

# Assessment of Knowledge, Attitude and Practice on Menstrual Health and Hygiene among the teachers of Uttarakhand

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**Abstract-Introduction:** Menstruation is a normal physiological or biological and healthy part of life for women. Roughly half of the female population (around 26% of the global population) are of reproductive age (UNICEF, 2018). Fear, shame, ignorant unsupportive teachers, lack of water, disposal facilities, and privacy, are some of the barriers within the school campus. **Objectives:** To Assess the Knowledge, Attitude and Practice of Menstrual Health and Hygiene Management among school teachers in Uttarakhand. **Methods:** The responses of 367 teachers were collected through Google Forms from May 2022 – May 2023. It was a cross-sectional descriptive quantitative study using simple random sampling techniques. Microsoft Excel and SPSS version 20.0 used for analysis. **Result:** Most respondents (96%) are familiar with the concept of menstruation. Seventy-one percent are aware of menstruation as a physiological phenomenon. Seventy-five percent are aware of the origin of menstrual blood (Uterus). Seventy-two percent of school teachers reported that sanitary pads are available in schools. Seventy-four percent of teachers reported that schools provide separate toilet facilities, but only 85 percent reported proper water supply within the toilets. **Conclusion:** This study demonstrate the high level of knowledge, positive attitude, and good practice of MHM among the school teachers of Uttarakhand. The study found the promotion of appropriate measures for the disposal of sanitary napkins used in schools, workplace and public toilets can ensure better outcomes of menstrual hygiene. Regular orientations, awareness campaigns in school regarding menstrual hygiene management is essential to successfully remove taboos, misconceptions, and negative perceptions among the population.

**Keywords:** Knowledge, Menstruation, Practice, School Teachers, Menstrual Hygiene

## INTRODUCTION

Menstruation is a normal physiological or biological and healthy part of life for women. Roughly half of the female population (around 26 percent of the global population) are of reproductive age group. Most women menstruate every month for about two to seven days (UNICEF,2018). Menstruation is the first indicator of Sexual Maturity/puberty. During this puberty, physical changes occur which change the body of a child into an adult, changes in body size, changes in body shape, and changes in body proportions (Mahajan et al., 2017). The age of menarche is between 10-16 years (average age 13.5 years) and the perimenopausal age in Indian women is  $44.69 \pm 3.79$  years. The mean menopausal age of the Indian women as interpreted from the survey is  $45.59 \pm 5.59$  years (Ahuja, 2016). On average a woman menstruates for about 7 years during their lifetime (UNICEF,2018).

Globally, there is a focus on the menstrual health and hygiene of girls and women in all developing and developed nations. Various international and national non-governmental organizations work to improve the health status of women. Menstrual Hygiene among all adolescent girls and women in all surroundings has authorized to maintain women's health rights, public health, and dignity. Menstrual hygiene (MH) is a hygienic practice that happens during menstruation. Proper management of menstrual hygiene requires thoroughly washing the external genitalia, and utilizing sanitary napkins, tampons, menstrual cups, and similar products to prevention from Infection (Siddique et al., 2023).

According to the WHO/UNICEF Joint Monitoring Programme 2012, menstrual hygiene management is

defined as: “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, using soap and water for washing the body as required and having access to safe and convenient facilities to dispose of used menstrual management materials. They understand the basic facts linked to the menstrual cycle and how to manage it with dignity and without discomfort or fear.” Menstruation and menstrual practices still face many social, cultural, and religious restrictions which are a difficulty in the path of menstrual hygiene management. Menstrual Hygiene has a lack of attention and knowledge in society among both males as well as female categories, especially in rural areas and slum areas (Upashe et al., 2015). The factor contributing to educational institutions and workplace absences among women included their attitudes, limited knowledge, and misconceptions about menstruation, as well as family restrictions, and inadequate facilities at the workplace (Siddique et al., 2023). Lack of menstrual hygiene management and unsafe practices acquired by women have induced the transmission of reproductive tract infections and sexually transmitted infections (RTI and STI). Menstrual Hygiene practices have many taboos, Social Isolation, and social-cultural restrictions even today, resulting in Adolescent Girls remaining ignorant of the scientific facts and Health hygienic practices necessary for maintaining Sexual and reproductive health (Mahajan et al., 2017). The experience of menstrual women/girls continues to be self-conscious by cultural taboos and distinguish social norms. The lack of information about menstruation leads to unhealthy and unhygienic menstrual practices that create misunderstanding and negative attitudes, which result among others, shaming, persecution, and even gender-based violence. For generations of girls and women, poor menstrual health and hygiene aggravate social and economic inequalities and negatively collide with their education, health, safety, and human development (The World Bank, 2022). In India, menstruation is a sensitive and important sanitation issue in society still, adolescent girls and women did not freely discuss menstruation hygiene and sanitary menstrual practices (Patel et al., 2022).

The lack of educational support from health workers, and practical guidelines to operationalize Menstrual Hygiene Management in schools. Fear, shame,

ongoing social taboos, ignorant unsupportive teachers, lack of water, sanitation, disposal facilities, and privacy, are some of the barriers to building an authorized environment for safe and hygienic menstrual practices within the school campus. These challenges from the official/system level not only negatively impact sexual and reproductive health which results in an impact on the education of adolescent girls but also affect their self-confidence (Sharma et al., 2020). Many schools (government, Semi-government, and private) do not have vending machines in the school premises for safe and menstrual hygiene management among adolescent school girls. Many school girls in their adolescence period are more curious about their body changes and the active learning phase takes place. Even in urban and rural areas due to lack of time given by parents, hesitation of girls from school teachers have incomplete knowledge regarding menstruation hygiene practice which leads to health issues and if not properly handled can cause infections of the urinary tract, pelvic inflammatory diseases, and vaginal thrush, as well as bad odor, soiled garments and ultimately shame, leading to infringement on the girl’s dignity (Sharma et al., 2019). The increasing enrolment of girls in secondary and senior secondary schools insistence a more comprehensive approach to make schools menstrual hygiene-friendly and to get rid of school dropouts or absenteeism (Sharma et al., 2020).

The study conducted in rural India involved School students and School teachers for the Assessment of knowledge, attitude, and practice of menstrual hygiene management. All teachers included in the study had good knowledge of menstrual hygiene management and 100% responded with a positive attitude towards menstruation and hygiene practices (Ravindranath et al., 2023). A comparative study was done among adolescent girls of urban areas and rural areas of districts Uttarakhand reveals that only 64.5% of adolescent girls were aware of menstruation before reaching to menarche stage. Rural adolescent girls had more knowledge and practice about menstruation and menstrual hygiene as compared to urban adolescent girls (Juyal R. et al., 2012). The objective of the present study is the assessment of Knowledge, Awareness, and Practice (KAP) regarding Menstruation and Menstrual Hygiene among School Teachers of Uttarakhand.

## MATERIAL AND METHODS

Menstrual Hygiene Day is a global awareness day that takes place on May 28th. It was started in 2013 by a German NGO called WASH United and was first recognized by the United Nations in 2014. It was chosen to be held on May 28th because the average period cycle of most women is 5 days and their cycle is 28 days. On May 28th, 2022, the RDI (Rural Development Institute) and the State Education Department of the state of Uttarakhand launched a 3-hour online session on menstrual hygiene management for all teachers. The online session was held every Saturday and district-wise teachers participated systematically. The total number of teachers who took part in the session was 8,272. The program ended on May 28th, 2023. On the last day of the program, over 200 teachers and adolescents, as well as other state officials, participated in the State-level menstrual hygiene submission event.

### Research Design

This is a Cross-Sectional descriptive Quantitative study. A self-administered, structured, pretested, closed-ended undisclosed questionnaire consisting of questions on knowledge, awareness, and practices regarding Menstruation and menstrual hygiene among school teachers was used as a study tool.

### Research Setting

Uttarakhand is a state with a population of approximately 1.01 crore and the density of this state is 189 per square kilometer (Census, 2011). As per the 2015 statistics of the Ministry of Education of Uttarakhand, there were 43,731 teachers in Secondary schools in Uttarakhand. The number of Adolescents in Uttarakhand was about 2.2 million whereas adolescent boys were approx 1.2 Million and Adolescent girls in Uttarakhand 1 million. Approximately 8,272 teachers were trained in our training session which was conducted by RDI (Rural Development Institute) staff regarding Menstruation and menstrual hygiene management in Uttarakhand.

### Duration of the Study:

The data collection for this study was performed in 1 year from May 2022 to May 2023 through an online questionnaire distributed to the study population via Google form. Later, the data was compiled and

statistically analyzed, and the results were put together. The category of study population involved in this research was 21 to above 51-year-old age group.

### Inclusion and exclusion Criteria:

The teachers who participated in the training orientation of Menstrual hygiene management. Both male and female teachers were involved in the study.

Exclusion Criteria: Participants who did not give consent. Teachers who were absent on the day of training.

### Criteria for Sample Selection

The sample size is based on the inclusion and exclusion criteria. Cochran formula was used to calculate the sample size, approximately 8000 teachers got Menstrual Hygiene Management Training.

This formula is most simplified and used to calculate sample size when the population is large or unknown

$$n = \frac{z^2 p q}{e^2}$$

Whereas,

z= confidence level of 95%, so z value is 1.96

p= estimate proportion for maximum size = 50% or 0.5

q= 1-p

e= precession of the prevalence estimate =5% or 0.05

Population = 8000

n= sample size

Therefore,

$$n = \frac{(1.96)^2 \times 0.5 \times (1-0.5)}{(0.05)^2}$$

$$n = 367$$

Using the Cochran formula, the calculation of sample size was 367.

### Process of Data Collection

For the final study, data was collected through a Google form having the questionnaires involving 367 responders, who were teachers at different schools (government, semi-government, and private). The purpose of the study was clearly explained to every responder and appropriate consent was taken prior to the interview. The Simple Random sampling technique was followed, and a descriptive analysis and analytical analysis of the collected data was done.

Statistical Data Analysis

The collected responses were tabulated using a Microsoft Excel sheet and transferred into SPSS version 20. All the responses were coded as per the standard tools. Quantitative findings have been analyzed following the distribution of data. Microsoft Excel sheet and Statistical Package for the Social Sciences (SPSS) Windows version 20.0 were used in this study for the calculation of frequency distribution, mean, and standard deviation to describe the Socio-demographic characteristics and other data of the sample population. The results of quantitative data have been presented in the result section with appropriate tables, bar graphs, and pie charts.

Result/Findings of study

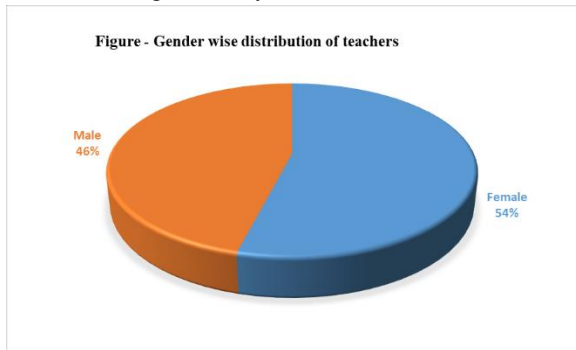


Figure -1 shows the graphical representation of the gender distribution of study participants. Out of 367 participants, 46% participants were males whereas 54% participants were females.

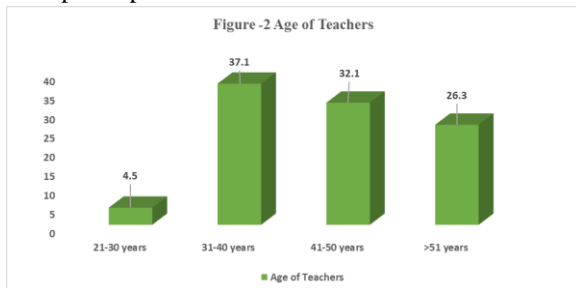
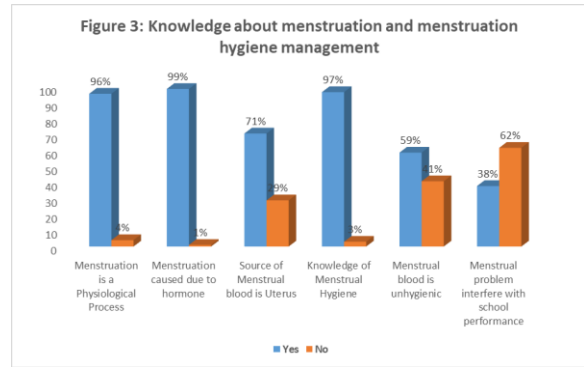


Figure -2 depicts the distribution of participants based on their age groups. Among the 367 participants, 4.5% participants from the 21-30 years of age group, 37.1% were participants from the 31-40 years of age group, 32.1% participants from the 41-50 years of age group, 26.3% participants from the above 51 years of age group. This figure shows that most participants were from 31-40 years of age and the minimum number of participants was from 21-30 years of age.



Knowledge & Awareness about menstruation

Figure 3 shows the level of knowledge and awareness about Menstruation among the study participants. 96% of respondents are aware that menstruation is a physiological process in females. 99% of respondent’s responses for menstruation are caused due to hormonal changes in females. Awareness among 71% of respondents that the source of menstrual blood flow from Uterus while 15 % responds to the Fallopian tube and 13% responds to the Vagina. 97% of study participants know about Menstrual Hygiene. 59% of respondents agree that menstrual blood is unhygienic whereas 41% of respondents have the perception that menstrual blood is not unhygienic. 38% of respondents think that menstrual problems interfere with school performance while 62% of respondents disagree with this statement.

Facilities and services for menstruation

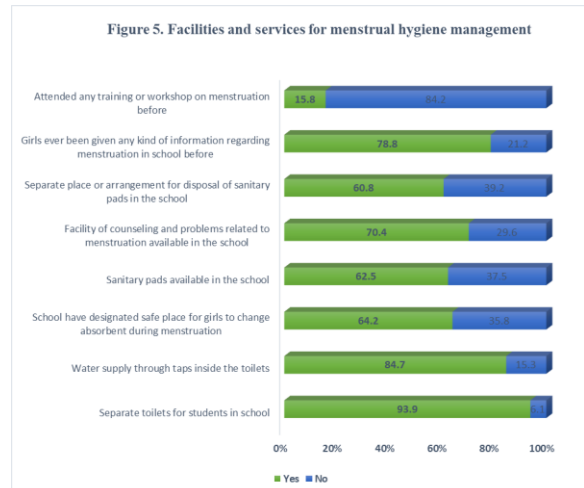


Figure 4 depicts Eight-item questions with two options (e.g., yes/no) related to facilities and services regarding Menstrual hygiene Management, and some basic questions were asked to the participants

(e.g., “Do you have separate toilets for girls and boys in your school?”, “facility of counseling and problems related to menstruation available in the school?”) (see details in figure 3). 84% of participants did not attend any workshop or training on Menstrual Hygiene Management whereas only 62% of school teachers responded that there was an availability of sanitary napkins on school premises. 94% responses from teachers that schools have separate toilet facilities but only 85% indicated that proper water supply inside the toilets. Only 61% of school teachers responded that separate arrangements for the disposal of used sanitary napkins whereas other respondents do not have the facility in their school premises.

Attitude and Practice regarding Menstruation

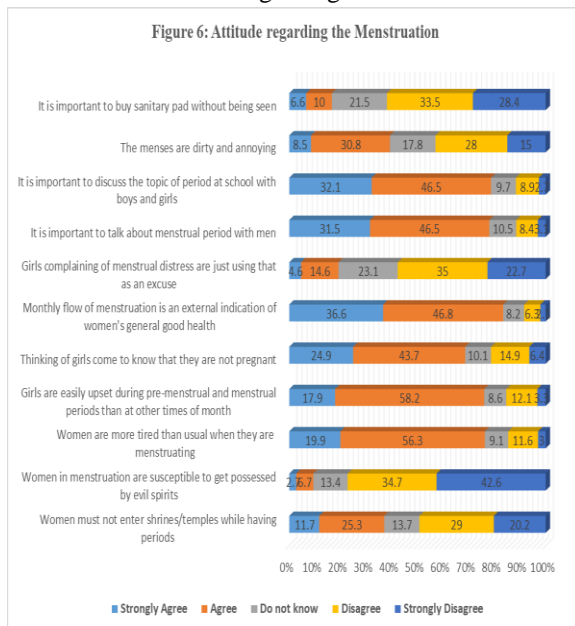


Figure 5 showed that Eleven-item questions with five options (e.g., Strongly Agree, Agree, Do not know, Disagree, and Strongly Disagree) related to the Attitude and practice of respondents regarding Menstrual hygiene Management, and some basic questions were asked to the participants (see details in figure 4). The respondents of the study most favorably agree and strongly agree with the discussion about Menstruation and Menstrual Hygiene Management with school boys and girls as well as men. According to 19% of respondents girls who were complaining the menstrual distress are just making an excuse. 76% of respondents agree with tiredness among women during menstruation. Approximately 37% of respondents agree that menstruating women

must not enter shrines/Temples while 13.7% do not agree regarding this myth and approximately 49% of respondents disagree with this statement.

Correlation between the Knowledge, Attitude and Practice regarding Menstrual Hygiene

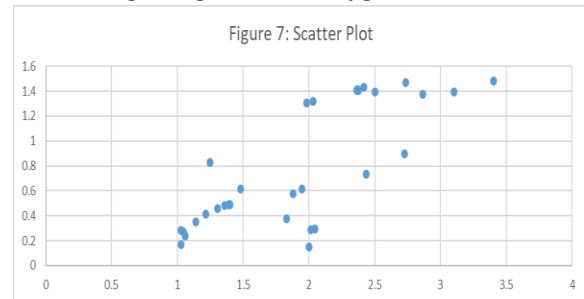


Figure 5 depicts the strong positive correlation between the Knowledge, Attitude and Practice regarding the menstrual hygiene management. The value of correlation (p value) is 0.777167.

DISCUSSION

Many studies have been done on knowledge, awareness, and practices of menstrual hygiene but most of them have been done on rural populations or in adolescent school girls. This study has tried to fill this huge gap in school premises due to assessment of Knowledge Awareness, and Practice (KAP) regarding Menstruation and Menstrual Hygiene among school teachers in Uttarakhand. Various similar studies have been done nationally and internationally on the knowledge, awareness, and practice regarding menstrual hygiene among Adolescent girls in the past. (Mahajan et al., 2017; Sharma N. et al, 2013; Siddique et al., 2023; Upashe et al., 2015; Patel et al., 2022; Sharma et al., 2019; Ravindranath et al., 2023).

In the present study, a total number of 367 participants were engaged. Out of 367 participants, 46% participants were males whereas 54% participants were females. In other studies only the female category was involved (Mahajan et al., 2017; Siddique et al., 2023; Upashe et al., 2015; Hagawane et al., 2021; Patel et al., 2022; Sharma et al., 2019). In this study among the 367 participants, 4.5% participants from the 21-30 years of age group, 37.1% were participants from the 31-40 years of age group, 32.1% participants from the 41-50 years of age group, 26.3% participants from the above 51 years of age group. This figure shows that most participants were from 31-40

years of age and the minimum number of participants was from 21-30 years of age. In other similar studies, only the Adolescent age group (10-19 years) was included (Mahajan et al., 2017; Siddique et al., 2023; Upashe et al., 2015; Patel et al., 2022; Sharma et al., 2019; Gebre et al., 2023).

In the present study majority (96%) of school teachers knew that menstruation is a physiological process caused due to hormones. Another study showed that 76.9 % of girls knew that menstruation was a physiological process (Upashe et al., 2015); In another study, 78.9% indicated menstruation is a physiological process, and 55.8% knew that the cause of menstruation is hormonal (Gebre et al., 2023). In this present study, 71% of the study population knew the source of menstrual blood was Uterus whereas a study reported 12.63% knew that it comes from the uterus (Hagawane et al., 2021). Another study reported that 60.9 % of the respondents knew the origin of the menstrual blood was from the uterus (Upashe et al., 2015).

In the present study, a total of 367 respondents participated, and the mean age of menarche was 12-14 years. In this study, 69% of respondents responded that 3-4 times clothes/pads should be changed in a day during menses while 22% responded 1-2 times and 8% responded 6-8 times. A comparative study showed that 60.7% of girls preferred to use absorption materials for less than four hours (Odey et al., 2022). Out of 367 study participants, 59% of respondents agree that menstrual blood is unhygienic whereas 35% of respondents have the perception that menstrual blood is not unhygienic while 80.0% were aware that menstrual blood was unhygienic (Gebre et al., 2023). 22% of respondents think that menstrual problems interfere with school performance while 62% of respondents disagree with this statement.

In the study assessment of facilities and services provided to females in school menstrual hygiene management through school teachers. 62% of school teachers responded that there was an availability of sanitary napkins on school premises and 38% of school premises did not have sanitary napkins for females. 94% responses from teachers that schools have separate toilet facilities for girls and boys but only 85% indicated that proper water supply inside the toilets. Only 61% of school teachers responded that separate arrangements for the disposal of used sanitary napkins whereas other respondents do not have the

facility in their school premises. Only 1/5<sup>th</sup> of the school teachers attended any workshop or training on Menstrual Hygiene Management before the questionnaire was distributed. The trainers improved the knowledge and awareness about the cause of menstruation, and the organs involved. Promotion of the use of sanitary napkins among adolescent girls and the introduced of various schemes regarding menstrual health were briefed to the teachers. Early awareness of adolescent girls can prevent them from suffering from various reproductive tract infections and other diseases in the initial stage of their life.

In the present study, the respondents most favorably agree and strongly agree with the discussion about Menstruation and Menstrual Hygiene Management with school boys and girls as well as men. 19% of respondents responded that girls who were complaining the menstrual distress were just making an excuse. 76% of respondents agree with tiredness among women during menstruation. Approximately 37% of respondents agree that menstruating women must not enter shrines/Temples while 13.7% do not know about this myth and approximately 49% of respondents disagree with this statement. A similar type of restriction was reported in other studies also (Sharma N. et al., 2013).

In the present study, all the study participants had good knowledge, positive attitudes and appropriate practices regarding menstruation and menstrual hygiene among school teachers and the comparative study showed that good knowledge, attitude, and practice among participants (Siddique et al., 2023; Gebre et al., 2023; Ravindranath et al., 2023) and half of the participants have good knowledge, attitude, and practice regarding menstruation and menstrual hygiene (Upashe et al., 2015; Siddique et al., 2023; Sharma N. et al., 2019). Some study shows that insufficient knowledge of Menstrual Hygiene Management among participants (Hagawane et al., 2021; Odey et al., 2022; Sharma S. et al., 2020). 100% of teachers had good knowledge and positive attitudes about menstruation (Ravindranath et al., 2023).

## CONCLUSION

Menstruation and Menstrual hygiene are rarely discussed at schools, at home, and in society. The current study shows that there was 98% good knowledge, positive attitudes, and satisfactory practice

regarding Menstruation and Menstrual hygiene among school teachers. Establishment of proper arrangements for the disposal of used sanitary napkins in schools, workplaces, and public washrooms/Toilets. Teachers and peers should be trained with the correct information as well as communication skills at the school and community level so that adolescent girls get ready for physiological changes in their growth phase. Awareness campaigns or counseling sessions organized in school (involving boys, girls, and teachers also) regarding Menstruation and Menstrual Hygiene Management to successfully get rid of taboos, false beliefs, and unfavorable attitudes among the population. Countless women suffer from Reproductive Tract Infections and their complications or other infections due to a lack of information regarding the maintenance of Menstrual Hygiene among them

#### LIMITATION

The collected responses can be subject to recall bias/response and social desirability bias, potentially affecting the accuracy of responses because of self-reported measures. The results may be affected by information bias because menstruation is a very sensitive topic.

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