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Menstrual Hygiene Awareness and Practice Among School Going Girls in a Rural Municipality

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ABSTRACT

Introduction: Menstruation is a normal physiological cycle of adolescent girls whereby uterus sheds blood and tissues through the vagina. Menstrual hygiene means adolescent girls using clean menstrual management materials to absorb blood, privacy in changing pad, soap and water for washing the body, and accessibility to dispose of used menstrual absorbent. The objective of this study was to assess awareness and practices on menstrual hygiene among school going girls in a rural municipality.

Methods: A descriptive cross-sectional study was done using multistage sampling technique in government schools of Jahada Rural Municipality, Morang Nepal. Data were collected among 327 school going girls of grade 8, 9 and 10 using self-administered questionnaire. Tool was validated by calculating I-CVI and S-CVI for awareness (0.93) and practices (0.88). Data were analyzed in SPSS 26 by using the descriptive and inferential statistics.

Results: The study findings revealed that mean age of respondents was 14.70±1.21 years. Most (86.2 %) of respondents had adequate awareness on menstrual hygiene with mother as major (92.7%) source of information. Almost all (95.4%) respondents had appropriate practice on Menstrual Hygiene. Majority (66.4%) of respondents used both disposable sanitary pad and clean cloth pad and one third (28.4%) used only disposable sanitary pad during menstruation. Awareness on menstrual hygiene was significantly associated with mother's education and occupation with (p=.013) and (p=.032) respectively and father's education (p=.000). Practices on Menstrual Hygiene of respondents was significantly associated with respondent's age (p=.041), father's education (p=.000), and mother's occupation (p=002).

Conclusion: It is concluded that most of the school girls had adequate awareness and practices on menstrual hygiene. There are some inappropriate practices on disposal of pad which can be improved by education.

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INTRODUCTION

Menstrual hygiene includes using clean pads, changing them regularly, washing, safe disposal, and ensuring privacy during menstruation.[1] On an average, 15% of female adolescents and youths aged 10-24 in Nepal use sanitary pad and 84% use a cloth. Mothers are the immediate source of information, and support for them. Majority (53%) took used pads home and 47% threw into rivers or bushes.[2]

In India urban school girls (72.32%) were aware about menstruation than rural girls (67.42%). Nearly half (49.24%) of rural school and majority (65.17%) of urban school girls were using sanitary pads.3 Studies in Nepal revealed majority (83.3%) and (80%) had knowledge of menstruation before menarche but was considerably poor on assessment. Another study showed significant

association between level of knowledge with practice, educational status and religion (p-value<0.05).4 Thus, the study aims to learn about menstrual hygiene awareness and practices among school going girls in rural municipality.

METHODS

A descriptive cross-sectional research design was used to assess the menstrual hygiene awareness and practices of school-going girls in Jahada rural municipality. This design is suitable for examining a population at a single point in time to describe the prevalence of a characteristic or condition. The study was conducted in government schools located in the Jahada rural municipality.

The study population consisted of 327 girl students from grades 8, 9, and 10 of government schools within the municipality. From a sampling frame of eight secondary-level public schools, four were selected randomly using a lottery method without replacement. All girl students from the selected schools who met the inclusion criteria were included in the study.

Data was collected using a self-administered, structured questionnaire developed by the researcher after an extensive literature review. The questionnaire was composed of three parts: a 16-item section on demographic information, a 13-item section on menstrual hygiene awareness, and a 13-item section on menstrual hygiene practices.

To ensure its validity and reliability, the questionnaire was translated into Nepali and then back-translated into English by subject experts. Content validity was maintained by assessing the Content Validity Index (CVI) with the help of research advisors and subject experts. The Scale-CVI was 0.93 for awareness and 0.88 for practices. The reliability was measured using Cronbach›s alpha, with a result of 0.91 for awareness and 0.90 for practices. The instrument was pretested on 32 students in a similar setting to ensure clarity and make minor modifications. The data collection took place between Shrawan 22, 2079 B.S., and Bhadra 17, 2079 B.S.

Analysis The collected data was checked for completeness, consistency, and accuracy before being coded and entered into Statistical Package for Social Sciences (SPSS) version 26. The data was analyzed and interpreted using descriptive statistics (frequency, mean, standard deviation) and inferential statistics (bivariate analysis) to identify relationships between variables.

Ethical approval was obtained from the Institutional Review Committee (IRC). Official permission was secured from the education division of Jahada rural municipality and the principals of the selected schools. Written informed consent was obtained from the parents and teachers, and verbal assent was obtained from the student participants themselves. To maintain anonymity, code numbers were used instead of names on the questionnaires,and confidentiality was ensured by using the data solely for research purposes. Participation in the study was voluntary,and students were not coerced.

RESULTS

Table 1: Respondent's Awareness on Menstrual Hygiene

n=327

Variables	n (%)
Menstrual Hygiene means keeping body clean, using clean pad and disposing used pad properly	261 (79.8)
Hygienic pad for menstruation	
Reusable Clean cloth pad only	36 (11.0)
Disposable sanitary pad only	139 (42.5)
Both reusable clean cloth pad and disposable pad	150 (45.9)
Pad should be changed 4-6 hourly	123 (37.6)
Appropriate method of disposing used pad	
Wrap and throw in dustbin	119 (36.4)
Bury	153 (46.8)
Burn	12 (3.7)
Genitals should be cleaned after changing pad	322 (98.5)
Genitals should be cleaned in direction of Perineum to anus (n=322)	224 (69.5)
Water should be used to clean genitals after changing pad	175 (53.5)
Hand washing is necessary after changing pad	326 (99.7)
Soap and water should be used for cleaning hands after changing pad(n=326)	314 (96.3)
Bath should be taken every day during menstruation	314 (96.0)
There are undesirable consequences of poor menstrual hygiene	315 (96.3)
Consequences of poor menstrual hygiene (n=315) *	
Foul smell	198 (60.6)
Infection	148 (45.3)
Itching	221 (67.6)
Rashes	128 (39.1)

**Multiple response*

Table 1 shows that most (79.8%) knew about the meaning of menstrual hygiene. Nearly half (45.9%) respondents said both disposable sanitary pad and clean cloth pad is hygienic while two fifth of respondents (42.5%) said that disposable sanitary pad is hygienic. Two fifth (37.6%) of respondents considered 4-6 hour as ideal time interval

to change the pad. Nearly half (46.8%) of respondents regarded burying as best option for disposal and two fifth (36.4%) said wrapping and throwing in dustbin is best. Almost all (98.2%) respondents said that cleaning genitals is necessary after changing pad and majority (69.5%) said that genitals should be cleaned from perineum to anus. More than half (53.5%) of respondents said that only water should be used for cleaning the genitals. Almost all (99.7%) respondents said that hands should be washed after changing pad and among them almost all (96%) said that soap and water should be used to wash hands. Almost all (96%) of respondents said that bath should be taken every day during menstruation. Regarding consequences of poor menstrual hygiene, majority (66.3%) said that there are the consequences such as itching (67.6 %), bad smell (60.6%) and (45.3%) infection.

Table 2: Respondent's Practices on Menstrual Hygiene

n=327

Variables	n (%)
Type of pad used	
#Both sanitary pad and reusable clean cloth pad	217 (66.4)
#Disposable sanitary pad only	93 (28.4)
#Reusable clean cloth pad only	15 (4.6)
Cleaning of cloth pad (n=234)	
#Soap and water	202 (86.3)
Technique of drying cloth pad (n=234)	
#Direct sunlight	152 (64.9)
Proper disposal of used cloth pad (n=234)	
#Burnt	17 (7.3)
#Wrapped and threw in dustbin	44 (18.8)
#Buried	160 (68.4)
Proper disposal of used Sanitary Pad (n=310)	
#Wrapped and threw in dustbin	106 (34.2)
#Burnt	13 (4.2)
#Buried	141 (45.5)
Changing pad 4-6 hourly	161 (49.2)
Frequency of cleaning genitals	
#Every time going to toilet	240 (73.4)
#While changing pad	83 (25.4)
Cleaning genitals from perineum to anus	264 (80.7)
Cleaning genitals with plain water after changing pad	205 (62.7)
Washing hands with soap and water after changing pad	276 (84.4)
Daily bathe during menstruation	315 (96.3)

 # Appropriate Practice

Table 2 shows that majority (66.4%) of respondents used both disposable sanitary and clean cloth pad and one third (28.4%) used disposable sanitary pad only. Among clean cloth pad user's most (86.3%) of respondents used soap and water to clean cloth pad. Nearly half dried clean cloth pads in sunlight (64.95%), most buried used cloth pads (68.4%), and around half changed pads every 4–6 hours. Most respondents practiced genital washing after toilet use (73.4%) and followed proper front-to-back cleaning (80.7%). Majority (62.7%) of the respondents used plain water to clean their genitals and most (84.4%) used soap and water for washing hands after changing pad. Almost all (96.3%) of the participants took bath daily during their menstruation.

Table 3: Respondents Level of Awareness and Practice on Menstrual Hygiene

n=327

	n (%)	Median	IQR	CI	
				Lower	Upper
Level of awareness					
Inadequate (≤8)	45(3.8)	8.00	3.00	10.494	10.992
Adequate (>8)	282 (86.2)				
Level of Practice					
Only reusable clean cloth pad users(n=17)					
Inappropriate	1 (3)	5.5	2.0	7.271	
Appropriate	16 (4.9)				
Only disposable sanitary pad users (n=93)					
Inappropriate	1 (3)	4.5	2.0	6.902	
Appropriate	92 (28.1)				
Both types of pad users (n=217)					
Inappropriate	13 (4.0)	6	2.0	8.795	
Appropriate	204 (62.4)				
Overall level of practice					
Inappropriate	15 (4.6)				
Appropriate	312 (95.4)				

Table 3 shows that most (86.2 %) of respondents had adequate awareness on menstrual hygiene and almost all (95.4%) respondents had adequate practice on Menstrual Hygiene.

Table 4: Association between Awareness and Practice Level of the Respondents on Menstrual Hygiene

n=327

Awareness Level	Practice Level		χ^2	p-Value
	Inappropriate n (%)	Appropriate n (%)		
Inadequate	9(20.0)	36(80.0)	28.322	.000*
Adequate	6(2.1)	276(97.9)		

Significant Significance Level≤ 0.05 $\chi 2$ = Pearson Chi Square*

Table 4 shows statistically significant association between level of awareness and level of practice of respondents on menstrual hygiene (p=0.000).

Table 5: Association between Level of Awareness and Practice with Selected Socio-demographic Variables

n=327

Variables	Awareness Level		χ2	p-value
	Inadequate n (%)	Adequate n (%)		
Awareness and Socio-demographic				
Education of Mother				
Not able to read and write	19 (21.6)	69 (78.4)	6.219	.018*
Able to read and write	26(10.9)	213(89.1)		
Education of Father				
Not able to read and write	21(46.7)	24(53.3)	47.607	.000*
Able to read and write	24(8.5)	258(91.5)		
Occupation of mother				
Housemaker	13(8.5)	140(91.5)	6.880	.031*
Agriculture	16(17.4)	76(82.6)		
Job	16(19.5)	66(80.5)		
Practice and Socio-demographic				
Age of respondents				
≤ 15 years	9(3.4)	257(96.6)	4.720	.041*
>15 years	6(9.8)	55(90.2)		
Father's education				
Not able to read and write	9(20.0)	36(80.0)	28.322	.000*
Able to read and write	6(2.1)	276(97.9)		
Mother's occupation				
Housewife	2(1.3)	151(98.7)	10.943f	.002*
Agriculture	10(10.9)	82(89.1)		
Job	3(3.7)	79(96.3)		
Access to soap at home				
No	3(18.8)	13(81.3)	7.710	.031*
Yes	12(3.9)	299(96.1)		
Access to water at school				
No	2(3.9)	49(96.1)	.061	1.000
Yes	13(4.7)	263(95.3)		

Significant Level of Significance ≤ 0.05 χ2= Pearson Chi-square*

Table 5 illustrates significant association between awareness on menstrual hygiene of respondents and mother's education (p=.018), father's education (p=.000), and mother's occupation (p=.031). There is statistically significant association between level of practice of respondents and their age (p=.041), father's education (p=.000), mother's occupation (p=002), access to soap at home (p=.031) and access to soap at school (p=.001).

DISCUSSION

The study shows that the mean age of respondents was 14.70±1.21 years. More than half (53.5%) of respondents were Madhesi and one third were Janajati (33.3%). Almost all (96.3%) of respondents were Hindu and maximum (39.1%) were studying in standard 10. Majority (61.5%) lived in nuclear family and only one third (26.00%) lived in joint family. One fourth (24.2%) among mothers of respondents were educated up to primary basic level and one third (26.9%) of fathers could read and write. Half of the mothers (46.8%) were house-wife and one third were farmer (28.1%). More than one fourth (27.8%) of fathers of respondents were farmer followed by (26.3%) business/self-employed, and (25.1%) daily wages earner.

Mean age of menarche in this study is 12.5±0.91 years which is similar to study conducted in India with mean 12 years. Almost all respondents (92.4%) slept in same room during their menstruation.[5] This finding is consistent with study of where more than half (55.9%) of the respondents slept in their own house during menstruation.[6] While in study by Poudel & Gautam (2020) one fifth (17.2%) stayed away in a separate place away from home during menstruation. This may be because of variation in cultural practices. Majority (67.6%) of respondents had restriction in visiting temple and touching plants and seeds during menstruation (30.0%). Similar finding of restriction in going temple (67.4%) was found in study conducted in India.[7,8]

The major source of information to respondents about menstrual hygiene were mother (92.7%), friends (70.6%), teacher (62.1%) which is consistent with study in India with mother and friends' were major sources of knowledge about menstruation.[9] The finding contrasts another study in India where television (20.4%) and from internet (54.2%) were sources of information.[7] Thirty three percent of respondents missed their school during their menstruation for discomfort (64.5%). Similar finding was seen in study in India where majority (55%) did not miss the school during menstruation.[10]

Majority of respondents (62.9%) can buy disposable sanitary pad and to most (83.1%) it was available free of cost in their school. Almost all respondents had enough water (96.6%) and soap (95.4%) for washing hand for maintaining hygiene during menstruation and most (88.7%) had private toilet at their home. The finding is supported by study in India where half (47.0%) of the respondents had toilet facilities at home.[11]

The study shows that most (79.8%) of respondents knew about the meaning of menstrual hygiene. Nearly half (45.9%) of respondents opined that both disposable

sanitary pad and clean cloth pad should be used while two fifth of respondents (42.5%) said that disposable sanitary pad is the ideal. Findings are supported by study in Nepal with (84.8%) knowing about menstrual hygiene and (95.7%) of respondents opining new clean cloth and sanitary pad as ideal absorbent to be used during menstruation. [12]

Nearly two fifth (37.6%) respondents stated 4-6 hour as ideal time interval to change the pad which is consistent with study in Nepal with (21%). [(13)] Nearly half (46.8%) of respondents said burying and one third (36.4%) said wrapping and throwing in dustbin as best option for disposal. The findings are different for another study in Nepal with majority (42.2%) burning the used pad. Almost all (98.2%) respondents said that cleaning genitals is necessary after changing pad which is similar the following study with majority (72.5%) of the respondents aware to clean perineal area during menstruation. [6]

Regarding consequences of poor menstrual hygiene, majority (96.3%) stated there are consequences like (67.6 %) itching, (60.6%) bad smell and (45.3%) infection. Majority (66.4%) of respondents used both disposable sanitary pad and clean cloth pad and one third (28.4%) used only disposable sanitary pad during their menstruation. The findings are consistent for study in India where two fifth (40%) respondents used sanitary pads.[1]) Finding is inconsistent to study in India where majority (73.6%) of respondents used sanitary pads and one fifth (19.8%) girls used both sanitary pads and cloth. This variation might be due to change in study area.[14]

Most (86.3%) of respondents used soap and water to clean cloth pad which is similar to findings of where majority (52%) cleaned the clothes with soap and water.[11] Nearly half of respondents (64.9%) dried the cloth pad under direct sunlight, and one fifth (29.91%) dried the clean cloth pad hiding under other cloths. The finding is supported by a study in Nepal with more than half (50.7%) of respondents dried cloth pad in sunlight exposure and one fourth (25.3%) dried in girl's bathroom.[10] Finding is different from another study in India where majority of girls dried the clothes inside hostel (78%) room. This variation may be because of cultural practice and different setting of the study. [11]

About three fourth (73.4%) of respondents washed the genitals every time going to toilet and one fourth (25.4%) of them washed only while changing the pad. This finding is supported by study in Nepal with majority (72.2%) cleaning external genitals frequently. [(15)] Most (80.7%) of the respondents washed genitals in the direction of perineum to anus which is supported by study in Nepal with (39.7%). [13]

The study shows that level of awareness and level of practice is significantly associated, (p=.000). The finding supported by similar study conducted in Nepal where the knowledge and practice on menstruation was significantly correlated (p= 0.010).[16] The study shows that there is statistically significant association between awareness of respondents on menstrual hygiene and father's education (p=.000), mother's education (p=.013) and mother's occupation (p=.032). The finding is supported by a study showing significant association of menstrual hygiene knowledge with mothers' education.[17]

The study revealed that there is statistically significant association between level of practice on menstrual hygiene and age of respondents (p=.041), father's education (p=.000), mother's occupation (p=.002), availability of soap at home (p=.031) and availability of soap at school (p=.001). The finding of this study is similar to a study where practice was significantly associated with age of respondents (p= 0.007), grade of respondents (p=.002), father's occupation (p= 0.016). The finding is similar to another study where mother's education (p=0.031) and father's education (p=, 0.004) were associated factors with menstrual hygiene practice. [16,18]

Although the research had been conducted with great effort, the sensitivity of the topic, information bias and social desirability response bias might affect the result. Practice on menstrual hygiene would be better if observed in real. Furthermore, the area of study was selected purposively so the result could not be generalized in other municipalities

CONCLUSIONS

The study reveals that most of school going girls in Jahada Rural Municipality had adequate awareness and appropriate practice on menstrual hygiene. The practice level of school going girls is better among those who has better level of awareness. The level of awareness on menstrual hygiene is more among respondents whose father and mother were literate and among respondents whose mothers were house maker. The level of practice on menstrual hygiene is better among respondents of age group ≤ 15 years; those respondents whose father were literate; mothers who were house maker and those who had soap available at school and home.

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CONFLICT OF INTEREST

None

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