



MENSTRUAL KNOWLEDGE, HYGIENE MANAGEMENT PRACTICES AND HYGIENE NEEDS AMONG THE SCHOOL ADOLESCENT GIRLS OF GOKARNESHWOR MUNICIPLALITY, KATHMANDU DISTRICT

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Background



- The transition to adolescence is crucial for girls, making knowledge and practice of proper menstrual hygiene essential. ¹ Adolescence is a critical phase for girls, marked by menarche and requiring special attention.²
- Many girls lack knowledge about reproductive health, highlighting the need for education and supportive environments to manage menstruation effectively.³
- A cross-sectional study carried out among school adolescents in the Doti district found that 67.4% of respondents had fair knowledge and 26.4% of respondents had good knowledge on menstrual hygiene management whereas, 40% of them had good menstrual hygiene practices.⁴



Objective



General objective

- The objective of the study was to assess knowledge on menstruation, menstruation hygiene management practices and hygiene needs among the school adolescent girls of grades 8 to 12 between the age group 10 to 19 years in Gokarneshwor Municipality, Kathmandu district.

Specific objectives

- To find out the level of knowledge of menstruation among school adolescent girls.
- To find out the level of menstruation hygiene and its management practices among the school adolescent girls.
- To find out the hygiene needs among the school adolescent girls
- To find out the association between socio-demographic variables and menstrual knowledge; and hygiene management practices among school adolescent girls.



Methodology



- **Study design:** Descriptive cross sectional study.
- **Study area:** Gokarneshwor municipality, Kathmandu
- **Study participants:** schools girls between the age of 10-19 years
- **Study Unit:** Secondary level public schools
- **Sample size:** 374
- **Sampling technique:** Multistage sampling
- **Inclusion Criteria:** All the adolescent girls attending public school who were enrolled in grade 8 to 12 of age group between 10-19 years

- **Exclusion Criteria:** Adolescent girls who had not attained menarche, who do not provide assent form signed by their immediate family member/guardian, who were absent during the day of data collection and who were disabled.
- **Study tools/Instruments:**
 - MPNS -36 was used for assessing menstrual hygiene needs which is a 4-point response scale with six sub-scales.⁵
 - Menstrual knowledge was assessed using a 8-point knowledge scale.
 - Menstrual hygiene management practices was assessed using 10 point scale.



Methodology



- **Ethical approval:**

- Approval was taken from Institutional Review Committee (IRC) of MMIHS.
- Approval from respective municipality and respective schools was obtained.
- Signed assent form was signed from parents/guardians

Data Analysis

- SPSS version 21 was used to analyze:
 - Univariate analysis (**Categorical variables**- frequency, and percentage)
(**Numerical variables**- Mean and standard deviations)
 - Bivariate analysis (Chi-square test),
 - Multivariate analysis (binary logistic regression model)

Findings on socio-demographic information

- Majority of the participants (62.0%) were of **age group** of 11-16 years.
- Majority of the participants (63.6%) had **nuclear family**, followed by Joint family (29.9%) and extended family (6.4%).
- Most of the **participant's father occupation** involved **agriculture (36.1%)**, followed by non-agricultural occupation like labor (18.5%), business (17.1%), service (14.7%), foreign employment (9.6%) and civil service (3.2%) respectively.
- Most of the **participant's mother occupation** involved **house work (37.7%)** followed by agriculture (29.7%), business (14.7%), labor (7.5%), service (7.5%), foreign employment (1.6%), and civil service (1.4%) respectively.

- Most of the participants were **living with both of their parents (55.3%)**.

Findings on menarche related information

- Out of 374 participants, 240 (64.2%) of them were found to have their **menarche at the age of 13-17 years**.
- 30 (8.0%) of them **had not heard about menstruation** before menarche.
- Mother were the **source of information about menstruation** for 163 (47.4%), followed by sisters, friends, teacher and relative respectively.

Findings on overall menstruation knowledge

- Altogether 157 participants (42.0%) had **inadequate** level of menstruation knowledge.

Findings on overall menstruation hygiene practice

- Altogether 99 participants (26.5%) had **inadequate** level of practice regarding menstruation hygiene.

Findings on Hygiene needs based on MPNS-36 subscales

- 351 (93.9%) of the participants had **unmet Material and home environment needs**,
- 343 (91.7%) of them had **unmet Transport and school environment needs**,
- 344 (92.0) of them had **Change and disposal insecurity**,
- 141 (67.5%) of them had **unmet Reuse needs**,
- 369 (98.7%) of them had **Material reliability concerns**, and
- 178 (85.2%) of them had **Reuse insecurity**.

Results (Bivariate Analysis)



- Significant association of **socio-demographic factors** such as age, family type (p-value= 0.000), fathers' occupational status (p-value= 0.000), mothers' occupational status (p-value= 0.000) and living with (p-value= 0.015) was seen **with level of menstruation knowledge**.
- Similarly, significant association of **socio-demographic factor** such as family type **with level of MHMP** (p-value= 0.015).
- In the **cross tabulation of menstruation knowledge with MHMP**,
 - Significant association was shown between **normal menstrual cycle and MHMP** (p-value= 0.033).
 - Similarly, significant association has been found between **way of menstrual material disposal and MHMP** (p-value= 0.039).

Results (Multivariate Analysis)

Unadjusted and adjusted relationship of socio-demographic variables with menstruation knowledge

Variables	COR (95% CI)	p-value	AOR (95% CI)	p-value
Age				
11-16	2.23 (1.36-3.64)	0.001*	1.833 (1.09-3.08)	0.022*
17-19	Ref		Ref	
Family type				
Nuclear family	3.16(1.92-5.20)	0.000*	2.399 (1.41-4.08)	0.001*
Non-nuclear family	Ref		Ref	
Father's occupation				
Agriculture	0.31 (0.19-0.52)	0.000*	0.511 (0.27-0.95)	0.033*
Non-agriculture	Ref		Ref	
Mother's occupation				
Agriculture	3.33 (2.01-5.51)	0.000*	1.764 (0.93-3.33)	0.80
Non-agriculture	Ref		Ref	
Living with				
With parents	1.85 (1.12-3.04)	0.015*	0.975 (0.55-1.74)	0.931
Without parents	Ref		Ref	

Results (Multivariate analysis)

Unadjusted relationship of socio-demographic variables with Menstruation Hygiene Management Practice (MHMP)

Variables	COR (95% CI)	p-value
Family type		
Nuclear family	1.59 (0.996-2.543)	0.052*
Non-nuclear family	Ref	

Unadjusted and adjusted relationship of menstruation knowledge with level of MHMP

Variables	COR (95% CI)	p-value	AOR (95% CI)	p-value
Normal menstrual cycle				
27-28 days	Ref		Ref	
21-35 days	0.622 (0.32-1.21)	0.162	0.642 (0.33-1.27)	0.201
28-35 days	0.428 (0.24-0.78)	0.006*	0.450 (0.24-0.83)	0.011*
Don't know	0.914 (0.46-1.82)	0.798	0.872 (0.44-1.75)	0.700
Way of menstrual material disposal				
Flush in toilet	Ref		Ref	
Bury down	4.543 (1.45-14.24)	0.009*	3.794 (1.19-12.14)	0.025*
Throw in dustbin	3.669 (1.32-10.19)	0.013*	3.432 (1.22-9.70)	0.020*
Throw in river	20770 (0.000-.)	1.000	17082 (0.000-.)	1.000

Conclusion

- Adolescent girls can maintain adequate menstrual hygiene even with limited knowledge.
- Menstrual knowledge was influenced by age, family type, parents' occupation, and living situation.
- Only family type significantly affected hygiene practices.
- Majority of the girls reported unmet hygiene needs including lack of materials, poor facilities, and disposal issues.
- Collective efforts from families, schools, and local governments are needed to provide accurate information and ensure a supportive environment for menstrual hygiene at home, in schools, and in communities.



Take away messages

- It is necessary to create an enabling environment through local government awareness programs, school-based health education, adequate menstrual facilities, and open communication where adolescent girls can confidently manage their menstrual hygiene with proper knowledge, resources, and support.

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A brief bio

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