

Research Article

# Knowledge, attitude and practice regarding menstrual hygiene among secondary level students

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**ABSTRACT**

**Background & Objectives:** Menstrual hygiene is an integral aspect of health and wellbeing of adolescent girls. However, effective management to improve menstrual health remain scarce which is evidence by widespread lack of knowledge and unhealthy practice. The objective of this study was to find out knowledge, attitude and practice related to menstrual hygiene among secondary level students in Janakpur, Nepal.

**Materials and Methods:** A cross-sectional descriptive study design was used in secondary

level girls of Shree Laxminiya Janata Secondary School of Dhanusha district studying in grade 9,10,11, & 12. A self-administered structured questionnaire was used to collect data by using total enumerative method. All together 210 students are taking part and entire students fill the form. Descriptive (frequency, percentage, mean and standard deviation) and inferential statistics (chi-square test) was used.

**Results:** The study revealed that 52.86% of the respondents had good level of knowledge regarding menstrual hygiene. It also showed that 53.33% had favorable attitude regarding menstrual hygiene. Similarly, 54.77% of the respondents had good practice regarding menstrual hygiene. Family income ( $p=0.001$ ), grade ( $p=0.03$ ), age ( $p=0.007$ ), mother education status ( $p=0.003$ ), family occupation ( $p=0.001$ ), family income ( $p=0.012$ ) was statistically significant with level of knowledge, and attitude regarding menstrual hygiene. There was statistically significant between level of practice regarding menstrual hygiene and grade ( $p=0.002$ ) and family income ( $p=0.004$ ). There was also statistically significant association between respondent knowledge and practice  $p=0.045$  and

also statistically significant association between respondent knowledge and attitude  $p=0.0002$ .

**Conclusion:** Significant portion of students demonstrated a good understanding of menstrual hygiene, some still lack sufficient knowledge, although their practice is not poor. It is recommended that concerned authority to conduct awareness program regarding menstrual hygiene so that it helps to generate knowledge.

**Keywords:** Attitude, knowledge, menstruation, menstrual hygiene, practice

## INTRODUCTION

Menstruation is a transition point to entry into womanhood, sexual maturity, and reproductive capability. This period is crucial for all adolescent's girls know about their bodies and overall health and wellbeing. However, effective management of menstrual health is remaining scarce, which is evidence by lack of knowledge and unhealthy practice [1]. In Nepal, less than half of adolescent girls have adequate knowledge about menstruation, and only on in ten practices had good menstrual hygiene [2]. Menstrual hygiene is essential to the wellbeing of women and adolescent's girls [3]. Around the world, at least 500 million women and girls lack access to menstrual product and adequate facilities to manage their menstruation [4]. Adolescents' girls' inability to effectively manage menstrual hygiene which affects their education, physical health, psychological and emotional well-being, and general quality of life [2].

Menstruation is often taboo, and has many negative cultural attitudes including the idea that menstruating women and girls are 'contaminated', 'dirty' and 'impure'. Menstruating women and girls are forced into seclusion, suffer reduced mobility and dietary restrictions [5]. As a result, girls and

women often put themselves at risk for infection and other forms of sickness due to these deprivations [2]. In Myanmar, girls have so many menstrual health challenge including behavioral restrictions, stigma surroundings menstruation, difficulties in managing menstrual bleeding and pain, fear or distress related to menstruation, impact on school attendance and participation [6].

Menstrual Hygiene Management (MHM) is women and adolescent girls are using a clean menstrual management material to absorb or collect blood, that can be changed in privacy as often as necessary for the duration of the menstruation period, 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 [7]. The girls should be educated about significance of menstruation and development of secondary sexual characteristics, selection of sanitary menstrual absorbent and its proper disposal [8]. With inadequate education, they lack even a basic understanding of the biological process of menstruation, such as knowing that the menstrual blood flows from the vagina. Poor sanitation facilities and unavailability of water supply has increased poor menstrual hygiene among adolescent girls. Only 28% of public schools in Nepal have separate facilities with toilets for girls [2].

Adolescent girls often lack knowledge regarding reproductive health including menstruation hygiene which can be due to socio-cultural barriers in which they grow up [9]. Safe and effective menstrual health management is a premise for, adolescent girls' sexual and reproductive health. When girls are more knowledgeable about their

bodies and fertility, and able to effectively manage their menstrual hygiene, they may be more empowered and better equipped with the information, tools, and confidence necessary to manage their long term sexual and reproductive health [3]. In Nepal, 83% of the menstruating girls use cloth while only 15% use pads. Mothers are the immediate source for information, and they provide support during menstruation, followed by sisters and female friends [2]. While accessing hygiene products in India, up to 80% of girls use old clothes as absorbents. Vaginal infections are 70% more likely when using unhygienic materials [10]. A low- and middle-income countries shows that many girls are not able to manage their periods and associated hygiene [11].

Menstrual hygiene management for schools has long been a neglected issue in low-income countries. Women and girls continue to face many challenges due to their gender and school attending girls often struggle to manage their menstrual cycle in schools [5]. The school is an ideal intervention setting where girls can obtain information, the impetus for change opportunities and the cultural issue are increasingly being recognized internationally, nationally and locally related to Menstrual Hygiene Management (MHM). The poor knowledge and understanding of menstruation may lead to unsafe hygienic practice that in turn increases the risk of reproductive and genitourinary tract infections, cervical cancer, school drop-out, poor academic performance and overall poor quality of life [13]. Despite increasing recognition that menstruation matters for adolescent girls' health and education, few studies have been done in Madhesh Province. Thus, researchers are interested to conduct this study which gives baseline data

for managing menstrual related problem. So, this study aim was to find out knowledge, attitude and practice on menstrual hygiene among secondary level girls' students.

## **MATERIALS AND METHODS**

This cross-sectional study design was used among girl students studying in grades nine, ten, eleven and twelve were identified from one conveniently selected school. The inclusion criteria were all secondary level girl students studying at Shree Laxminiya Janta Secondary school, the entire student body who were present at the time of data collection, students who were willing to participate, and only girls were included. A total of 210 students participated, and all of them filled out the questionnaire completely. Pre-tested, structured, self-administered questionnaires was used to collect the data. The questionnaire consisted of four parts: Part one included questions related to socio demographic characteristics, part two knowledge regarding menstrual hygiene, part three related to attitude regarding menstrual hygiene and part four related to menstrual hygiene practice.

The content validity of the questionnaires was established through a thorough review of the available literature and consultation with peers, subject experts, and Institutional review board members, and questions were revised based on their feedback. Pre-testing was done with 10% of the total sample size, and necessary modifications were made. The ethical approval was obtained from the Institutional Review Committee from Janaki Medical College, before data collection (Ref.no. 484/078/079) Written permission to conduct the study was obtained from the concerned authorities of the school. Written

permission was obtained from the guardian by sharing a consent form with each student one day before data collection, along with information about the nature of the study. The next day, data collection was done with verbal permission from each student. The objectives were properly explained to the students. The students' dignity was maintained by giving them the right to reject or discontinue the study at any time. Anonymity was maintained by using serial numbers in each question, and confidentiality was maintained by assuring the students that the collected information was used for study purposes only.

Each student was given a questionnaire and given 20–30 minutes to complete it. Data were collected from March 6, 2022 to April 6, 2022. After the data was completed, it was carefully checked for its completeness and accuracy. The obtained data were edited, coded, and organized before entry into the computer software system.

Data entry and analysis were done using the computer software Statistical Package for Social Science (SPSS) version 20. The collected data were analyzed using descriptive statistical methods such as frequency, percentage, mean, and inferential statistics such as the chi-square were used to determine the association between level of knowledge, attitude, practice on menstrual hygiene and the selected socio-demographic variables. Correlation was measured between level of knowledge and level of attitude as well as level knowledge and level of practice.

## RESULTS

In our study, among the 210 students, the majority (78.57%) were in the 13-15 age group. The majority (36.19%) were in grade 12. Regarding the education level of students'

mothers, half (50.48%) were illiterate, while 49.52% were literate. 34.76% of respondents' families were engaged in daily wages, and 32.86% were involved in business (Table 1).

**Table 1: Socio-demographic Characteristics of the Respondents (n=210)**

Characteristics	Number	Percentage
<b>Age</b>		
13-15	165	78.5
16-18	45	21.4
<b>Ethnicity</b>		
Madhesi	195	92.8
Others	15	7.1
<b>Religion</b>		
Hinduism	205	97.6
Others	5	2.3
<b>Father educational status</b>		
Illiterate	75	35.7
Literate	135	64.2
<b>Level of education</b>		
Bachelor	3	2.2
Basic level	50	37.5
Can read and write	46	33.8
Secondary level	36	26.4
<b>Mother educational status</b>		
Illiterate	106	50.4
Literate	104	49.5
<b>Level of education</b>		
Basic level1-8	44	42.3
General literate	47	45.1
Secondary level	13	12.5
<b>Occupation</b>		
Agriculture	63	30.0
Business	69	32.8
Daily wage	73	34.7
Services	5	2.3
<b>Grade</b>		
9	47	22.3
10	47	22.3
11	40	19.0
12	76	36.1
<b>Family income per month</b>		
5000	42	20.0
10000	30	14.2
15000	66	31.4
Above 15000	72	34.2

**Table 2: Respondents' Information related to Menstrual Hygiene (n=210)**

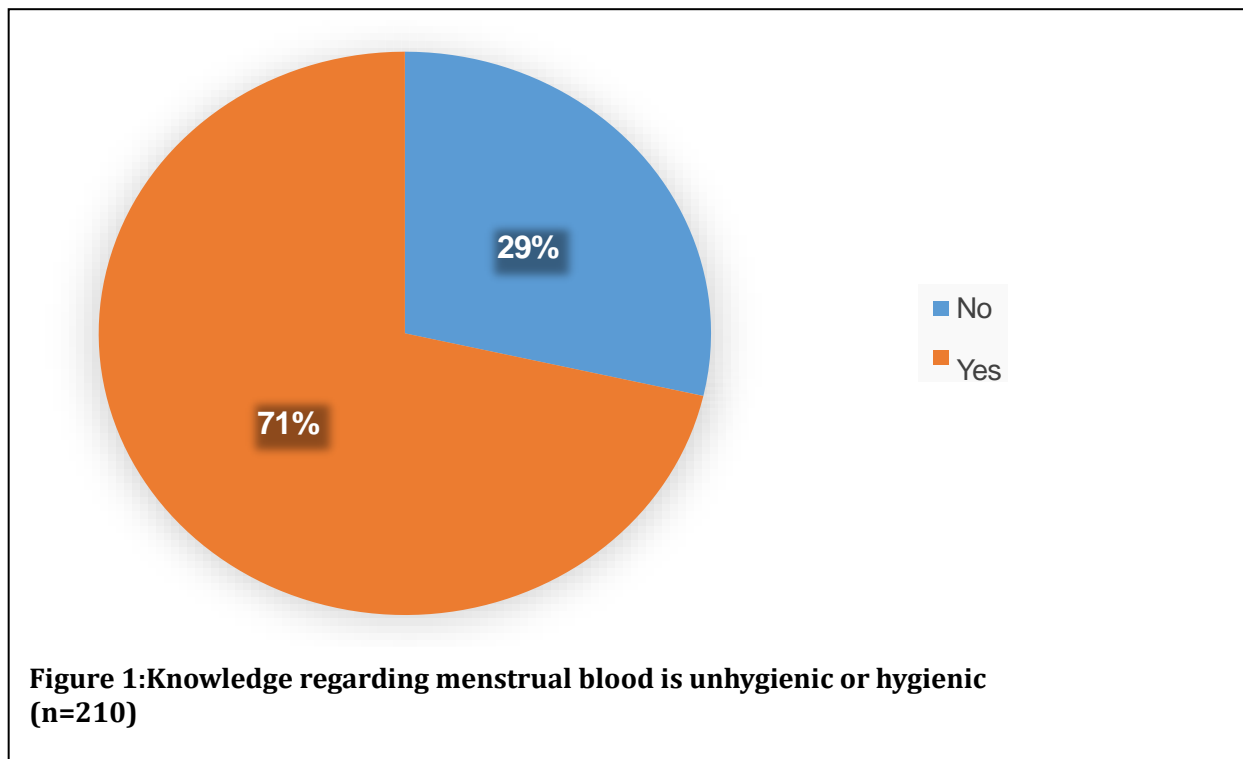
Information	Number	Percentage
<b>Prior Information</b>		
Yes	175	83.3
No	35	16.6
<b>Source of Information</b>		
Mother	178	84.7
Teacher	40	19.0
Friend	22	10.4
Books	6	2.8

**Table 3: Respondents' level of knowledge, Attitude and Practice regarding Menstrual Hygiene (n=210)**

Level	Number	Percent
<b>Knowledge</b>		
Good	111	52.6
Poor	99	47.1
<b>Attitude</b>		
Favorable	112	53.3
Unfavorable	98	46.6
<b>Practice</b>		
Good	115	54.7
Poor	95	45.2

Most of the students (83.0%) had prior information about menstruation, with the main source being the mother (84.76%) (Table 2). More than half (52.86%) of the students had a good level of knowledge, 53.33% had a favorable attitude and 54.77% had good practices regarding menstrual hygiene (Table 3). 152 (72.38%) of the respondents correctly identified menstruation as a physiological process. Regarding the cause of menstruation, 123 (58.57%) gave the correct answer. For the duration of normal menstruation, 140 (66.66%) gave the correct answer (Table 4). 71% of students stated that menstrual blood is unhygienic. (Figure 1).

Table 5 depicts that 158 (75.24%) of the students agreed that unhygienic menstrual conditions can cause disease. Additionally, 169 (80.48%) agreed that clean water accessibility and the use of soap for cleaning



**Table 4: Respondents' Knowledge regarding Menstrual Hygiene (n=210)**

Statement	Correct	Incorrect
	N (%)	N (%)
Meaning of menstruation	152(72.38%)	58(27.62%)
Causes of menstruation	123 58.57%)	87(41.43%)
Organ from which the menstrual blood comes from.	70 (33.33%)	140(66.67%)
Duration of normal menstruation.	140(66.66%)	70(33.34%)
Interval between two cycles of menstruation.	85 (40.48%)	125(51.52%)

**Table 5: Respondents' Attitude regarding Menstrual Hygiene (n=210)**

Characteristics	Agree	Disagree	Undecided
	N (%)	N (%)	N (%)
Unhygienic menstrual condition can cause disease	158(75.24%)	38(18.10%)	14(6.67%)
Clean water accessibility and used of soap for cleaning genital area during menstruation is important for menstrual hygiene.	169(80.48%)	31(14.76%)	10(4.76%)
Menstruation occurs because of disease	75(35.71%)	109(52.40%)	26(12.43%)
Drying the panties inside the room is not enough	92(43.81%)	63(30%)	55(26.19%)
Restriction in household task during menstruation is not significant	89(42.38%)	59(28.10%)	62(29.52%)
Menstruating woman should take bath	170(80.95%)	17 (8.10%)	23(10.95%)
God will not curse family members	75(35.89%)	65(31.10%)	69(33.01%)
Wash hand with soap and water after changing pad	181(86.19%)	9(4.29%)	20(9.52%)
Menstrual hygiene related matter can be discussed openly	84(40.00%)	53(25.24%)	73(34.76%)
There is no hesitation of carrying sanitary pad to school	102(48.57%)	41(19.52%)	67(31.90%)
Perineal hygiene is important during menstruation	129(61.43%)	30(14.29%)	51(24.29%)

the genital area during menstruation is important. Regarding restrictions in household tasks during menstruation, 89 (42.38%) agreed that they are not significant. Furthermore, 170 (80.95%) agreed that menstruating women should take a bath.

All of the students used absorbent materials during their menstrual period in the form of commercially made sanitary pads and old

cloth pieces. Regarding the washing of used cloth, 3 (1.43%) respondents did not wash used cloth, 40 (19.05%) washed the cloth with water only, and 167 (79.52%) washed it with soap and water. Regarding drying used cloth, 20 (9.50%) dried it in the air, 46 (22.01%) dried it inside the house, and 144 (68.90%) dried it in sunlight (Table 6). There was a statistically significant association between the level of knowledge and the grade

**Table 6: Practice regarding menstrual hygiene (n=210)**

Statement	Number	Percent
<b>Use absorbent material during period</b>		
Yes	210	100
<b>Absorbent material</b>		
Commercially made sanitary pad and old cloth piece	210	100
<b>Clean used cloth with</b>		
Do not wash	3	1.43
Only water	40	19.05
Soap and water	167	79.52
<b>Way to dry used cloth</b>		
Dry in air	20	9.50
Inside house	46	22.01
Sunlight	144	68.90
<b>Frequency of changing the cloth/pad in a day</b>		
Once	74	35.24
Three and more	110	52.38
Twice	26	12.38
<b>Place to dispose used pads</b>		
Drain	75	35.71
Dustbin	120	57.14
Open field	15	7.14
<b>Number of changing panty per day</b>		
One	92	43.81
Three	30	14.29
Two	88	41.90
<b>Come to school during menstruation</b>		
No	2	0.95
Yes	208	99.05
<b>Bath time during period</b>		
3rd day	41	19.52
7th day	10	4.76
Daily	159	75.71
<b>Clean genitalia during menstruation</b>		
No	9	4.29
Yes	201	95.72

of the school girls ( $p=0.001$ ) and family income ( $p=0.013$ ) (Table 7).

Also, between the level of practice and the grade of school girls ( $p=0.0002$ ) and family income ( $p=0.004$ ) (Table 8).

Similarly, we also found statistically significant association between the level of attitude and age ( $p=0.007$ ), mother's educational status ( $p=0.003$ ), family occupation ( $p=0.001$ ), grade ( $p<0.00001$ ), and family income ( $p=0.012$ ) (Table 9).

**Table 8: Association between practice of menstrual hygiene and socio-demographic variable (n=210)**

Variable	Level of practice		$\chi^2$	p-value
	Good practice	Poor practice		
	N (%)	N (%)		
<b>Age</b>				
13-15	90(54.54)	75(45.46)		
16-18	25(55.55)	20(44.46)	0.01	0.903
<b>Ethnicity</b>				
Madhesi	108(55.38%)	87(44.62%)		
Others	7(46.66%)	8(54.44%)	0.4273	0.513307
<b>Religion</b>				
Hinduism	112(54.63%)	93(45.37%)		
Others	3(60%)	2(40.00%)	0.0567.	0.811744
<b>Father educational status</b>				
Illiterate	39(52.00)	36(48.00)		
Literate	76(56.30)	59(43.70)	0.35	0.548
<b>Mother educational status</b>				
Illiterate	55(51.89)	51(48.11)		
Literate	60(57.69)	44(42.31)	0.71	0.398
<b>Grade</b>				
9	20(42.55)	27(57.45)		
10	16(34.04)	31(65.96)		
11	27(67.50)	13(32.50)		
12	52(68.42)	24(31.58)	19.31	0.0002*
<b>Family income</b>				
5000	13(30.950)	29(69.05)		
10000	16(53.33)	14(46.67)		
15000	42(63.64)	24(36.36)		
Above 15000	44(61.11)	28(38.89)	12.90	0.004*

\*Statistically significant

A statistically significant association was found between the level of knowledge and the level of practice ( $p=0.045$ ) (Table 10). Also, there was a statistically significant association between the level of knowledge and the level of attitude ( $p=0.0002$ ) (Table 11).

## DISCUSSION

Our study assessed knowledge, attitude, and practices regarding menstrual hygiene among 210 schoolgirls, exploring their associations with various sociodemographic factors. Most students (83.0%) had prior information about menstruation, with mothers being the primary source (84.76%).



**Table 9: Association between attitude regarding menstrual hygiene and socio-demographic variable (n=210)**

Variable	Attitude		x <sup>2</sup>	p-value
	Unfavorable Number (%)	Favorable Number (%)		
<b>Age</b>				
13-15	85(51.51)	80(48.49)		
16-18	13(28.88)	32(71.12)	7.27	0.007*
<b>Ethnicity</b>				
Madhesi	94(48.21)	101(51.79)		
Others	4(26.66)	11(73.33)		
<b>Religion</b>				
Hinduism	94(45.85)	111(54.15)		
Others	4(80.00)	1(20.00)	2.28	0.130
<b>Father educational status</b>				
Illiterate	50(66.67)	25(33.33)		
Literate	48(35.56)	87(64.44)	0.11	0.731
<b>Mother educational status</b>				
Illiterate	60(56.60)	46(43.40)		
Literate	38(36.54)	66(63.46)	8.49	0.003*
<b>Family occupation</b>				
Agriculture	29(46.03)	34(53.97)		
Business	21(30.43)	48(69.57)		
Daily wage	46(63.01)	27(36.99)		
Services	2(40.00)	3(60.00)	15.24	0.001*
<b>Grade</b>				
9	17(36.17)	30(63.83)		
10	35(74.47)	12(25.53)		
11	3(7.50)	37(92.50)		
12	43(56.58)	33(43.42)	44.33	<0.00001*
<b>Family income</b>				
5000	22(52.38)	20(47.62)		
10000	16(53.33)	14(46.67)		
15000	45(68.18)	21(31.82)		
Above 15000	29(40.28)	43(59.72)	10.79	0.012*

\*Statistically significant

**Table 10: Association between knowledge and practice (n=210)**

Variable	Good practice	Poor practice	$\chi^2$	p-value
	Number (%)	Number (%)		
Good knowledge	68(61.26)	43(38.74)	4.01	0.045*
Poor knowledge	47(47.47)	52(52.53)		

*\*Statistically significant*

**Table 11: Association between knowledge and attitude regarding menstrual hygiene (n=210)**

Knowledge/attitude	Positive attitude	Negative attitude	$\chi^2$	p-value
	N (%)	N(%)		
Good knowledge	46(41.44)	65(58.56)	13.37	0.0002*
Poor knowledge	66(66.67)	33(33.33)		

*\*Statistically significant*

This highlights the crucial role of maternal education and communication in shaping menstrual knowledge. More than half of the students (52.86%) demonstrated a good level of knowledge, including awareness of menstruation as a physiological process (72.38%) and the duration of normal menstruation (66.66%). However, misconceptions persisted with 71% of students considering menstrual blood unhygienic.

The finding of the study showed that 111(52.86%) had good knowledge regarding menstrual hygiene and 99(47.14%) had poor knowledge regarding menstrual hygiene. The finding of the study is inconsistent with finding of the study of conducted among adolescent girls of selected slum areas in Kathmandu, Nepal showed that 121 (42.9%) had good knowledge and 161 (57.1%) had poor knowledge regarding menstrual hygiene. It might be due to respondents of secondary level students and variation might be occur. [14].

The finding of the study showed that 112(53.33%) had favorable attitude

regarding menstrual hygiene, whereas 98(46.67%) had unfavorable attitude regarding menstrual hygiene. The finding of the study is consistent with finding of the study of Yadav, Joshi, Poudel and Pandeya conducted at seven schools of Village Development Committee of Doti district showed that 136 (49%) of the respondents had a positive attitude towards menstrual hygiene issues whereas 140 (51%) required improvement on their attitude towards [15]. It might be due similarity of sample size and also conducted in similar setting [13].

The finding of the study showed that 115(54.77%) had good practice regarding menstrual hygiene whereas 95(45.23%) had poor practice regarding menstrual hygiene. The finding of the study is inconsistent with finding of the study of Bhusal, conducted at government and private school of dang district showed that 272 (67.0%) adolescents have good menstrual hygiene practice whereas (134 (33.0%) had poor menstrual hygiene practice [16].

The finding of the study showed that there was statistically significant association between level of knowledge regarding

menstrual hygiene and grade of school girls ( $p=0.001$ ) and family income ( $p=0.013$ ). Finding is similar with the study done in slum area of Kathmandu valley showed that there is statistically significant association was found with knowledge level and education status of adolescent's girls ( $p=0.000$ ) [14].

The finding of the study showed there was statistically significant association between level of attitude regarding menstrual hygiene and age ( $p=0.007$ ), mother educational status ( $p=0.003$ ), family occupation ( $p=0.001$ ), grade ( $p< 0.00001$ ) and family income ( $p=0.012$ ).

The finding of the study showed there was statistically significant association between level of practice of menstrual hygiene, grade of school girls ( $p=0.0002$ ) and family income ( $p=0.004$ ). It is contrast with the study done in Ethiopia, showed that there is no any statistically significant association between grade of school and family income [17]. The finding of the study showed there was statistically significant association between level of knowledge and level of practice regarding menstrual hygiene ( $p=0.045$ ). Finding is contrast with study which showed that no association between overall knowledge and practice of menstrual hygiene [14]. There was statistically significant association between level of knowledge and level of attitude regarding menstrual hygiene ( $p=0.0002$ ).

This study was descriptive cross-sectional type, lacking causal inference regarding various factors and also omitting qualitative data. This study focused on exploring knowledge, attitude and practice related to menstrual hygiene which is associated with

various taboo and misconception, potentially leading to social desirability bias.

## CONCLUSION

Approximately half of the girls possess a good knowledge, attitude and practice concerning menstrual hygiene. However, a minority still exhibit inadequate knowledge, although there is no poor practice among them.

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**Author's Contribution:** Concept, design, supervision, materials, writing of manuscript- **RR, MR**; data collection, processing, analysis and interpretation, literature review, writing **MP**; Final revision of manuscript- **MR, TC**. All authors took an active part in the drafting, editing and agreed final version to publish.

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