

Menstruation Hygiene Management among Adolescent School Girls of Inaruwa Municipality

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ABSTRACT

INTRODUCTION: Menstrual Hygiene Management (MHM) for girls has long been a neglected issue in low income countries however there is increasing recognition that it should be included in research, programming, education and health policies. The aim of the study was to assess the menstrual hygiene management among adolescent school girls residing Inaruwa Municipality of Sunsari district. **MATERIALS AND METHODS:** A descriptive cross-sectional study design was conducted on 211 respondents and self-administered questionnaire used as data collection tool. Epi-data version 3.1 and SPSS version IBM 22 was used for data entry and analysis software respectively. **RESULTS:** Majority 74.4% had their first menstruation at the age between 13-15 years. In the first menstrual period, the girls were frightened (40.3%) and confused (36%). Entire girls revealed that they were using any type of absorptive materials during menstrual period. Nearly three-fifth of the girls (55.5%) only used sanitary napkin/pad as a protective material during menstruation and 14.2 percent of the girls were using old piece of cloth. Half of the girls (50.9%) used to change their absorptive materials twice a day and 32.5 percent of them changed their absorptive materials once a day during their menstrual period. After the use of absorptive material, nearly two-third of the girls reported that they used to bury absorptive materials in separate place secretly, while 37.3 percent of girls reported that they used to burn. **CONCLUSIONS:** The menstrual hygiene practices at home seem to be satisfactory. However, in school, the insufficient toilets, dustbins were the reasons for making the menstruation hygiene difficult and impossible during the school hours. This led to missing of classes, and school absenteeism during the periods.

Keywords: Menstruation, menstrual hygiene management, restriction.

INTRODUCTION

Adolescent is a transition from dependent childhood to independent and responsible adulthood. The World Health Organization (WHO) defines adolescent as the population of 10-19 year of age. According to census of 2011, out of 26.5 million populations, of Nepal, 24.2 per cent are adolescent [1]. This is the age when menarche, the onset of menstruation, occurs. It is also considered as a transition period of any woman from their childhood to womanhood [2]. Menstruation is part of the female reproductive cycle that starts when girls become sexually mature at the time of puberty. The menstrual period lasts from three to seven days. Each period commences approximately every 28 days if the woman does not become pregnant during a given cycle. The estimated blood loss is between 50 ml and 200 ml [3, 4]. Menstrual Hygiene Management (MHM) is defined as 'Women and adolescent girls 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 facilities to dispose of used menstrual management materials' [5]. Menstrual beliefs and practices are often culturally constructed [6]. Many studies conducted in Nepal have indicated that menstruation is subjected to several forms of stigma in many communities [7, 8]. Menstrual Hygiene Management (MHM) for girls has long been a neglected issue in low income countries however there is increasing recognition that it should be included in research, programming, education and health policies. Menstrual hygiene management deals with the specific hygiene and health requirements of women during menstruation. Options for managing menstrual bleeding vary globally. Commercial

products, such as tampons and sanitary pads are widely used amongst adolescents in high income countries. However in low and middle income countries, commercial products are less available and are often prohibitively expensive. A wide variety of absorbent hygiene products (both commercial and home-made) is reported in the small amount of literature about adolescents: including sanitary pads, cloths/towels, leaves, newspaper, tissue paper, sponges, sand, ashes and others. In many cultures, tampon as well as menstrual cups use is discouraged amongst young women due to concerns about blocking menstrual flow, misconceptions about tampon use leading to loss of virginity, lack of knowledge about the female reproductive tract, and discomfort touching their own genitalia [3]. MHM has received some attention over the last decade in low- and middle-income countries (LMICs), and alongside several interventions e.g., awareness-raising interventions and interventions to provide sanitary products, such as menstrual cups and disposable sanitary pads have been implemented in practice [9-11]. Women and girls continue to face many challenges due to their gender and school attending girls often struggle to manage their menstruation hygiene in schools.

Various studies throughout Asia and Africa have demonstrated varying beliefs, attitudes and practices related menstruation and menstrual hygiene [5]. Study also shown that many girls experience shame, fear, confusion, teasing and lack of accurate information, advice and support with regards to their menstruation. In India, one study found that 86% of girls felt 'completely unprepared' for their first menstruation, and 64% found menarche a fearful experience. The same study also demonstrated widespread misconceptions about menstrual physiology not only amongst adolescents, but also their teachers and health workers [12]. Menstruation can also contribute to school-drop out, absenteeism, and other sexual and reproductive health concerns that can have substantial and long-term health and socio-economic ramifications for adolescent girls. Unhygienic menstrual management practices raise concerns of reproductive tract infections and inflammatory disorders. Using the unhygienic/unclean materials and insertion into the vaginal canal, regular use of tampons, frequent vaginal douching, and lack of hand washing have

been suggested to increase the risk of infection [13]. The purpose of the study was to assess the menstrual hygiene management among adolescent school girls residing Inaruwa municipality of Sunsari district.

MATERIALS AND METHODS

Study design and setting

The descriptive cross-sectional study design was conducted in the Inaruwa Municipality, Sunsari district of Nepal to assess the menstrual hygiene management among adolescent school girls. The duration of the study was 6 month and data collection was conducted from July 4 to August 3, 2018.

Participants, sample size and sampling technique

All The sample size of 211 school going adolescent girls were enrolled in the study. The sample size was calculated by using proportional based a statistical formula i.e. $n = [(Z\alpha/2 P Q) / (d^2)]$ (where d is the allowed error taken as 0.067; $Z\alpha = 1.96$, for 95% confidence level; $P = 0.5$ (estimated percent of adolescent girls with good MHM) & $Q = 0.5$ (1-P).

A cluster random sampling technique was adopted for the study. In Inaruwa Municipality, there are 68 Community/Government Schools and Private Schools. Almost 20% (i.e. 14) of secondary level school were covered (randomly) from the entire education institution running in Inaruwa Municipality. The require number of school were selected using cluster random sampling technique on the proportionate base. From the selected schools the respondents were selected using systematic random sampling technique from grade 8, 9 and 10. All the selected grade 8, 9 and 10 school going students who were ready (provided assent) to give information and also their parents/teachers gave approval (consent) were the selection criterial of the study.

Data collection procedure and study variables

Self-administered structured questionnaire used as tool to collect the data. The first part of the questionnaire included informed consent form and general information of the respondent. The second part of the questionnaire was included socio-demographic information such as age, sex, educational status of respondent and his/her parents, religion, family type, relationship with family and friends, family occupation and source of

information. The third part of the questionnaire included menstrual hygiene practice and menstruation hygiene management. A pre-test was conducted with 21 students (10% of the total sample) in Goathgau, Morang district before the data collection in order to improve the questionnaire and check for the reliability and validity of the questionnaire. Questionnaires were translated into local language i.e. Nepali. Again, Nepali language questionnaires were retranslated into English language.

Data management and statistical analysis

After the collection of data, all the data were checked and rechecked for its completeness and missing items. Epi-data version 3.1 and SPSS version 16 was used for data entry and analysis software respectively. Descriptive analysis such as frequency, percentage, mean, standard deviation was applied for the data analysis data

Ethical considerations

Ethical and child safeguarding protocol was followed while the conducting research. The following ethical and child safeguarding protocol was maintained while conducting the study.

RESULTS

The socio-demographic characteristics of adolescents included age, gender, marital status, educational status, religion, family types, family man income source and qualification and their parents. In the study, a maximum number of respondents (35.1%) were 15 years old and the least were from 17 years old (7.6%). Most of the students followed Hindu religion (91.5%) and nearly two-third were from nuclear families (62.6%). Likewise, regarding the educational level of the respondents, the respondents from eight classes were 29.4 percent, nine class 41.7 percent and ten class 28.9 percent.

Nearly one-third of the respondents' household source of income was Business/Self-employment (29.9%) and 24 per cent of their household source of income was agriculture and followed by regular income jobs (23.6%). Likewise, most of the respondents in the survey identified that they were access to mobile phones (96.6%) followed by radio (81.1%) and television (37.5%) (Figure 1). In the study, the girls had already started their menstrual cycle in the time of interview.

Table 1 | Socio-demographic distribution of the study participants (n=211)

Characteristic	Frequency	Percent
Age (Year)		
13	25	11.8
14	57	27.0
15	74	35.1
16	39	18.5
17	16	7.6
Educational qualification		
8	62	29.4
9	88	41.7
10	61	28.9
Religion		
Hindu	193	91.5
Muslim	13	6.2
Buddhist	4	1.9
Christian	1	0.5
Family type		
Nuclear	132	62.6
Joint	79	37.4
Family Income Source		
Business/Self employment	63	29.9
Agriculture	52	24.6
Job	50	23.6
Foreign employment	39	18.6
Labor	7	3.3

Table 2 | Distribution of girls on the basis of inform and take support at first menstrual period (n=211)

Source	Inform at first menstrual period	Support to manage at first menstrual period
Mother	84.9%	92.5%
Sister	20.8%	68.1%
Other family members	13.0%	37.3%
Friend	12.6%	13.8%
Teacher	1.0%	1.3%
Other	0.2%	0.4%

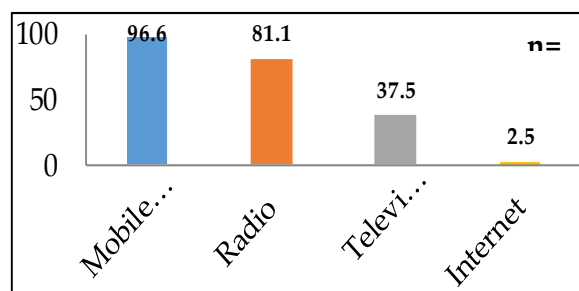


Figure 1 | Distribution of the respondents by access of tele-communication

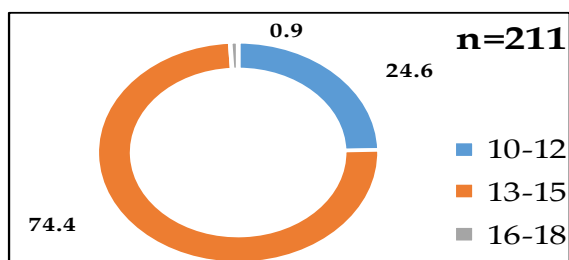


Figure 2 | Age of menarche (n=211)

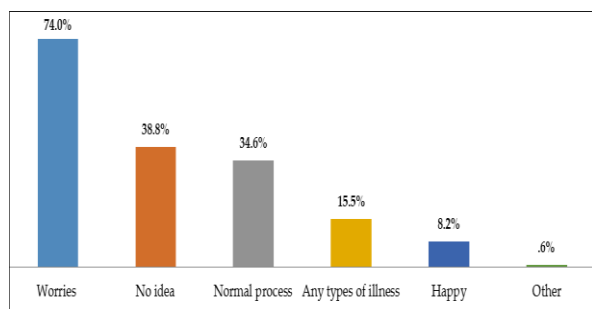


Figure 3 | Feelings on first menstruation (n=211)

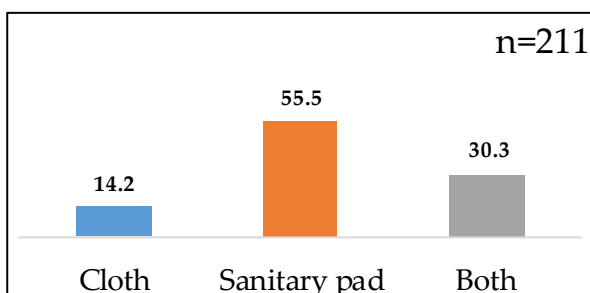


Figure 4 | Absorptive materials used during menstruation (n=211)

Nearly three-fourth of the girls (74.4%) had their first menstruation at the age between 13-15 years and 24.6% of girls at the age 10-12 years. The girls in the study also reported that they were in this study were frightened (40.3%) and confused (36%) during menarche. However, 23.7% of respondents reported that they were expected to become menarche. Additionally, 84.9 per cent of the girls reported that they had informed to their mother in their first menstrual period and 20.8 per cent of them revealed that they had informed to their sister. In managing their first menstrual period, 92.5 per cent of the girls reported that their mother support them to manage whereas their sister support them to managed (Table 14). In the first menstrual period, nearly three-fourth of the girls (74%) revealed that they were worried at the time of their first menstruation, whereas 38.8 per cent had no idea what was happen to them when they had their first

menstrual period. Likewise, 34.6 per cent of girls stated that they took as it as a normal process when they had their first menstrual period.

Menstrual hygiene and practices

In the survey, the entire girls (100%) revealed that they were using any type of absorptive materials during menstrual period. In the survey nearly three-fifth of the girls (55.5%) only used sanitary napkin/pad as a protective material during menstruation. Likewise, 14.2 percent of the girls were using old piece of cloth and 30.3 percent of them were using both sanitary pad/napkin and old piece of cloth. In this study, majority of respondents (87.7%) changed the protective material based on time interval and only 12.3% of after complete during menstruation. Regarding to the frequency of changing protective material during menstruation of the respondents, majority 46 percent changed their protective material three times a day, 24.6% of twice a day, 21.3 percent more than three times a day and only 8.1% once a day. In the study, half of the girls (50.9%) used to change their absorptive materials twice a day and nearly one-third of them (32.5%) changed thirist a day during their menstrual period. After the used of absorptive material (sanitary pad and old piece of cloths), nearly two-third of the girls (61.6%) reported that they used to bury absorptive materials in separate place secretly, while 37.3 per cent of girls reported that they used to burn. Similarly, 28.5 per cent of the girls revealed that they dispose the pad in open space and 27.7 per cent used to through the absorptive material in drainage.

School sanitation and behaviour on sudden start of menstruation

In this study, 81 percent of the respondents reported that their school had sufficient toilets, while 19% reported of having insufficient toilets. The school of more than half of respondents (55%) were reported to have dustbin in toilet for disposing protective material used during menstruation. At the act of sudden onset of menstruation in school, this study showed that 48.3% of participants have asked their teacher for protective material, 23.2% asked their friends and 18.5% went home and change while only a few proportion (10%) of them used the protective material that they have brought with them.

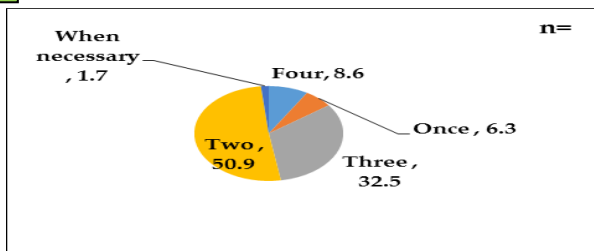


Figure 5 | Times of changing absorptive materials (n=211)

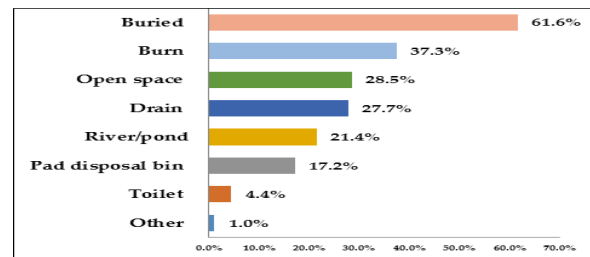


Figure 6 | Disposal of absorptive materials (n=211)

Table 3 | Distribution of participants according to changing behavior of protective material during menstruation (n= 211)

Characteristics	Category	Number	Percent
Feel changing protective material during menstruation	Complete soaking	26	12.3
	Based on time interval	185	87.7
Frequency of changing protective material during menstruation	Once a day	17	8.1
	Twice a day	52	24.6
	Three times a day	97	46.0
	More than 3 times a day	45	21.3

Table 4 | Distribution of availability of sufficient toilet and dustbin to dispose protective material during menstruation in school (n=211)

Characteristics	Category	Number	Percent
Sufficient toilets	Yes	171	81.0
	No	40	19.0
Availability of dustbin	Yes	116	55.0
	No	95	45.0
When suddenly start to menstruate in school	Ask teacher for materials	102	48.3
	Go home and change	39	18.5
	Ask friends	49	23.2
	Use the material that you brought with you	21	10.0

DISCUSSION

Menstruation hygiene management, an important issue among adolescent school girls has not found to have received much attention and acknowledged, which brought about the need to assess its status. This study was done in different schools of Inaruwa municipality to assess the awareness regarding menstruation and menstruation hygiene management among 211 adolescent school girls. Though the menstruation hygiene management was found to be satisfactory, still one-third of them were suffering from restriction practices. Similarly, the school environment and sanitation was not found to be menstruation-friendly, with no sufficient toilets

reported by one-fifth of the participants and absence of dustbin for disposal of pads/clothing as reported by about half of them. This had led to sufferings on start of menstruation during school, as well as absenteeism. This study reported that more than half of the respondents (55.5%) used sanitary pads as protective material during menstruation, whereas the findings from another study conducted in Morang district in 2015 that showed it to be 40%. The increased proportion of using sanitary pads in our study could be due to differences in practices in the rural and urban adolescents, the practices in the local areas, and the affordability for the pads. The increase can also be

attributed to increased awareness regarding menstruation hygiene and promotion of using sanitary pads.

CONCLUSIONS

Menstruation hygiene management has been found to be an important issue affecting the health of the adolescent, along with its various social implications. This study revealed that menstrual hygiene, though an important issue, has been under-discussed and inadequately talked about. With more than half of the adolescents being unaware about the menstruation before menarche, were unprepared for it. Though most of them were found to be close to their mothers, followed by sisters in sharing their menarche, and other menstrual experiences, they were not provided adequate awareness initially regarding the condition. The menstrual hygiene practices at home

seem to be satisfactory. However, in school, the insufficient toilets, dustbins were the reasons for making the menstruation hygiene difficult and impossible during the school hours. This lead to missing of classes, and school absenteeism during the periods. This study thus emphasizes on the need of increasing awareness regarding the menstruation to the adolescent girl even before they attend menarche. This study also warrants a direct need of building school infrastructure adequately so as to make it menstruation friendly which will enable students to attend the schools even during their menstrual periods reducing their absenteeism. Proper menstrual hygiene management in school will thus assist in enabling the adolescent girls maintain and promote good health along with continuing their education.

ADDITIONAL INFORMATION AND DECLARATIONS

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Data Availability: Data will be available upon request to corresponding authors after valid reason.

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