.	High School	26	43.3
e.	Graduate	12	20.0
f.	Post-Graduate	2	3.3
3	Occupation of father		
a.	Labour / Farmer	20	33.3

b.	Office	20	33.3
c.	Others	18	30
d.	Not applicable	02	3.3
4	Occupation of mother		
a.	Housewife	48	80
b.	Office	02	3.3
c.	Others	10	16.7
5	Type of family		
a.	Joint	11	18.3
b.	Nuclear	49	81.7
6	Socioeconomic Status		
a.	Above BPL	51	85
b.	Below BPL	09	15
7	Age at menarche		
a.	<13 years	15	25
b.	13-15 years	39	65
c.	>15 years	6	10
8	Menstrual cycle		
a.	Irregular	4	6.7
b.	Regular	56	93.3
9	Duration of menstrual cycle		
a.	<5 days	52	86.7
b.	>5 days	8	13.3
10	Type of blood flow		
a.	Low	1	1.7
b.	Moderate	58	96.6
c.	Heavy	1	1.7
11	Open discussion about menstruation in the family		
a.	Yes	52	86.7
b.	No	8	13.3

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