

The Menstrual Hygiene Management practices among Secondary school Girls of Lira Sub-County Lira City West. A cross-sectional study.

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Abstract

Background:

Menstrual hygiene management (MHM) remains a public health concern globally, and menstruating girls in school environments face several challenges which include a lack of adequate, clean, safe, private toilets with water and disposal mechanisms for used menstrual materials, a lack of information, guidance, and support on their changing bodies and insufficient materials for managing monthly menstrual flow. Despite the initiative of several organizations to create awareness and highlight the importance of good MHM, the actual proposed actions to address MHM are still largely underdeveloped

Aim:

This study aimed at assessing the MHM practices among secondary school girls in the Lira Sub-County Lira City West division.

Method:

A cross-sectional study employing quantitative techniques was done. Data was collected from 312 participants by the use of semi-structured questionnaires. Data entry and analysis were done using SPSS version 23.

Result:

Poor menstrual hygiene management practice was 61.5%, and the age of respondents (P-value 0.000), mother's education level (P-value 0.011), and father's occupation (P-value 0.011), were significantly associated with MHM practices with a P value <0.05.

Conclusion:

Almost two-thirds (61.5%) of the students had poor MHM practices. Although there are some cases of sanitary pad usage, still MHM practices are unhygienic indicating that water, sanitation, and hygiene facilities in the schools need urgent solutions.

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1. Background of the study

Menstrual hygiene management (MHM) remains a public health concern globally, as every day millions of women and girls have to manage their menstruation (Gerlach, 2021). It is

estimated that at least 500 million women and girls globally lack adequate facilities for MHM (WORLD BANK, 2018). Menstruation is an entirely natural physiological process yet still considered too 'private' to discuss (UNFPA ESARO, 2020). The onset of menstruation means a new phase and new vulnerabilities in the lives of girls (UNICEF, 2021). Girls face a multitude of challenges beyond the immediate practicalities

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of learning to manage a monthly inconvenience and in many cultures, the onset of menstruation affects not just a girl's body, but also her role and status in the community (Gerlach, 2021). Girls are disproportionately affected by the challenges posed by menstruation in the least developed countries, where often a majority of adolescent girls are not told about menstruation before experiencing their first period and where sanitary products are all too often unaffordable (PMNCH, 2020).

There is evidence of 'inadequate' menstrual hygiene, in terms of personal hygiene or products used among girls from around the world, and it has been demonstrated that menstruating girls in school environments face several challenges which include a lack of adequate, clean, safe, private toilets with water and disposal mechanisms for used menstrual materials, a lack of information, guidance, and support on their changing bodies and new menstrual management needs, and insufficient materials for managing monthly menstrual flow (Kuhlmann et al., 2017; WORLD BANK, 2018). Lack of access to basic hygiene products has led girls to use unhygienic materials, such as rags, leaves, and papers which expose them to urogenital infections (Gibson et al., 2019). Girls are also absent from school or are less attentive in class during menstruation due to a lack of WASH (water, sanitation, and hygiene) facilities and support from the school community which affects their education (Miuro et al., 2018). In Uganda, 28% of adolescent girls miss at least four school days per cycle (Uganda For Her, 2022). School girls also engage in transactional sex to pay for menstrual products which increases their risk of HIV (Human Immunodeficiency Virus), unintended pregnancy, and school dropout that come with other far-reaching consequences (Global G.L.O.W., 2020; The Guardian, 2016).

In the last decade, interest has grown globally in the issue of menstruation in schools. In an effort to ensure dignity for women and girls, the United Nations 2014, declared May 28th of every year a Menstrual Hygiene Day that aims to create awareness and highlight the importance of MHM

to different stakeholders (WASH United, 2016). In 2014, UNICEF and Columbia University organized the MHM in Ten meeting with a wide range of actors, to map out a ten-year agenda for MHM in schools with a vision of; "Girls in 2024 around the world are knowledgeable and comfortable with their menstruation, and able to manage their menses in school in a comfortable, safe and dignified way" (Sommer et al., 2016). In Uganda, the Ministry of Education and Sports (MoES) has taken several steps towards improving MHM in schools; along with UNICEF, SNV, and Plan International, developed a national program in 2021 aiming at addressing challenges surrounding MHM in schools (Caruso et al., 2013). As part of this national strategy, the MoES developed and distributed a Menstrual Reader to schoolgirls to increase their education regarding MHM (Atwijukye, 2014). It also issued a circular that instructed all schools and local governments to support menstrual hygiene management (Ministry of Education and Sports, 2015).

Despite the above efforts, there is inadequate literature about menstrual hygiene management practices among secondary school girls in Lira Sub-County Lira City West. Yet knowledge of MHM practices would be a cornerstone in enabling adolescent school girls to manage their menstrual cycle and helping the responsible stakeholders in making informed decisions and actions. Therefore, it was against this background that this study assessed the MHM practices among secondary school girls in Lira Sub-County Lira City West.

2. Methodology

2.1. Study design

This was a cross-sectional study using quantitative techniques of data collection and analysis because the exposure and the outcome were assessed at the same time.

2.2. Study site and setting

The study was carried out in mixed secondary schools of Lira Sub-County, Lira City West Division, Lira City.

Lira City is the main administrative and commercial centre of the Lira District. It is located approximately 100 kilometres (62 miles), south-east of Gulu City the largest city in northern Uganda, along the highway of Gulu and Mbale. Lira city lies 124 kilometres northwest of Soroti City. This location lies approximately 337 kilometres (209 miles), by road, north of Kampala.

The city has two divisions Lira city east (comprising of Adekwok Sub County, Ngetta and Lwal Sub County, Lira central division and railways division) and Lira city west (comprising of Ojwina Sub County, Adyel Sub County, and Lira Sub County). Lira Sub County comprises 9 secondary schools of which 7 are mixed secondary schools.

2.3. Study population

2.3.1. Target population

All secondary school girls who have reached menarche in Lira Sub-County Lira City West.

2.3.2. Accessible population

All secondary school girls who have reached menarche and were present on the day of data collection.

2.3.3. Eligibility criteria

Inclusion criteria

All Secondary School girls who have reached menarche were included in the study

Exclusion criteria

- Girls who were too ill on the day of data collection and those who declined to participate were excluded from this study.

2.4. Sample size

The sample was determined using Leslie Kish formula (1965) for single proportion.

$$n = (Z_{\alpha/2})^2 \cdot pq/d^2$$

Where

n = Estimated sample size

$Z_{\alpha/2}$ = confidence level of significance for a 95% to confidence interval ($Z_{\alpha/2} = 1.96$)

P = percentage of good MHM practices among secondary school girls is 71.2% taken from a similar study done in Kenya (Korir et al., 2018)

q = (1-p), probability of poor menstrual hygiene practices, (1-0.712) = 0.288

d = precision of the study which is 5% (0.05)

$$n = (1.96 \times 1.96 \times 0.712 \times 0.288) / (0.05 \times 0.05)$$

$$n \approx 315$$

Hence sample size = 315 participants

2.5. Sampling technique and procedure

The study used a multistage sampling method which involved two mixed secondary schools being selected by simple random sampling. Names of mixed secondary schools in Lira Sub County (Amuca SDA Secondary School, Lira high school, Odokomit Secondary School, Bulluge Comprehensive Secondary School, Cotn Marani Honors High school, Lira Secondary School, and Townside High School, Lira) were written on separate papers, folded, and then shuffled. Two papers were picked randomly and the schools on those papers were taken for my study population. This study also employed a convenience random sampling technique given the availability of the study participants who met the inclusion criteria. The first participant was selected randomly then subsequent participants were selected depending on their availability until the desired sample size of 315 was realized. An approximation of 60 study participants was interviewed each day and this took about 5 days to hit the targeted study population, thus this procedure was repeated until the targeted number was reached. This sampling procedure was selected to achieve the target sample population with limited resources and time.

2.6. Data collection methods

Semi-structured questionnaires were administered to study participants and the questionnaires were in written English.

2.6.1. Data collection instruments

Data was collected using a semi-structured questionnaire that was designed based on the literature of previously conducted similar studies in other parts of the world.

It contained two sections; a social-demographic section, and the menstrual hygiene management

practices of secondary school girls in Lira Sub-County Lira City West. All questions in this questionnaire were having corresponding answers therefore the study participants were chosen from those alternatives.

2.6.2. Data collection procedure

The data collection process started with seeking permission from the school. The session then started by building rapport with the respondents followed by introducing the study topic, and purpose of the study, then seeking their consent and assent to participate in the study. Upon Informed consent, semi-structured questionnaires were administered in a quiet, safe place observing high levels of confidentiality and comfort of the study participant. Students were giving their responses under the guidance of the researcher.

2.7. Quality control.

Validity

1. The questionnaires were double-checked by my supervisor, edited, and modified to suit the interest of the research.
2. Questionnaires were pretested prior to data collection and sticking to the inclusion and exclusion criteria.
3. Data collected was checked daily for completeness of the questionnaires before leaving the field
4. Getting feedback on the research process and data itself from the participants to increase the chances of results being implemented.

2.8. Reliability

Reliability was used to measure the degree to which the questionnaire will produce consistent results under similar and different conditions. The questionnaires were pretested on 10 secondary school girls who have reached menarche in Standard High School.

2.9. Data analysis

Data entry and cleaning were done using Excel software, then imported into SPSS version 23 for data analysis. Data analysis was done using

SPSS (Statistical Package for Social Sciences) version 23 computer software. The data analysis was composed of univariate analysis where descriptive statistics of the socio-demographic characteristics were analyzed and presented using numbers, percentages, and measures of central tendency (mean, mode) where appropriate. A bivariate analysis was used to describe the association between variables.

Data was presented in frequencies, percentages, tables, and graphs. On bivariate, a variable that was found to have a P-value <0.05 was considered significant.

2.10. Ethical considerations

Approval

The proposal was presented to the department of nursing and midwifery and thereafter to the Faculty of Health Science. An approval letter was issued and taken to the school authorities where the study was to be conducted requesting permission.

Consent

Written consent and assent were sought from students who participated in the study.

Confidentiality

The researcher avoided identifiers like names on participants' information, Data was coded to ensure confidentiality

A password was put on the laptop containing participants' data. Honesty was maintained throughout the research process; in collecting and reporting data, results, methods, and procedures used during data collection in order to avoid fabrication, falsification, misrepresentation, and or misreporting of data. The questionnaires were kept in a lockable cupboard.

All quotations used and sources were clearly distinguished and acknowledged by means of references.

2.11. Dissemination of results

The findings of the study were presented to the department of nursing and midwifery, Lira University. The presentation was made and copies were submitted to the Lira University library and to the schools where data was collected.

3. Results

3.1. Study profile

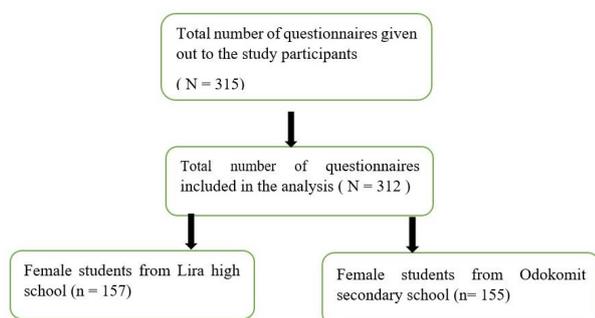


Figure 1: Study profile

A total of (315) questionnaires were given out to the respondents, (312) were filled and returned and this gave a response rate of 99%. 157 participants at Lira high school were interviewed and 155 participants were interviewed at Odokomit secondary school as well.

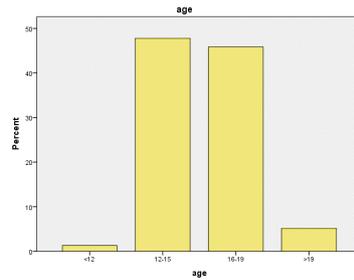
3.2. Socio-demographic characteristics of the study participants.

Table 1: Distribution of socio-demographic characteristics of participants

Variable	Frequency	Percentage (%)
Age		
<12	4	1.3
12-15	149	47.8
16-19	143	45.8
>19	16	5.1
Mother's education level		
Illiterate	45	14.4
Primary	141	45.2
Secondary	110	35.3
Tertiary	16	5.1
Father's education level		
Illiterate	21	6.7
Primary	78	25
Secondary	160	51.3
Tertiary	53	17
Lives with;		
Both parents	188	60.3
Mother only	61	19.6
Father only	50	16
Others	13	4.2
Mother's occupation		
Farmer	67	21.5
Housewife	60	19.2
Business woman	161	51.6
Others	24	7.7
Father's occupation		
Farmer	59	18.9
Civil servant	22	7.1
Business man	204	65.4
Others	27	8.7

table 1 above shows that the majority of the respondents 47.8% (n=149) are in the age group of 12-15 years. The majority of the study participants' mother's education level, 45.2% (n=141) were educated to the primary school level. The majority of the study participants' father's education level, 51.3% (n=160) were educated to the secondary school level. Most of the study participants 60.3% (n=188) live with both parents. A greater number of respondents 51.6% (n=161) their mothers were business women and most of the participants 65.4% (n=204) their fathers who were business men.

The graph 1 shows that 47.8% of the study participants were aged between 12 and 15 years, 45.8% between 16 and 19 years, 5.1% greater than 19 years, and 1.3% less than 12 years.



Graph 1: Graph showing age of respondents by percentages

3.3. Menstrual hygiene management practices

Table 2: Association between socio-demographic characteristics and menstrual hygiene practices

Variable	MHM practices		p value
	Good (%)	Poor (%)	
Age			0.000*
<12	1 (0.3)	3 (1.0)	
12-15	18 (5.8)	131 (42.0)	
16-19	89 (28.5)	54 (17.3)	
>19	12 (3.8)	4 (1.3)	
Mother's education level			0.011*
Illiterate	12 (3.8)	33 (10.6)	
Primary	46 (14.7)	95 (30.4)	
Secondary	55 (17.6)	55 (17.6)	
Tertiary	7 (2.2)	9 (2.9)	
Father's education level			0.443
Illiterate	6 (1.9)	15 (4.8)	
Primary	35 (11.2)	43 (13.8)	
Secondary	61 (19.6)	99 (31.7)	
Tertiary	18 (5.8)	35 (11.2)	
Lives with:			0.184
Both parents	75 (24.0)	113 (36.2)	
Mother only	27 (8.7)	34 (10.9)	
Father only	16 (5.1)	34 (10.9)	
Others	2 (0.6)	11 (3.5)	
Mother's occupation			0.390
Farmer	23 (7.4)	44 (14.1)	
Housewife	23 (7.4)	37 (11.9)	
Business woman	61 (19.6)	100 (32.1)	
Others	13 (4.2)	11 (3.5)	
Father's occupation			0.042*
Farmer	20 (6.4)	39 (12.5)	
Civil servant	14 (4.5)	8 (2.6)	
Business woman	79 (25.3)	125 (40.1)	
Others	7(2.2)	20 (6.4)	

Table 3: menstrual hygiene management practices of respondents

MHM practice related questions	Frequency	Percentage (%)
Ever used any absorbent material during menses		
No		
Yes	29	9.3
Type of absorbent material used mostly	283	90.7
Rag (cloth of any kind)		
Under wear	27	8.7
Clean cloth	28	8.3
Sanitary pad	63	20.2
Frequency of change of absorbent material	196	62.8
Once a day		
Twice a day	42	13.5
3times and above	100	32.1
Disposal of absorbent material	170	54.5
Open field		
Dust bin	33	10.6
Burning	42	13.5
Pit latrine	69	22.1
Cleaning of body during menses	168	53.8
Clean around genitalia with tissue		
Wash genitalia area with soap	58	18.6
Take a bath with soap	53	17.0
Frequency of cleaning genitalia during menses	201	64.4
Do not until end of menses		
Once a day	4	1.3
Twice a day	95	30.4
Overall MHM practices	213	68.3
Good		
Poor	120	38.5
	192	61.5

table 2 above, shows that; Age, mother's education level, and father's occupation of students were found to be significantly associated with menstrual hygiene management practices with a p-value<0.05.

Of the 312 respondents, 61.5% (n=192) of participants' MHM practices were poor. Most of them 90.7% (n=283) used absorbent materials during their menstruation period. However, only 62.8% (n=196) were using disposable sanitary pads, while the remaining were using clean cloths 20.2% (n=63), rags 8.7% (n=27), and underwear only 8.3% (n=28). More than half 54.5% (n=170)

of the girls changed the sanitary materials more than three times a day, and 68.3% (n=213) cleaned their external genitalia more than twice a day during menstruation. 64.4% (n=201) of the girls took a bath daily with soap and water during menstruation, and 53.8% (n=168) used a pit latrine for disposing of sanitary materials.

The pie-chart 1 shows that 61.5% of study participants had poor MHM practices and 38.5% had good MHM practices according to the UNICEF definition of MHM.

4. Discussion:

This study aimed at assessing the menstrual hygiene management practices among secondary school girls in Lira Sub-County Lira City West.

This study identified that more than half of the girls' MHM practice was poor (61.5%). Those who scored four out of the four criteria in the definition of MHM were classified as good MHM practice and otherwise classified as poor. This finding is high compared with studies done in Nepal (33%), Kenya (28.8%), and Eastern Ethiopia (41.7%) (Bhusal, 2020; Korir et al., 2018; Mohammed Gena, 2020). The difference could be due to measurement differences since they used a single criterion to rate MHM practice and study location differences. However, this is also consistent with the studies conducted in Western Ethiopia (53.4% had poor MHM) and Lao PDR which reported 66% of poor MHM (Shallo et al., 2020; Sychareun et al., 2020)

The majority of the girls (90.7%) used some form of the absorbent material during their menstruation which is in line with previous studies conducted in Ethiopia (Habtegiorgis et al., 2021; Shallo et al., 2020) which reported 96.5% using absorbent materials. More than half (62.8%) of girls used disposable sanitary pads during their menstruation which is consistent with the previous studies done in Nepal (72.2%), and Ethiopia (64.3%) (Bhusal, 2020; Shallo et al., 2020). However, several previous studies done in India, and rural Gambia found that a small portion (43.4%) of adolescent girls used sanitary pads during their menstruation (Nabwera et al., 2021; Suhasini &

Belgaumndra, 2018). This might be due to the advancement in time, availability of resources, and difference in the study setting.

This study revealed that the majority of the girls (54.5%) changed their absorbent materials at least three times a day which is to the studies done in rural Gambia (56%) and Nepal (59.4%) (Bhusal, 2020; Nabwera et al., 2021). However, this is contrary to a study conducted in North Eastern Ethiopia which reported a third changing absorbent material 3 times a day (Habtegiorgis et al., 2021). This could be due to the recent improvement in the accessibility of absorbent materials.

In the current study majority of the study participants (53.8%) dispose of their absorbent material in the pit latrine. This is consistent with the study conducted in Ambo, Western Ethiopia which reported 67.3% of the participants disposed of their absorbent material in the pit latrine. (Shallo et al., 2020).

This study revealed more than half of the girls (64.4%) in the study took bath daily during menstruation which is consistent with a study conducted in Ethiopia which indicated that 56.4% of the girls took bath daily during menstruation (Belayneh & Mekuriaw, 2019). However, this was not supported by the study done in Kenya where only 47.5% of girls took bath daily during menstruation (Korir et al., 2018)

Nearly two-thirds of the secondary school girls (68.3%) in this study cleaned their genitalia at least twice a day this supported a study done in Nepal where 64% cleaned their genitalia at least twice a day (Bhusal, 2020). However, a study done in Ambo, Western Ethiopia, found that a smaller portion of the girls (20.6%) washed their genitalia at least two times per day (Shallo et al., 2020).

5. Conclusion

Almost two-thirds (61.5%) of the students had poor MHM practices. Most of them 90.7% used absorbent materials during their menstruation period. Only 62.8% were using disposable sanitary pads. More than half 54.5% of the girls

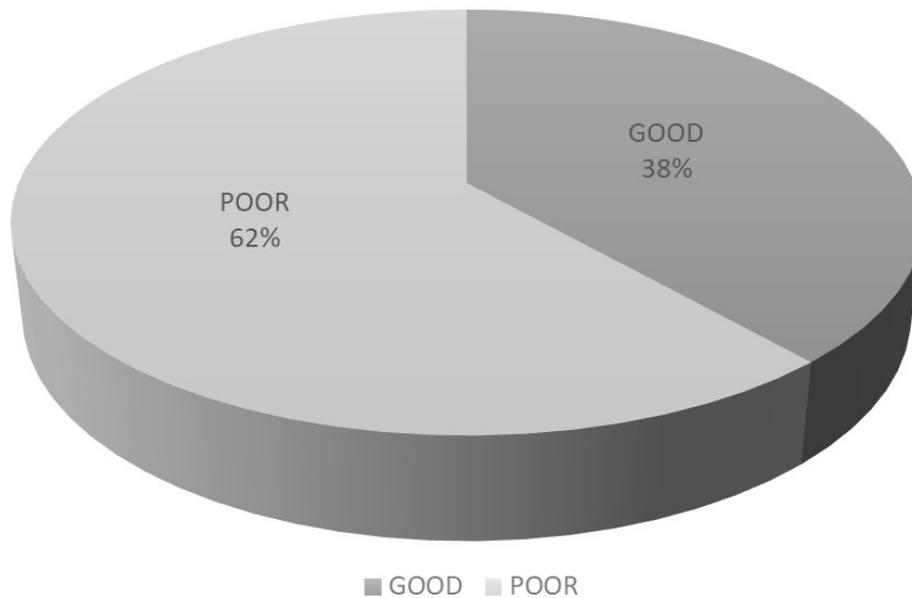


Chart 1: Pie chart showing menstrual hygiene management practices of respondents.

changed the sanitary materials more than three times a day, and 68.3% cleaned their external genitalia more than twice a day during menstruation. 64.4% of the girls took a bath daily with soap and water during menstruation, and 53.8% used a pit latrine for disposing of sanitary materials.

However, among social demographic factors, the mother's education level ($P=0.011$), the father's occupation ($P=0.042$), and the age of the respondent ($P=0.000$) were found to be significantly associated with MHM practices.

6. Recommendation

Administrators and policymakers should provide specific education on menstrual hygiene management to not only students but also parents.

School officials and other stakeholders should consider making the school environment a safe place for girls to manage their menstrual hygiene.

Menstrual hygiene management should be incorporated into the primary school curriculum so that by the time girls reach menarche, they are

already knowledgeable on how to manage their menses

7. Acknowledgement

First, I want to give glory and honor to the Almighty God. I also tenderly thank my family for their tireless kind-hearted support.

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I am affectionately obliged to the management of all schools and students who participated in this study.

Last but not the least, I applaud myself for being a strong lady and never giving up amidst all life's challenges.

8. List of Abbreviations.

UNICEF: United Nations Children's Fund

MHM: Menstrual Hygiene Management
MHH: Menstrual Hygiene Health
WHO: World Health Organization
JMP: Joint Monitoring Program
HIV: Human Immunodeficiency Syndrome
MOH: Ministry of Health
MoES: Ministry of Education and Sports
SNV: Stichting Nederlandse Vrijwilligers
WASH: Water Sanitation and Hygiene
SDG: Sustainable Development Goals
LMICs: Low and Middle-income countries
SPSS: Statistical Package Social Sciences

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10. Conflict of interest

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Margret is currently working with Taqwa health Centre III located in Wakiso, Uganda

Upon attainment of her bachelor's degree, she is optimistic that she will become a midwife with the required quality skills in maternal and child health.

She also has hopes of undertaking a master's degree in a related field, to not only further widen her knowledge but also to train junior midwives to improve research and workforce for her country.