Original Research Article

Menstrual hygiene management practice among adolescent girls: a cross sectional study in Nepal

Koshish Raj Gautam¹, Harsha Raj Dahal¹, Kshitij Karki², Shradha Acharya³, Suraksha Subedi⁴, Abinash Upadhyay¹, Sanjeev Kumar Shah¹*¹

¹Department of Public Health, Nitte University, Karnataka, India
²Department of Public Health, ⁴Department of Nursing, Asian College for Advanced Studies, Purbanchal University, Nepal
³Institute of Medicine, Tribhuvan University, Nepal

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*Correspondence:
Sanjeev Kumar Shah,
E-mail: just4sanjeev@gmail.com

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ABSTRACT

Background: Good menstrual hygiene is fundamental to health, hygiene and well-being of women and girls. As menstruation itself considered as taboo in Nepalese society, it has direct impacts on the health of the women and adolescent. The objective of the study is to assess the knowledge and practices regarding menstrual hygiene management among adolescent girls.

Methods: A cross-sectional study design was conducted among 398 samples. Simple random sampling was done to select the resource center schools and probability proportionate sampling (PPS) technique used to get sample size. Structured interview schedule is used to collect data and analysed from SPSS software after validation.

Results: Knowledge on menstrual hygiene management was good in urban adolescent girls (93.69%) as compared to rural (6.31%). Similarly, level of practice was good regarding menstrual hygiene management was good in urban adolescent girls (91.29%) as compared to rural (8.71%). Place of the residence and knowledge level of the adolescent girls was highly significant (p<0.001).

Conclusions: The findings showed that rural adolescent girls had poor knowledge, various misconceptions and inadequate practices regarding menstrual hygiene management.

Keywords: Menstrual hygiene management, Adolescent girls, Residence, Practice

INTRODUCTION

Good menstrual hygiene is fundamental to health, hygiene, and well-being of women and girls everywhere. Menstruation remains a taboo in many societies and various negative cultural attitudes and beliefs are still associated with it. Some cultural beliefs around menstruation reinforce gender inequities and have a negative impact on the dignity, health and education of women and girls.¹ In global context, developing countries has big issues on menstruation but developed countries do not consider menstruation as taboos and stigma, they had good menstrual knowledge and menstrual hygiene practices. In many countries, menstruation is considered as a sub-topic within the WASH sector while it is a human rights issue that affects the lives of the reproductive aged female (26% of world population) every month.²,³

Currently a raised level of interest on the issue, and an increasing number of initiatives are being designed to address the gap through a large high level inter-sectoral meeting on Menstrual Hygiene Management (MHM) at...
United Nations.\textsuperscript{2} Over the last few decades, there has been growing attention within the global humanitarian emergency response community to address the menstrual hygiene management (MHM) needs of adolescent girls and women.\textsuperscript{4}

Majority of the school girls (60.9\%) had good knowledge and nearly two fifth (39.9\%) school girls had good practice of menstrual hygiene in western Ethiopia.\textsuperscript{3} A study conducted in Chitwan district of Nepal showed that the knowledge and practice were 40.6\% and 12.9\% respectively among adolescent girls.\textsuperscript{6} Similarly, another study conducted at Sunsari district of Nepal revealed that majority (67.2\%) of girls agreed to use the sanitary pad whereas only 54.1\% used it.\textsuperscript{7}

Chaupadi is a long held and widespread practice more than 95 percent in Nepal where adolescents and women are kept in shed during the menstruation period.\textsuperscript{3,8} The practice still retains a foothold in the country’s western region and myths surrounding women’s natural cycles. Even in regions where Chaupadi is not practiced, taboos surrounding menstruation still affect women and girls. The effects of Chaupadi are extremely dehumanizing and psychologically stressful with young girls. There is high school dropout among adolescent girls of age group 10-14 due to menstruation related problems.\textsuperscript{9} Therefore, the study was conducted to assess the knowledge and practices regarding menstrual hygiene management among adolescent girls.

METHODS

Quantitative descriptive cross sectional study was conducted among the secondary school of Gorkha district, western region of Nepal with sex ratio of 100:108 (males: females). (10) The study population was adolescent girls aged (11-19 years) who were attending secondary level education. Sample size was 398 considering 50\% prevalence and 5\% error at 95\% confidence level, who had already attended menarche and those took part in this study. Sample size was 398 consideration 50\% prevalence and 5\% error at 95\% confidence level, who had already attended menarche and those took part in this study. However, who were absent in data collection day were excluded from this study. Simple random sampling technique was done to select the resource center schools for urban (2) and rural (4) settings. Similarly, probability proportionate random sampling was done to select the adolescent girls from the resource centers.

Face to face interview with a validated structured interview schedule was administered to the adolescent girls for data collection. Study was conducted from January 2020 to September 2020. Ethical approval was obtained from the Institutional ethics committee of Nitte University. Verbal consents were taken from all the selected adolescent girls after permission from the resource center schools. The data management and analysis were performed by using Statistical package for social sciences (SPSS) 20 version. The analyzed data were interpreted by frequency, percentage, mean, and chi square test. Median was measured from the total of knowledge (11) and practice (16) related questions respectively as the cut off points for good and poor.

Patient and public involvement statement

Patients were not involved in this research. During the development of research questions and design of the study, participants were not directly involved but researchers had followed the similar literature. After selection of the study participants, they were consented and briefed on the purpose and usefulness of the findings. A brief fact sheet and the article will be provided to the schools for awareness and better practice.

RESULTS

Among 398 participants, more than half (52\%) were from rural area and remaining 48 percent were from urban area.

| Variables                        | Frequency | Percent |
|---------------------------------|-----------|---------|
| Place of residence              |           |         |
| Rural                           | 207       | 52      |
| Urban                           | 191       | 48      |
| Age of the participants (years) |           |         |
| 11                              | 113       | 28.4    |
| 12                              | 146       | 36.7    |
| 13                              | 68        | 17.1    |
| 14                              | 69        | 17.3    |
| 15                              | 2         | 0.5     |
| Participants mother education   |           |         |
| Un-educated                     | 99        | 24.9    |
| Read and write                  | 85        | 21.4    |
| Primary                         | 23        | 5.8     |
| Secondary                       | 9         | 2.3     |
| Secondary above                 | 182       | 45.7    |
| Participants class              |           |         |
| Seven                           | 206       | 51.8    |
| Eight                           | 135       | 33.9    |
| Nine                            | 57        | 14.3    |
| Participants sister             |           |         |
| Yes                             | 326       | 81.9    |
| No                              | 72        | 18.1    |

Table 1: Socio demographic characteristics of participants.

The mean age of participants was 12.24±1.06 years (Ranges from 11 to 15 years). Nearly half (46\%) of the participants’ mother had completed above secondary level, 30 percent mothers were uneducated and 21 percent can read and write. More than half of the participants were
from class seven (51.8%), remaining 33.9% and 14.3% were from class eight and nine respectively.

**Table 2: Knowledge on menstrual hygiene management.**

| Menstrual Hygiene Characteristics | Frequency | Percent |
|----------------------------------|-----------|---------|
| Heard about reusable Sanitary Pad |           |         |
| Yes                              | 291       | 73      |
| No                               | 107       | 27      |
| Methods to clean the used pads   |           |         |
| Normal                           | 70        | 18      |
| Soap/Detergent/Water             | 328       | 82      |
| Clean genital organ during menstruation |       |         |
| Yes                              | 290       | 73      |
| No                               | 108       | 27      |
| Maintain personal hygiene        |           |         |
| Pad change daily                 | 339       | 85      |
| Pad change on needs              | 309       | 76      |

Majority of the participants had got menarche at the age of 12 years and four fifth (81%) of the participants had information about menstruation and menstrual hygiene.

**Table 3: Level of knowledge and practice.**

| Level   | Knowledge (%) | Practice |
|---------|---------------|----------|
| Good    | 48            | 49       |
| Poor    | 52            | 51       |

Among the total participants, almost all (91%) had acquired information from their friends, 74 percent from self-study and 69 from family, followed by 61 percent and 54 percent from teachers and media respectively. Regarding the changes occur in the body during adolescent, almost all (93.7%) of the participants said body and genital hair, 85.9 percent told increment in the breast size and 84.8 percent replied changes in voice. The meaning of menstruation as per the participants was dirty blood excretion (81.0%) followed by physiological process (62%), un-natural process (41.9%), normal body change (41.2%), curse (21.9%) and disease process (19.8%).

More than half (52%) of participants had poor knowledge level and remaining 48% of participants had good knowledge level regarding menstrual hygiene management practices. Nearly half of the participants (45.2%) used old clothes, 28.4 percent used new clothes where rest of them used sanitary pads. Participants who always used the sanitary pads, 40.2 percent got from the shops, 30.2 percent got from the medical shops and 29.6 got from the school. It was found that 26 percent of the respondent missed the school and remaining did not. Likewise, more than half (58%) of the participants were not allowed to move around with friends.

More than one fourth (28.51%) of participants had poor practice and remaining 49% of participants had good practice regarding menstrual hygiene practices. Most of the participants (82%) had used soap/detergent water and nearly one fifth (18%) of the participants used normal water to clean their used pad during the menstrual time. Within family, more than half (57%) of the participants had shared pad with sister and mother and 43 percent had not.

Place of the residence with knowledge level regarding menstrual hygiene management of the participants had showed highly significant, where the chi-square value is 3.33 and $p<0.001$. Participants from urban area had good knowledge and good practice level compared to the rural area participants. Similarly in practice, urban participants had good practice level than the rural area with mean±SD, 22.08±2.43 and 14.41±2.76 respectively.

**Table 4: Multivariate analysis on place of residence with practice level*.**

| Place of residence | Frequency | Percent | P-value | 95.0% C.I. for AOR | AOR | Lower | Upper |
|--------------------|-----------|---------|---------|--------------------|-----|-------|-------|
| Rural              | 207       | 52      | <0.001  | 0.018              | 0.006 | 0.053 |
| Urban              | 191       | 48      |         | Ref                |     |       |       |

*Other variables were education, elder sisters at home

**DISCUSSION**

The present study shows that 83 percent of the participants were aware of menstruation before menarche. This is similar to the findings of many other studies who found that majority of the girls were aware about menstruation before menarche.11-13 In most of the study, participants were highly aware in menstrual hygiene before getting menarche while main source of information about menstruation were friends (91%), self-study (74%) followed by family (mother-69%), teacher (61%) and media (54%) in this study. Various studies in India and Nepal showed that mother was the main source of information about menstruation.7,14,15

In present study, 81 percent of the participant responded the normal age for menarche is 12 years which is similar to a study conducted in Patahani (78%).6
Majority (62.8%) of participants reported that menstruation is a physiological process, 81% told dirty blood excretion process and 21.9% participants told it is due to curse. In contrast, the study, more than four fifths (82%) believed curse as meaning of menstruation while 12 percent participants thought pathological and remaining six percent told physiological process. The study participants were more aware about menstruation and menstrual hygiene management.

Present study shows 52.3 percent had poor knowledge level and 47.7 percent had good knowledge level which is different to a study in north western Nigerian where only 8.5% had poor knowledge.16

During the period of menstruation, 26.4 percent of the participants had used sanitary pad, where 45 percent of participants had used sanitary pad either one time or continuously. Another study done in Nepal showed participants were using old clothes and only two percent of participants were using sanitary pad.4 Likewise, a study in Hyderabad, India showed that only 11.3 percent were using sanitary pad for the absorbents of the menstrual blood. More than four fifth (82%) of the participants used soap/detergent water and 18 percent had washed with normal water for cleaning pad. In Hyderabad study, 82.2 percent of participant girls used both soap and water.3,17

In cases of re-used cloth, the places of its drying which were observed, was rope outside the house in sunlight (44%) and dried them inside the house (56%). In Nagpur study, more than half (51.3%) dried their washed pad outside of house to the sunlight and 47.4 percent dried them inside the houses where they wash.3

Eighty nine (89%) of the participants in this study practiced restriction to touch kitchen food and utensils, and other different type of restriction. Likewise, 42 percent of the participants were not allowed to stay and move outside. A similar study shows that seventy three (73.64%) girls practiced some form of restriction on daily activities and chores.3

In this study, almost all (90.4%) participants had used sanitary pad from urban area and only 14.6% from the rural area. Using sanitary pad during the period of menstruation in rural and urban area was highly significant (chi-square-1.030, p<0.001). Similar to our study, more urban adolescent girls (60.6%) had used sanitary pad than rural girls area (30.8%) (p=0.001).3

Similarly, practice level regarding menstruation in rural and urban area was highly significant. In rural area, only 8.2% of the participants had good practice level where in urban area, 93.2% participants had good practice regarding menstrual hygiene management.3

The difference in the knowledge regarding menstruation in rural and urban area was highly significant. In rural area, only 6.4% had good knowledge but in urban area 93.6% of the participants had good knowledge level regarding menstruation which is similar to a study in West Bengal.12 The study left out the young girls above 19 years and not generalizable in developed country were the limitations.

CONCLUSION

Menstruation is a big taboo in Nepalese society. While comparing the rural and urban area adolescent girls; urban participants had good knowledge level and practice level than rural girls. The findings led to the conclusion that in rural areas, the adolescent girls had poor knowledge, various misconceptions and poor practices regarding menstrual hygiene management. Taking into account the health implications and prevailing socio-cultural and economic factors, there is an urgent need for intensifying effective strategies to persuade the adolescent school girls to adopt menstrual hygiene management practices. Moreover, the education and behavioural changing activities regarding menstrual hygiene management should be provided to adolescent girls.

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REFERENCES

1. Sunuwar L, Saha CG, KC A, Upadhyay, Dhungel K. Age at menarche of subpopulation of Nepalese girls. Nepal Med Coll J. 2012;12(3):183-6.
2. Special Rapporteur on the human rights to safe drinking water and sanitation [Internet]. CH-1201 Geneva, Switzerland: Office of the United Nations High Commissioner for Human Rights (OHCHR). Available at: https://www.ohchr.org/EN/Issues/WaterAndSanitation/SRWaterPages/SRWaterIndex.asp. Accessed on 16th August 2018.
3. Subhash TB, Sushama TS, Monica R, Nirdi R, Ketaki P, Suresh U. Menstrual Hygiene: Knowledge and Practice among Adolescent School Girls of Saoner, Nagpur District. J Clin Diagn Res. 2011;5(5):1027-33.
4. Burkina F, Niger. Menstrual Hygiene in Schools in 2 countries of Francophone West Africa. Dakar, Senegal: WASH and Education sections of UNICEF West and Central Africa Regional Office; 2013.
5. Upashe SP, Tekelab T, Mekonnen J. Assessment of knowledge and practice of menstrual hygiene among high school girls in Western Ethiopia. BMC Womens Health. 2015;15(1):84.
6. Adhikari P, Kadel B, Dhungel S, Mandal A. Knowledge and practice regarding menstrual hygiene
in rural adolescent girls of Nepal. Kathmandu Univ Med J. 2007;5(19):382-6.
7. Sapkota D, Sharma D, Budhathoki SS, Khanal VK, Pokharel HP. Knowledge and practices regarding menstruation among school going adolescents of rural Nepal. J Kathmandu Med Coll. 2013;2(5).
8. Population Reference Bureau. The World’s Women and Girls 2011 Data Sheet. Washington, D.C., USA.
9. Population M of H and. Nepal Adolescents and Youth Survey 2010/11. 2012 Available at: http://library.nhrc.org.np:8080/nhrc/handle/123456789/114. Accessed on 14th August 2018.
10. Central Bureau of Statistics (CBS). National Population and Housing Census 2011 (National Report). National Planning Commission Secretariat, Government of Nepal; 2012 Kathmandu, Nepal.
11. Tegegne TK, Sisay MM. Menstrual hygiene management and school absenteeism among female adolescent students in Northeast Ethiopia. BMC Public Health. 2014;14:1118.
12. Paria B, Bhattacharyya A, Das S. A Comparative Study on Menstrual Hygiene Among Urban and Rural Adolescent Girls of West Bengal. J Fam Med Prim Care. 2014;3(4):413-7.
13. Adika VO, Ayinde MO, Jack-Ide IO. Self care practices of menstrual hygiene among adolescents school going girls in Amassoma Community, Bayelsa State. Int J Nurs Midwifery. 2013;5(5):99-105.
14. Vijayasree L, Kunneniwar GN, Vaz LS, Rao SBR. A study on menstrual practices and hygiene among adolescent girls in a government high school. Indian J Med Res Pharm Sci. 2016;3(6):55-60.
15. Sreedhar M, Ameena S. Practices of Menstrual hygiene among urban adolescent girls of Hyderabad. Indian J Basic Appl Med Res. 2014;4(1):478-86.
16. Lawan UM, Yusuf NW, Musa AB. Menstruation and menstrual hygiene amongst adolescent school girls in Kano, Northwestern Nigeria. Afr J Reprod Health. 2010;14(3):201-8.
17. Anuradha, Huchchannavar R, Chayal V, Chahal S. A Study on Menstrual Hygiene among Rural Adolescent Girls. Indian J Health Wellbeing. 2013;4(9).

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