

**ASSESSMENT OF KNOWLEDGE, ATTITUDE AND PRACTICES OF MENSTRUAL  
HYGIENE AMONG FEMALE POST-GRADUATE STUDENTS, FACULTY AND STAFF  
MEMBERS OF KSRDPR UNIVERSITY, GADAG**

**Dr. Gouri Sakre<sup>1</sup>, Dr. Gulappa Devagappanavar<sup>1\*</sup>, Dr. Sandhya K. S., Dr. Archana N. L.<sup>2\*</sup>**

<sup>1&2</sup> Student of the Master of Public Health, Mahatma Gandhi Rural Development and Panchayath Raj University, Gadag.

<sup>1&2\*</sup> Assistant Professor, Department of Public Health, Mahatma Gandhi Rural Development and Panchayath Raj University, Gadag.



\*Corresponding Author: Dr. Gulappa Devagappanavar

Assistant Professor, Department of Public Health, Mahatma Gandhi Rural Development and Panchayath Raj University, Gadag. DOI: <https://doi.org/10.5281/zenodo.17275508>

Article Received on 14/08/2025

Article Revised on 05/09/2025

Article Accepted on 26/09/2025

### ABSTRACT

**Background:** Menstruation is a natural biological process that all adolescent girls and women go through, but it is seldom publicly acknowledged, resulting in unnecessary embarrassment and shame. Post-graduate students and university employees are expected to be well-versed in menstrual hygiene. **Objectives:** The objectives of this study was to analyze menstrual hygiene knowledge, attitudes, and practices among post-graduate students, faculty, and staff members at KSRDPR University in Gadag, India. **Materials and Methods:** The study took a cross-sectional method. Each study participant received a pre-tested questionnaire in Google format, which was shared via WhatsApp. One hundred sixty-seven female Postgraduate (PG) students, faculty and staff were studied. From October 2020 to February 2021, 108 PG students, faculty and staff members of KSRDPR University answered. The data were entered into an excel spreadsheet, and the findings were expressed as a percentage and frequency. **Results:** Most of the participants (60.1%) recognize menstruation as a physiological process. Mothers were responsible for 75.9% of women's menstruation habits. 65.7 per cent of women said they were obliged to exercise limits during their menstruation, and 56.4 per cent said the discomfort was their first reaction to menstruation. Eighty-seven per cent of those polled agreed that their periods are regular. Lower abdominal pain is reported by 30.5 per cent of women as one of their premenstrual symptoms. Sanitary napkins are used by 83.3 per cent of women as a menstruation absorbent material, whereas cloth is used by 8.3 per cent. 41.6 per cent of women change their menstrual absorbent every fourth hour throughout the first two days of menstruation. During their menstruation, 68.5 per cent of women wash their vaginal fourth hourly. The menstrual absorbent was disposed of in the dustbin by 70.3 per cent of participants, whereas 22.2 per cent burned the absorbent. **Conclusion:** Post graduate students and staff need to be educated on menstruation, menstrual hygiene, and the proper disposal of menstrual absorbents used.

**KEYWORDS:** Menstrual hygiene; Attitudes; Practices; University staff; Post graduate students; Karnataka.

### INTRODUCTION

As part of the menstrual cycle, menstruation is the normal biological process of discharging blood and related materials from the uterus through the vaginal canal. Menstruation is linked to the commencement of puberty in girls, and when it starts, it carries with its laws, restrictions, seclusion, and a shift in society's expectations of girls. India's 113 million young females are particularly vulnerable as menarche approaches. To preserve their essential health, well-being, and educational potential, they require a safe setting that provides protection and instruction during this time. Menarche starts menstruation when a girl experiences

her first period. They are aware of the basics of the menstrual cycle.<sup>[1]</sup> It is a remarkable biological milestone in a woman's life because it signifies the start of her reproductive phase. The typical age for menarche is between 12 and 13 years old, and it is very consistent among populations.<sup>[2]</sup> Fear, embracement, and shyness prevent women from maintaining good cleanliness during menstruation; the girls lack understanding. As a result of their lack of hygiene, they are more likely to contract RTIs.<sup>[3]</sup> During menstruation, unsanitary activities substantially impact health and the onset of menarche. Unsanitary behaviours during menstruation negatively influence women's health, and the event of

menarche may be linked to taboos and misconceptions that exist in our traditional society, all of which harm women's health, particularly menstrual hygiene.<sup>[4]</sup>

Women and adolescent girls are using a clean menstrual management material to absorb or collect menstrual blood, that can be changed in privacy as often as necessary for the duration of a menstrual period, using soap and water for body washing as needed, and having access to safe and convenient facilities to dispose of used menstrual blood,' according to the WHO and UNICEF Joint Monitoring Programme (JMP) for drinking water, sanitation, and hygiene.

Safe MHM is a part of the human right to water and sanitation, and SDG 6 prioritizes adequate and equitable access to WASH infrastructure and services, with particular attention to the needs of women and girls.<sup>[5]</sup> Adolescent Reproductive and Sexual Health (ARSH) and the Adolescence Education Programme (AEP) are two of the most critical components of National Health Programmes that address adolescent health. This scheme for improving menstrual hygiene builds on. It strengthens existing interventions for adolescent girls by providing a forum for discussion on adolescent health issues such as early marriage, nutrition, gender issues, contraception, self-esteem, and negotiation skills and making information and products related to improved menstrual hygiene available.<sup>[6]</sup>

In the last decade and a half, the percentage of women who use sanitary products and practise cleanliness during their menstrual cycle has increased across states and union territories. The National Family Health Survey (NFHS-5) 2019-20 showed that a substantial percentage of women use menstrual hygiene products. In the Gadag District datasheet of the first phase of NFHS-5, the percentage of women aged 15 to 24 who use hygienic protection methods during their menstrual period has climbed to 68.3 per cent, a difference of 16.7% from NFHS-4 to NFHS-5. KSRDPR University Gadag is a rural development university with post-graduate students and faculty members from both the urban and rural sectors of the state. As a result, the purpose of this study is to evaluate the knowledge, attitudes, and practices of such educated women.

## MATERIALS AND METHODS

**Data Source:** Primary data was acquired for this investigation.

**Study Place and participants:** The study was undertaken online via Google Forms among female KSRDPR University, Gadag. All-female post-graduate students from seven fourth semester programmes and ten second semester programmes, faculty and staff personnel from KSRDPR University were included in the study.

**Study period:** 6-month study time during October 2020 and February 2021.

**Study Design:** A Cross-Sectional online survey was conducted.

**Data Collection tools:** A semi-structured questionnaire was created with the following information: 1. Demographic information, 2. Knowledge questions, 3. Attitude questions, and 4. Menstrual Hygiene Practices questions 16 multiple choice questions were delivered through WhatsApp using Google forms to measure knowledge, attitude, and habits related to menstruation hygiene.

**Sampling technique:** The Universal Sampling technique was employed as the sampling method.

**Study size:** A total of 108 female PG students and staff members participated in the study, with 167 female PG students and staff members responding.

**Inclusion criteria:** All-female post-graduate students, instructors, and staff members who attended university throughout the study time were eligible.

**Exclusion criteria:** Women who have attended menopause are not eligible. Those who have not provided their consent to participate in the study.

## RESULTS

**Table No. 1: Socio-demographic details of respondents.**

Variables	Responses	Frequency	Percentage
Semester	Second semester	55	50.9%
	Fourth semester	41	37.9%
Faculty or Other staff	Faculty	8	7.4%
	Other staff	4	3.7%
Age groups	20-24 years	70	64.8%
	25-29 years	25	23.1%
	30-34 years	6	5.5%
	35-39 years	8	7.4%
	40-44 years	3	2.7%
	45-49 years	1	0.9%

Table 1 shows that approximately half of the participants are from the second semester, with faculty and staff accounting for only 3.6 per cent of the total. One-third (65.7%) of the 108 participants are between the ages of 20 and 24, followed by 25 and 29, and very few (0.9%) are between 45 and 49.

**Table No. 2: Distribution of respondents based on academic year.**

PROGRAMMES	TOTAL STUDENTS		RESPONSES			
	2 <sup>nd</sup> SEM	4 <sup>th</sup> SEM	2 <sup>nd</sup> SEM FREQUENCY	4 <sup>th</sup> SEM FREQUENCY	2 <sup>nd</sup> SEM %	4 <sup>th</sup> SEM %
M.A. (Eco)	3	-	2	-	66.6	-
M.A. (PA)	4	-	0	-	0	-
M.A. (RDPR)	6	8	5	3	66.6	50
M.B. A	8	7	2	4	25	42.8
M.Com	11	23	11	13	100	56.5
M.P.H.	13	7	13	6	100	85.7
M.S.W.	7	9	7	4	100	44.4
M. Sc. (C.S)	11	-	6	-	54.5	-
M. Sc. (F.S.T)	8	11	8	10	100	81.8
M. Sc. (Geo)	1	5	1	2	100	40
<b>TOTAL</b>	<b>72</b>	<b>70</b>	<b>55</b>	<b>42</b>	<b>75%</b>	<b>58.57%</b>

A total of 108 people have replied to the study, as indicated in Table 2. M. Com, M.P.H, M.S.W, M.Sc. (F.S.T), and M.Sc. (Geoinformatics) have a response rate

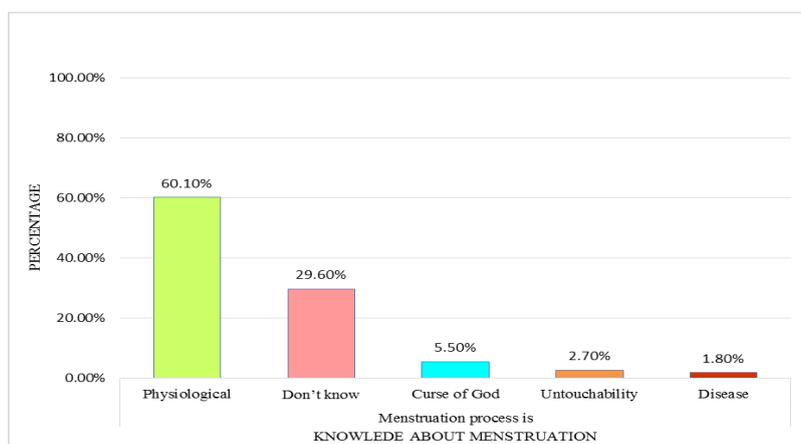
of 100% out of 108 respondents. The MBA programme has a relatively low response rate.

**Table No. 3: Distribution of Knowledge responses on menstrual hygiene.**

Variables	Responses	Frequency	Percentage
Before attaining your first menstruation at the onset of puberty, do you know about menstruation?	No	55	50.9%
	Yes	53	49%
Menstruation process is	Physiological	65	60.1%
	Do not know	32	29.6%
	Curse of God	6	5.5%
	Untouchability	3	2.7%
	Disease	2	1.8%
From whom did you know about the menstruation process?	Mother	82	75.9%
	Friends	11	10.1%
	Older sister	10	9.2%
	School-Curricula	4	3.7%
	Mass media	1	0.9%
Washing hands before cleaning the genital area can prevent reproductive infection.	Yes	98	90.7%
	No	4	3.7%
	No opinion	6	5.5%

As demonstrated in Table 3, half of the individuals (49%) know the menstrual cycle before reaching menarche. However, surprisingly, half of them have no idea what menstruation is until adolescence. Moreover,

half of the women (75.9%) heard about their mothers' menstruation. Furthermore, nearly three-quarters (90.7 per cent) know that washing hands before cleaning the genital area can help prevent reproductive infections.

**Figure 1: Distribution of knowledge about the menstruation process.**

As indicated in Figure 1, more than half of the participants (60.1%) recognize menstruation as a normal

process, whereas few regard it as a sickness (1.8 per cent).

**Table No. 4: Distribution of attitude responses.**

Variables	Responses	Frequency	Percentage
Do you experience any Premenstrual Syndrome Symptoms?	Lower abdomen pain	33	30.5%
	Backache	25	23.1%
	Mood swings	19	17.5%
	Fatigue & weakness	14	12.9%
	Headache	7	6.4%
	Any other	10	9.2%
Are you forced to practice restrictions during menses?	Yes	71	65.7%
	No	37	34.2%
Reaction to first menstruation	Discomfort	61	56.4%
	Scared	28	25.9%
	Usual	19	17.5%
How would you categorize your menses?	Regular	94	87%
	Irregular	14	12.9%
How would you categorize your menstrual flow-?	Moderate	86	79.6%
	Heavy	14	12.9%
	Mild	8	7.4%
	Only spotting	0	0

Table 4 shows that more than a quarter of women (30.6 per cent) have lower abdominal pain, and just a tiny percentage (6.4 per cent) have headaches as premenstrual symptoms. More than half of women (65.7%) were required to practice limitations during their menstruation. Many women (56.4 per cent) expressed dissatisfaction with their first menstruation, but only a few thought it

was a common occurrence (17.1 per cent). The menstrual cycle is described as regular by three-quarters of the participants (87%) and irregular by less than one-fourth (14%) of the participants (12.9 per cent). More than three-quarters of the women have a moderate menstrual flow (79.6%).

**Table No. 5: Distribution of practices of menstrual hygiene responses.**

Variables	Responses	Frequency	Percentage
Which of the following material do you use as menstrual absorbents?	Sanitary napkins	90	83.3%
	Any cloth as an absorbent	9	8.3%
	Any other	6	5.5%
	Menstrual cup	2	1.8%
	Tampons	1	0.9%
How often do you change your menstrual absorbent during the first two days of menstruation?	4 <sup>th</sup> hourly	45	41.6%
	6 <sup>th</sup> hourly	35	32.4%
	8 <sup>th</sup> hourly	19	17.5%
	Once a day	9	8.3%
How often do you wash your vagina during menstruation?	4 <sup>th</sup> hourly	74	68.5%
	6 <sup>th</sup> hourly	19	17.5%
	8 <sup>th</sup> hourly	10	9.2%
	Once a day	5	4.6%
Do you wash your hand after changing the menstrual absorbent?	Yes	107	99%
	No	1	0.9%
How often do you remove your pubic hair?	Weekly	52	48.1%
	Once a month	49	45.3%
	Once in 3-4 months	7	6.8%
Frequency of cleaning vagina per day	More than two times/day	85	78.7%
	Less than or equal to 2 times/day	23	21.2%
How is the pad or cloth piece discarded?	Dustbin	76	70.3%
	Burn them	24	22.2%
	Flush in the toilet	3	2.7%
	Throw in the drainage	3	2.7%
	other	2	1.8%

As demonstrated in Table 5, more than one-fourth of participants (83.3 per cent) use napkins as a menstrual absorbent material, while less than one-fourth (5.5 per cent) use any cloth, tampons (0.9 per cent), and menstrual cups (1.8 per cent). During the first two days of menstruation, more than half of the participants change their menstrual absorbent every fourth hour (41.6%) and sixth hour (32.4%), with only a few (8.3%) changing it once a day. In addition, nearly half of the participants (48.1%) remove their pubic hair weekly, with only a few removing it once every three to four months. During their menstruation, more than half of women (68.5%) wash their vaginal fourth hourly, whereas just 4.6 per cent wash once a day. The term "menstrual absorbent" refers to a substance that absorbs menstrual blood.

### DISCUSSION

In a study conducted in Udupi Taluk, Manipal, among 550 adolescent girls aged 13 to 16 years, only 34% of the total participants were aware of menstruation before menarche, and mothers were the primary source of information.<sup>[10]</sup>

The menstrual absorbent is discarded in the dustbin by 70.3 per cent of the individuals in this study, and it is burned by 22.2 per cent of them. According to Tamil Nadu observational research, 61.39 per cent of them kept their sanitary pads in the bathroom. Therefore, 67.74 per cent of the pads were burned, 16.12 per cent were thrown away with household debris, 6.45 per cent were dumped in open areas, and 9.67 per cent were buried.<sup>[13]</sup>

Asif Khan conducted a community-based cross-sectional observational study among adolescent girls in the Bellur PHC region from March 5 to April 26, 2009. Only 12% of girls can help with domestic chores.<sup>[14]</sup>

According to our research, 83.3 per cent of women use Sanitary Napkins as a menstruation absorbent material, while only 9% use cloth. In a similar study conducted in Gandhinagar, Gujarat, in 2015, it was discovered that approximately 26.1 per cent of participants use sanitary napkins as a menstrual absorbent.<sup>[15]</sup>

This study discovered that nearly half of the participants had prior awareness of the menstrual cycle before reaching menarche. However, a similar study conducted in 2013 among MBBS girls' students at Sri Aurobindo Institute of Medical Sciences in Indore found the opposite results, with only 32.38 per cent unaware of the menstruation process before the onset of menses. In contrast, in other studies, the participants are medical students who have prior knowledge of menstruation.<sup>[19]</sup>

In the present study, 65.7 per cent of women were obliged to observe limits during their menstruation. In a similar study done in Uttarakhand, 84.67 per cent of respondents reported experiencing constraints during menstruation.<sup>[25]</sup>

Post-graduate students and staff members should conduct a health education session to improve their understanding of menstrual hygiene.

Restrictions and taboos, and inequities can only be eliminated at the grassroots level if mothers, siblings, and relatives are educated on how to support girls and women who are menstruating.

Students and staff must adjust their habits when disposing of menstruation absorbents; an electric incinerator might be placed near the restrooms at schools and other public areas.

### CONCLUSION

The study's findings revealed that less than half of PG students and staff had acceptable awareness of menstrual hygiene, implying that PG students still lack basic information. Participants had a good habit of utilizing sanitary materials during their periods, and more than half of the participants cleaned their vaginal area more than twice a day. However, they still have not figured out how to properly dispose of the menstruation absorbents they have been using. Prior knowledge of the menstrual cycle can help alleviate fear and discomfort during menarche and, as a result, throughout the entire menstrual cycle.

### REFERENCES

1. Menstrual hygiene\_ A challenging development issue. <https://www.thehansindia.com/life-style/health/menstrual-hygiene-a-challenging-development-issue-575344>.
2. National Guidelines: Menstrual Hygiene Management 2015. [http://www.ccras.nic.in/sites/default/files/Notices/16\\_042018\\_Menstrual\\_Hygiene\\_Management.pdf](http://www.ccras.nic.in/sites/default/files/Notices/16_042018_Menstrual_Hygiene_Management.pdf)
3. Roeckel S, Cabrera-Clerget A, Yamakoshi B. Guide to Menstrual Hygiene Materials. Unicef [Internet], 2019; 1–37. Available from: <https://www.unicef.org/wash/files/UNICEF-Guide-menstrual-hygiene-materials-2019.pdf>
4. Kaur R, Kaur K, Kaur R. Menstrual Hygiene, Management, and Waste Disposal: Practices and Challenges Faced by Girls/Women of Developing Countries. *J Environ Public Health.*, 2018; 2018.
5. Ade A, Patil R. Menstrual Hygiene and Practices of Rural Adolescent Girls of Raichur. *Int J Biol Med Res.*, 2013; 4(2): 3014–7.
6. Patil V, Udgiri R. Menstrual hygienic practices among adolescent girls of rural North Karnataka region, India. *Int J Community Med Public Heal.*, 2016; 3(7): 1872–6.
7. Ballys E. Menstrual hygiene management: Policy brief. Share [Internet]. 2017;(January):1–7. Available from: [www.shareresearch.org](http://www.shareresearch.org)
8. Guidelines O. Operational Guidelines. Strategy [Internet]. 2010;1–66. Available from: <http://www.who.int/lep/resources/SEAGLP20062.pdf>

9. Sarma B. Importance of Maintaining Good Hygiene During Periods, 2018.
10. Kamath R, Ghosh D, Lena A, Chandrasekaran V. A study on knowledge and practices regarding menstrual hygiene among rural and urban adolescent girls in Udupi Taluk, Manipal, India. *Glob J Med Public Health* [Internet], 2013; 2(4): 1–9. Available from: <http://www.gjmedph.com/uploads/O2-Vo2No4.pdf>
11. Anusree PC, Roy A, Sara AB, Vcm F, Babu GP, Tamrakar A. Knowledge Regarding Menstrual Hygiene among Adolescent Girls in selected school, Mangalore with a View to Develop an Information Booklet., 2014; 3(1): 55–60.
12. Dharana A, Kale S, Mayappanavar R. A study of knowledge, attitude, practices of menstrual hygiene and its waste disposal management among adolescent schoolgirls of Gadag District of Karnataka, India. *Int J Reprod Contraception, Obstet Gynecol*, 2019; 8(11): 1–5.
13. Geethu C, Paul EP, Thomas JE, Pullan CS, Hemalatha S, Sivakumar T. Appraisal of menstrual hygiene management among women in a rural setting: a prospective study. *Int J Com Med Pub Health*, 2016; 3(8): 2191–6.
14. Khan A. Perceptions and Practices about Menstrual Hygiene among Adolescent Girls in a Rural Area - A Cross-Sectional Study. *Int J Health Sci Res.*, 2012; 2(8): 29-34
15. August J-, Prajapati J, Patel R. Menstrual hygiene among adolescent girls: A cross-sectional study in urban community of Gandhinagar. *J Med Research*, 2015; 1(4): 122–5.
16. Moghadam SH, Ganji J. Evaluation of the nursing process utilization in a teaching hospital, Ogun State, Nigeria. *J Nurs Midwifery Sci.*, 2019; 6(3): 149–55.
17. Hennegan J, Dolan C, Wu M, Scott L, Montgomery P. Measuring the prevalence and impact of poor menstrual hygiene management: A quantitative survey of schoolgirls in rural Uganda. *BMJ Open*, 2016; 6(12).
18. Sudeshna R, Aparajita D. Determinants of menstrual hygiene among adolescent girls: a multivariate analysis. *National Journal of community medicine*, 2012; 3(2).
19. Sharma N, Sharma P, Sharma N, Wavare RR. A cross-sectional study of knowledge, attitude and practices of menstrual hygiene among medical students in north India. *J PHYTO*, 2013; 2(5): 28–37.
20. Rani DPS. Knowledge and Practices of Menstrual Hygiene among Married Adolescents and Young Women in Chittoor District Of Andra Pradesh: India. *IOSR J Nurs Heal Sci.*, 2014; 3(2): 06–15.
21. Madhusudan M, Chaluvraj TS, Chaitra MM, Ankitha S, Pavithra MS, S MUT. Menstrual hygiene: Knowledge and Practice among secondary school girls of hosakote, rural Bangalore. *Int J Basic and Appl Med Sci.*, 2014; 4(2): 313–20. Available at <http://www.cibtech.org/jms.htm>
22. Balat MS, Sahu SK, Patel M. Assessment of knowledge and practice of menstrual hygiene management among adolescent school girls in Ahmedabad city. *Natl J Community Med* [Internet], 2019; 10(1): 30–5. Available from: <http://www.njcmindia.org/home/download/1316>
23. Ramachandra K, Gilyaru S, Eregowda A, Yathiraja S. A study on knowledge and practices regarding menstrual hygiene among urban adolescent girls. *Int J Contemp Pediatr.*, 2016; 3(1): 142–5.
24. Santina T, Ziade F. Assessment of Beliefs and Practices Relating to Menstrual Hygiene of International Journal of Health Sciences and Research Assessment of Beliefs and Practices Relating to Menstrual Hygiene of Adolescent Girls in Lebanon. *Int J Health Sci Res.*, 2013; 3(12): 75-88.
25. Divya Raina, Geeta Balodi Menstrual hygien: Knowledge, practice and restrictions amongst girls of Dehradun, Uttarakhand, India. *G.J.I.S.S.*, 3(4): 156-162.
- 26.