VER
Vascular & Endovascular Review

School Preparedness On Menstrual Hygiene Management Among Rural Adolescent Girls - A School Based Cross Sectional Study

Dr K. Ravi kanth[1], Dr. Makineni Ashok Chakravarthy[2], Dr. P. Raga Deepthi[3], Dr. Malladi Nookaraju[4], Dr. Surala Krupa Sravanthi[5]

[1]Assossiate professor, Department of Pediatrics, Katuri Medical college, Andhra Pradesh.
[2]Assosiateprofessor, Department of General Medicine, Katuri Medical college, Andhra Pradesh.
[3]Assistant professor, Department of Community Medicine, Government Siddartha Medical Collage Pradesh.
[4]Junior Resident, Department of Pediatrics, Katuri Medical college, Andhra Pradesh
[5]Junior Resident, Department of Community Medicine, Katuri Medical college, Andhra Pradesh.

ABSTRACT

The World Health Organization (WHO) defines "adolescents" as individuals in the 10-19 years age group, the period between childhood and adulthood. Menstrual hygiene management (MHM) is personal hygiene practices during menstruation which starts with the choice of the best sanitary materials, their proper use, disposal, and body cleanliness. Inadequate MHM among adolescent girls is a public health problem, mainly in low and middle-income countries. India has over 355 million menstruating women and girls, but millions of women across the country are uncomfortable and undignified experience with MHM. Menstrual hygiene is frequently seen as a multi-sectorial problem that calls for coordinated action from the departments of education, health, women's and child development, and water sanitation hygiene (WASH). Methodology: Study design Descriptive cross-sectional study design was used. The schools' preparedness levels were be assessed quantitatively using observation check list while we interviewed a small number of girls and teachers which provided more context to the quantitative data. The interviews explored the participants' perspectives on the experiences of girls in managing menstruation at school. Study setting – Ten were selected randomly for the quantitative arm of the study. Sampling method and size – A total of 10 schools was selected randomly for the quantitative arm of the study and from each school a total of 10 girls with different backgrounds was selected for the qualitative data on hygiene facilities and its effect on the schoolgirls and responsible teacher in each school. Out of 100 students from 10 schools only 88 students responded to survey after resolving the exclusion criteria and 30 teachers. Conclusions: In this study school preparedness among rural adolescent girls is assessed in 10 schools and each school 10 girls are interviewed and among 100 girls excluding criteria is applied and only 88 girls from 16-19 years are interviewed. 30 teachers are interviewed. Out of 10 schools only 3 schools are having school preparedness and 7 schools are not prepared for MHM. Only 3 basic infrastructure facilities are there in all schools and 9 infrastructure facilities are not there in schools. Government is giving importance to MHM but not implemented.

KEYWORDS: Menstrual Hygiene Management (Mhm), Adolescents.

How to Cite: K. Ravi kanth, Makineni Ashok Chakravarthy, P. Raga Deepthi, Malladi Nookaraju, Surala Krupa Sravanthi, (2025) School preparedness on menstrual hygiene management among rural adolescent girls - A school based cross sectional study, Vascular and Endovascular Review, Vol.8, No.12s, 91-103.

INTRODUCTION

The World Health Organization (WHO) defines "adolescents" as individuals in the 10-19 years age group, the period between childhood and adulthood[1]. Menstrual hygiene management (MHM) is personal hygiene practices during menstruation which starts with the choice of the best sanitary materials, their proper use, disposal, and body cleanliness[2]. Inadequate MHM among adolescent girls is a public health problem, mainly in low and middle-income countries[3]. India has over 355 million menstruating women and girls, but millions of women across the country are uncomfortable and undignified experience with MHM[4].Menstrual hygiene is frequently seen as a multi-sectorial problem that calls for coordinated action from the departments of education, health, women's and child development, and water sanitation hygiene[5] (WASH).

MHM-friendly basic infrastructure, such as separated toilets, bathroom facilities, as well as water and soap for personal hygiene for female students and teachers is now included in World Vision's school water, sanitation and hygiene (WASH) programmes. We have seen the government make more efforts in recent years to address this public health concern. Menstrual hygiene promotion became formally included as a key responsibility of community health workers (Accredited Social Health Activists; ASHA) with the launch of the National Rural Health Mission in 2005. This was followed by the implementation of a menstrual hygiene promotion programme for girls in rural areas in 2011[6].When the Ministry of Drinking Water and Sanitation established guidelines on MHM in 2015, another milestone was reached[7].

This problem still lacks the financial resources, practical recommendations to operationalize MHM in schools, and instructional support from health professionals. Lack of water, sanitation, disposal facilities, seclusion, and continued social taboos are a few of the obstacles to creating a supportive atmosphere for safe and hygienic menstrual practises on school grounds[8]. Together, these

systemic issues have a negative effect on adolescent girls' sexual and reproductive health outcomes as well as their ability to make decisions and take personal responsibility[9]. This demands a more comprehensive approach to make schools menstrual hygiene friendly and prevent school dropouts or absenteeism and there is no such study in the rural area we chose. The essence of this study is to assess the basic schools' preparedness for MHM in that area

The purpose of the study is to evaluate schools' readiness for MHM. Although there is literature on hygienic facilities in schools, it is not yet available to guide the creation of policies. The study advances knowledge of the difficulties menstruation schoolgirls faces as a result of subpar facilities for personal hygiene. The survey also showed that most of the schools in the area were unprepared for MHM.

Aim:

1. This study aims to investigate schools' preparedness of Menstrual Hygiene Management among rural adolescent school going adolescent girls.

OBJECTIVES:

1 To assess the preparedness of schools in menstrual hygiene management.
2. To assess the preparedness of teachers towards menstrual hygiene management.
3. To assess the Menstrual Hygiene Management practices among school going adolescent girls.

METHODOLOGY:

Study design – Descriptive cross-sectional study design was used. The schools' preparedness levels were be assessed quantitatively using observation check list while we interviewed a small number of girls and teachers which provided more context to the quantitative data. The interviews explored the participants' perspectives on the experiences of girls in managing menstruation at school.

Study setting – Ten were selected randomly for the quantitative arm of the study
Sampling method and size – A total of 10 schools was selected randomly for the quantitative arm of the study and from each school a total of 10 girls with different backgrounds was selected for the qualitative data on hygiene facilities and its effect on the schoolgirls and responsible teacher in each school. Out of 100 students from 10 schools only 88 students responded to survey after resolving the exclusion criteria and 30 teachers.

Data collection tools & techniques: Checklist is self-developed and used to assess the MHM preparedness in schools. Using observations, the items on the checklist were looked out for in each school. We also contacted the School Health Education Programme coordinator of each school, who took us to specific hygiene facilities for observation. Data was collected using an observational checklist, in-depth interviews (IDI). IDIs are a powerful technique in bringing out personal experiences and have been used in qualitative exploration on menstruation[10]. IDIs are chosen to learn of individual experiences while managing menstruation and to draw out feelings and behavioural and cultural practices. It will be conducted using an IDI guide among school girls. The interviews lasted between 20 min and 30 min. The students were asked to choose a convenient place and time in their schools for the interview to ensure that, the girls are focused and without distraction in the course of the interview. Field notes books and a recorder were used in collecting the qualitative data. Respondents body language was also be observed in their response to the questions. Based on the responses, the respondents were asked to reveal more information. Permission was obtained from the participants to audio tape the interviews. The interviews were conducted by trained woman undergraduate doctors in Telugu & English. Before the start of the interviews, the interviewers will engage participants to get to know about them and note their body language which is essential to reduce interviewer and interviewee biases. After each section with the participants, the interview is played back to the participants to confirm their responses. This was necessary to ensure that the interview is complete and carries the intention of the respondents. Thereafter a code is assigned to each recording at the end of a session to ensure anonymity. Data was stored on a secured Google drive that was accessible to only authors. The interviews were then transcribed verbatim.

Study period – 2 months – September, October
Data processing and analysis: Thematic analysis was used to analyse the information from all of the interviews for the qualitative data. This procedure involves reading through the transcripts thoroughly for familiarization which helps us in identifying key themes and codes which was then entered into codebook. Themes from the transcripts were coded using SPSS a qualitative software analysis tool, and any new codes or themes that emerged were put to the codebook. Data was compared within and across cases, as well as between and within sources, using indexing. Quantitative data was analysed using Microsoft Excel. Descriptive statistics such as frequencies and percentages was generated and presented using tables and graphs.12 observations were used to calculate schools' preparedness on MHM Citing any of these items in a school was awarded a point and absence of any items was awarded 0. A total of 12 points was realised, thus if a school had 6 and above points (thus 50% and above), it was described as high preparedness towards MHM while less than 6 (thus <50%) was classified as low preparedness towards MHM.

Inclusion criteria

1. Adolescent school girls age between 9-15
2. Those who have attained menarche
3. Those who are willing to participate

Exclusion criteria

1. Those who are absent to the school on the day of the visit
2. Those who are not willing to participate
3. Teachers who are present and willing to participate.

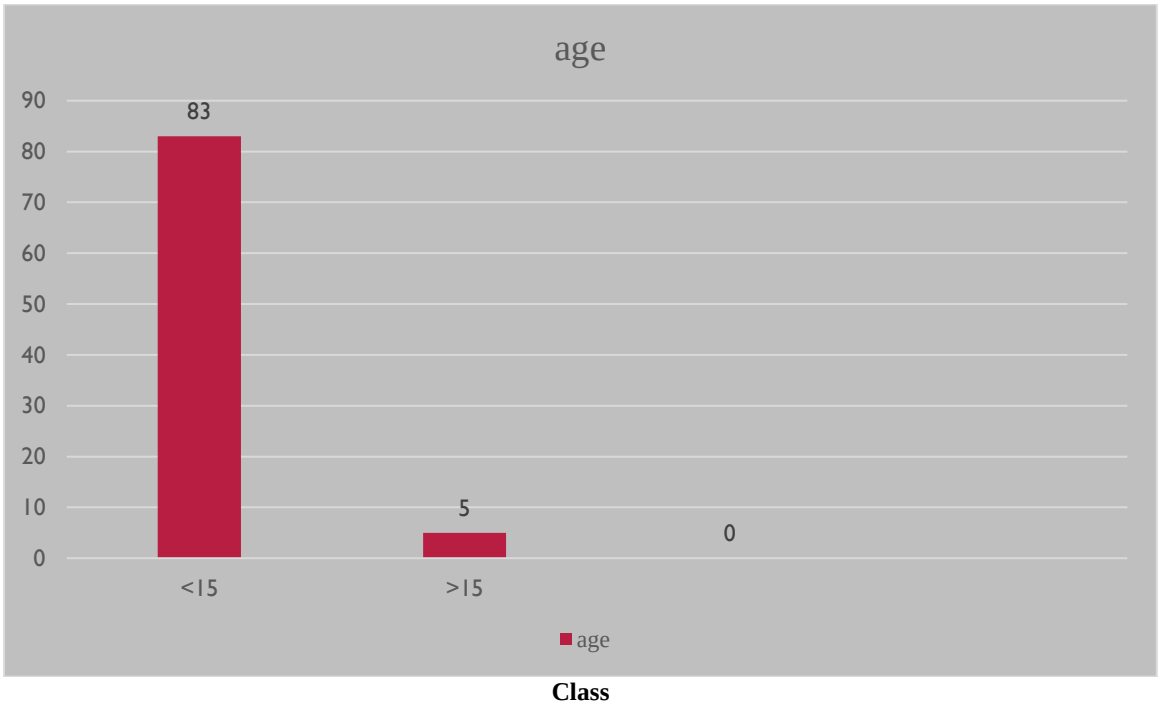
Ethical consideration: It is obtained from institutional ethical committee. Permission from the head of the institution has taken.
Informed Assent: Written informed consent was obtained from key informants with assents obtained
Informed consent: Written informed consent was obtained from parents and teachers

OBSERVATION AND RESULTS:

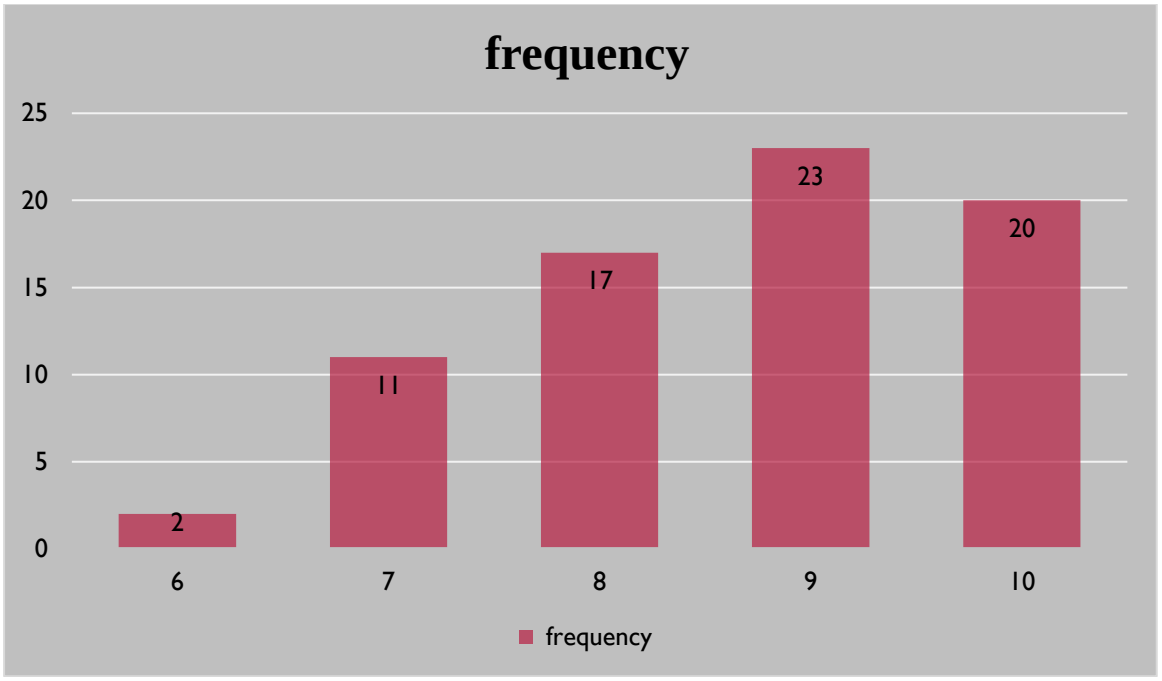
Table 1 : Socio demographic characteristics:

Characteristics	Categories	Frequency	Percentage
Age	>15 <15	5 83	5.7% 94.3%
Area of residence	Rural Urban	86 2	97.7% 2.3%
Religion	Hindu Muslim Christian	60 11 17	68.2% 12.5% 19.3%
Class	6^{th} 7^{th} 8^{th} 9^{th} 10^{th}	2 11 17 23 35	2.3% 12.5% 19.3% 26.1% 39.8%
Occupation of parent	Farmer Mechanic Painter Electrician	25 20 23 20	28.4% 22.7% 26.2% 22.7%
Socio economic status	Low Upper middle Lower middle	20 25 43	22.7% 28.4% 48.9%

Table 1 shows the socio-demographic characteristics of the study participants. Out of the 88 respondents, the minimum age was 11 years and the maximum age was 19 years. The mean age is 13.35 with a SD 2.14 of with the modal age of 13. Most of them 97.7% belongs to rural area of which 68.2% are Hindus



Class



Hygiene infra structure in basic schools:

Table 2: Menstrual hygiene infrastructure in rural schools

S.No	Variables	Categories	Frequency	Percentage
1	Is there waters source available in school	Yes No	10 0	100% 0%
2	Is the water source functional	Yes No	6 4	60% 40%
3	Is the school under WASH programme	Yes No	4 6	40% 60%
4	Is the soap regularly used for hand washing	Yes No	4 6	40% 60%
5	Is there any incinerator located in school premises	Yes No	2 8	20% 80%
6	Do the boys share same urinals/latrines as the girls	Yes No	0 10	0% 100%
7	School has designated place for changing sanitary napkins	Yes No	4 6	40% 60%
8	Is the designated place accessible during menses	Yes No	4 6	40% 60%
9	Is the designated place clean	Yes No	0 10	0% 100%
10	Are the waste bins available in school	Yes No	8 2	80% 20%
11	Are waste bins emptied regularly	Yes No	2 8	20% 80%
12	Is there any absorbent material available in school	Yes No	2 8	20% 80%

Schools' preparedness for MHM practices (index)

High preparedness for MHM - 3
Low preparedness for MHM – 9. The above data show that only 30% of basic schools in the WGM are prepared towards MHM. All the 10 schools had water source available but they were functional only in 6 schools. Only 3 infrastructure facilities are present in all 10 schools and 9 infrastructure facilities are not present in all schools only 3 schools are prepared for MHM. Most of the schools had no hygiene facilities. Also, majority (60%) of the schools have no soap for regular hand washing. In 100% of the school, girls and boys had a separate washroom. It was also observed that only 20% of schools had absorbent materials in stock for emergency use at the time of this study. Only 4 schools out of 10 had designated place but in 6 schools, the designated place was not accessible because the doors and windows of that place were destroyed. In all the 10 schools the designated place for changing sanitary napkins was not at all clean. In all the 10 schools, there were waste bins to collect the used sanitary napkins/materials.

Qualitative data: All of the participants said that schools have proper restrooms, urinals, and spaces set out for changing sanitary napkins. The girls who are menstruating find it while attending school when these facilities are not available. They usually stay at home during menses till it finishes because they can't be sure of their privacy during this time. This also has a significant impact on participation in class activities and contact hours.

Availability of hygiene facilities in basic school
Almost every participant agreed that their schools lack proper urinals/latrines, absorbent supplies for emergencies, and a space set out for changing pads. There are different urinals and latrines for both boys and girls but some of us usually have to use the bush at break time; otherwise, we won't have enough room, and it will be time to return to class.

About two participants said that they merely toss away used absorbent material because there are no dustbins for it. The first three (3) days of my menstrual cycle are usually the heaviest. I occasionally change more than three times in a single day. Because of this, it becomes quite difficult to dispose of sanitary pads at my school, even if you have your own. This is a result of the school's lack of trash cans. Unfortunately, I believe that discarding sanitary pads is against our culture. Because of this, I occasionally have to bring my used menstruation products back home for appropriate disposal… (16-year student)

Privacy and latrines cleanliness Girls found it challenging to practise good hygiene during their periods because the school's restrooms were compact and had little room. Without a door or lock, these latrines are not private and don't seem secure. A few girls expressed their preference to hold off on changing their sanitary pads until they reached home. Teachers found that most girls preferred to stay home during their periods so they could change in comfort, but those who decided to go to school would beg to use the clean, private restrooms provided by the teachers there are no doors on the school restrooms, thus you cannot change a menstruation pad there because someone can see you when you are inside… (IDI, Girl) there are no doors for the latrines. Perhaps we could have some doors instead. Particularly for the girls, so that they can lock up while they are inside… (Female teacher)

Absence from school activities
The majority of girls stated that they avoid going to school during their menstruation for the reason they might have a "menstrual accident" and ruin their uniform because of the poor quality of sanitary napkins. Teachers and girls reported that these stains made girls feel very embarrassed. i occasionally find myself having my period without any suitable period supplies, such as pads. I therefore make sure not to attend school because I bleed heavily for three days. And I skip three days of school because i don't want to embarrass myself in front of my classmates! I continue the next day after finishing my periods… (14-year girl in IDI)
The school's disciplinary policy does not favour girls who do not wear uniforms. Some girls wear "improper" clothes (stained uniforms) to school because of fear of receiving punishments like caning or other harsh measures for breaking the regulations.
I have only one uniform with me. I therefore cannot go change and return to school right away if my uniform gets dirty because my outfit has to be washed and dried. Wearing "improper" clothing to school is forbidden; I risk being caned by the teachers. I even miss more than three days of school depending on my menstrual cycle in order to avoid embarrassment… (14-year girl in IDI)

Involvement in class activities
10 participants said they are unable to participate in class activities when they are menstruating for fear that their male counterparts may make fun of them.

I feel very uncomfortable when I am menstruating while in class. If the male counterparts come to know, they would tease us till we leave the class. .... *(18 years old student*) Some of the teachers would require that we stand when we need to answer or ask a question. This lowers the self-confidence among the menstruating girls and prevents us from contributing in class as explained by a 19 years old student below: our teachers do not like us sitting while answering questions in class. This may further expose us if our uniform is already soiled. To prevent this, we just choose to take permission and go home to avoid our teacher saying you do not respect. In addition, for me I do not want to even contribute or ask questions since that can expose me… (*19 years old student*).

Knowledge, perception and practice of menstruation:

Table 3: Knowledge

S.NO	Variable	Characteristics	Frequency	Percentage
1.	Age at menarche	10 11 12 13 14 15	1 15 32 22 14 4	1.1% 17% 36.4% 25% 15.9% 4.6%
2.	When you hear the word menstruation, what goes through your mind?	Pain/cramps Fear Blood Normal	30 24 24 10	34% 27.3% 27.3% 11.4%
3.	Cause of menstruation	Shedding of uterine lining Curse of God Disease	82 4 2	93.2% 4.5% 2.3%
4.	Who told you about menstruation	Mother Sibling Friend Teacher Grandparents	52 4 20 7 5	59.1% 4.5% 22.7% 8% 5.7%
5.	What did they tell you about menstrual cycle?	Natural event Painful Curse of god	52 30 6	59% 34% 7%
6.	Duration of the cycle	5 days 7days 3days	50 20 18	56.8% 22.7% 20.5%
7.	Regularity of the menstrual cycle	Every month 3months 6months Irregular	76 4 1 7	86.4% 4.5% 1.1% 8%
8.	Any associated symptoms	Weakness nausea vomiting breast tenderness,	55 3 20 10	62.5% 3.4% 22.7% 11.4%

82 out of 88 girls i.e, 93.2% stated during the interviews that the cause of the menstruation is the shedding of uterine lining and only 6 out of 88 girls i.e, 7% of the study population feel that menstrual cycle is a curse of God

AGE AT MENARCHE

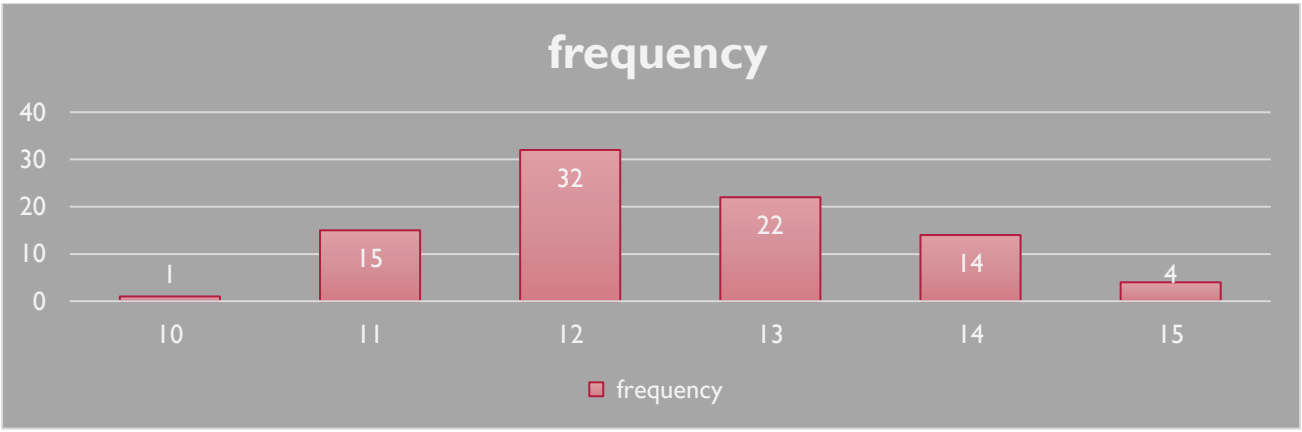


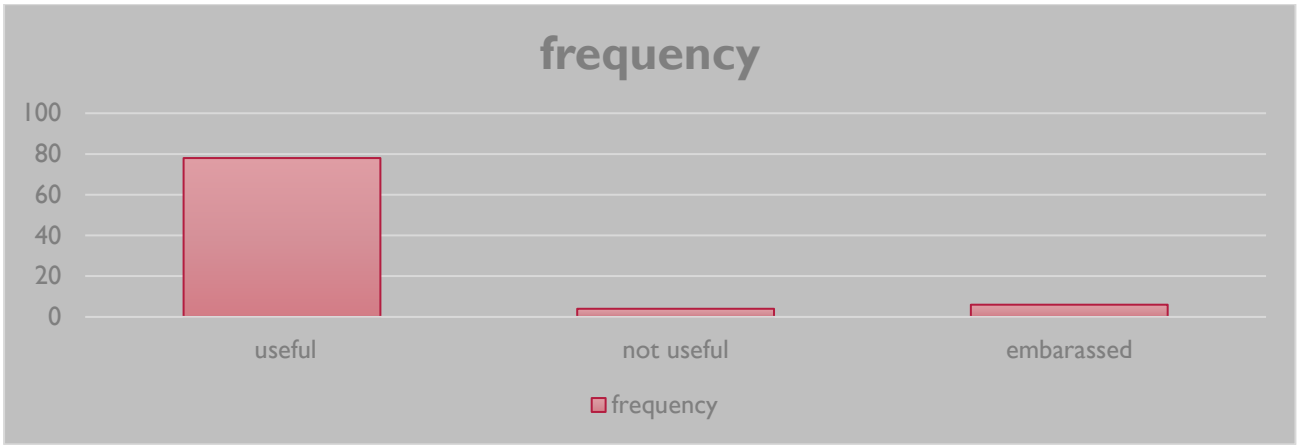
Table 4:Perception

S.NO	Variables	Characteristics	Frequency	Percentage
1.	How do you feel about advertisements of sanitary napkins?	Useful Not useful Embarrassed	78 4 6	88.6% 4.5% 6.8%

2.	What do you feel about absorbent?	Comfortable Not comfortable Expensive Unhygienic	70 9 8 1	79.5% 10.3% 9.1% 1.1%

About 6 girls still feel they are embarrassed about the advertisements of sanitary napkins but 78 out of 88 i.e, 88.6% girls that the advertisements are useful. That means, there are still certain section of girls who feel awkward about menstruation which is quite normal. That means the term menstruation needs to be sensitised among the girls.

FEELING ABOUT ADVERTISEMENTS ON SANITARY PADS



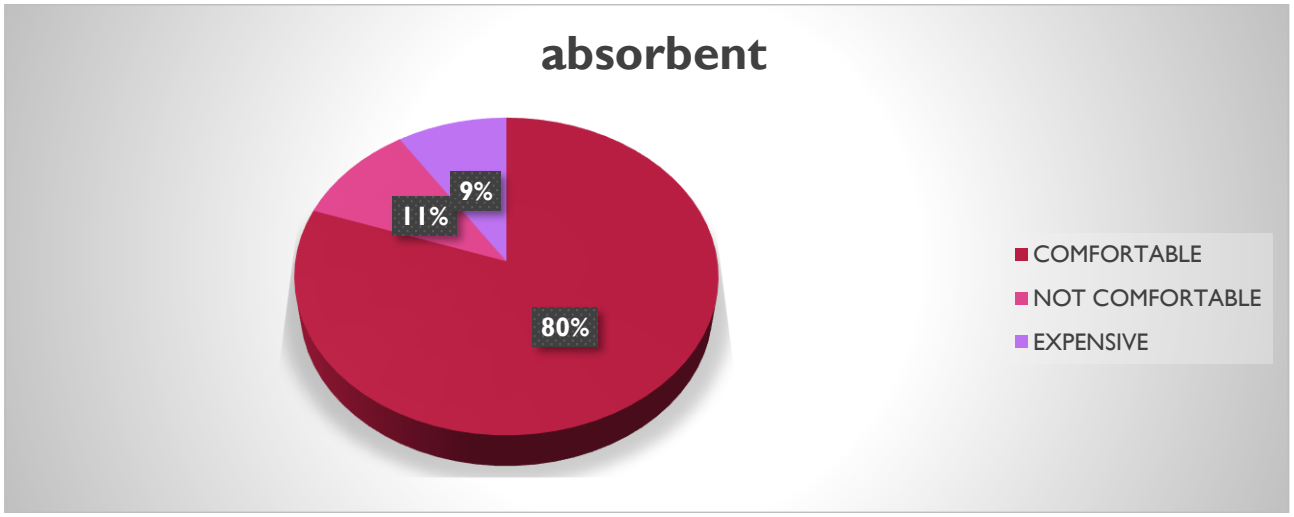
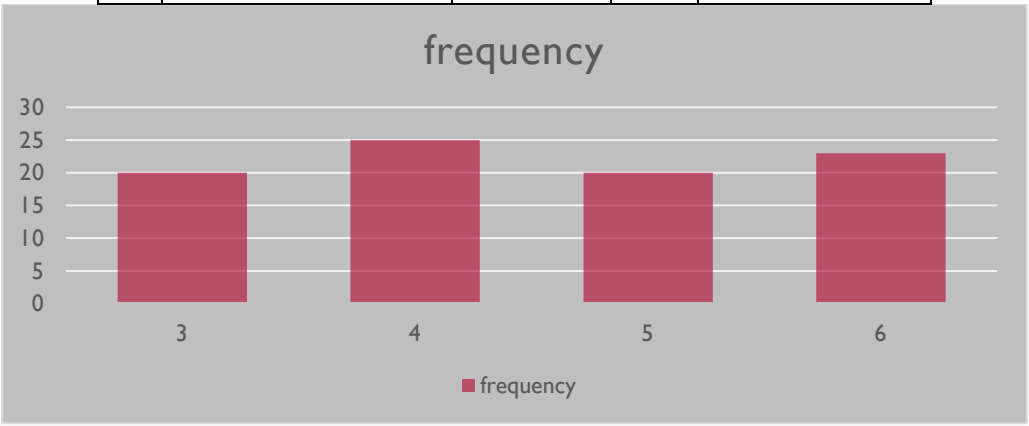


Table 5 Practice:

S. No	Variables	Characteristics	Frequency	Percentage
1	What materials do you use?	Pads Re usable napkins	66 22	75% 25%
2	Are you able to calculate your menstrual cycle?	Yes No	84 4	95.5% 4.5%
3	No. of times absorbent being changed?	3 4 5 6	20 25 20 23	22.7% 28.5% 22.7% 26.1%
4	How do you dispose the used pads?	Bathroom Public dustbin Bury Burn	24 44 10 10	27.3% 50% 11.4% 11.3%
5	Do you use re-usable napkins?	Yes No	22 66	25% 75%

6	Do you wash your hands after disposal of pads?	Yes No	58 30	65.9% 34.1%
7	How do you clean genitalia?	Water Water and soap	9 79	10.2% 88.6%
8	Place of drying absorbent	Inside Outside	18 4	81.8% 18.2%
9	Does someone else purchase sanitary napkins for you or do you buy them?	Yes No	81 7	92% 8%



NO. OF TIMES ABSORBENT CHANGING

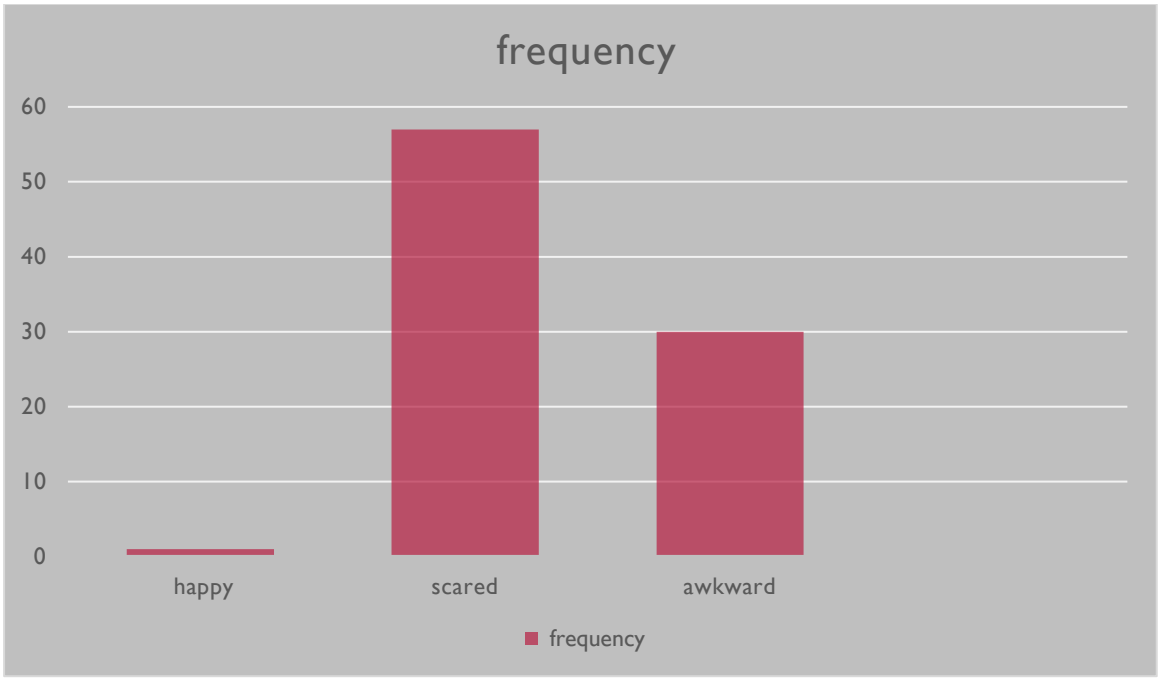
Though 82 (93.2%) are well aware of the cause of menstruation, only 75% of them use readily available sanitary napkins. Though re-usable sanitary napkins are more hygienic and eco-friendlier, considering the study setting hailing from rural area, hygienic practices, their personal sanitation and their socio-economic status, about 22 girls i.e., 25% use re-usable pads who will be more prone to gynaecological disorders like menorrhagia, dysmenorrhea, fungal infections, Pelvic inflammatory diseases. From the study sample, it is evident that 23 girls, i.e., 26.1% change their napkins 6 times a day which might be due to menorrhagia. Out of the 22 girls, who use re-usable napkins, 18 of them i.e, 81.8% dry them inside which lacks sunlight and result in improper drying of the napkins which result in many fungal infections. Also, the practice of washing hands after disposal of napkins in school is followed by 65.9% only as the water source which is available is not functional for the remaining 30 girls in a school.

Table 6 Emotion:

S.NO	Variable	Characteristics	Frequency	Percentage
1.	How did u feel when you got your 1st period?	Happy Scared Awkward	1 57 30	1.1% 64.8% 34.1%
2.	How did you feel about going to school while menstruating?	Lazy Uncomfortable Fear of staining	8 25 55	9.1% 28.4% 62.5%

Majority of the girls in the present study are scared to come to school fearing they would stain their clothes during menstruation i.e, about 62.5% which might be due to various reasons like lack of water Source or use of re-usable napkins or cloth napkins

FEELING ABOUT MENARCHE



FEELING ABOUT GOING SCHOOL WHILE MENSTRUATING

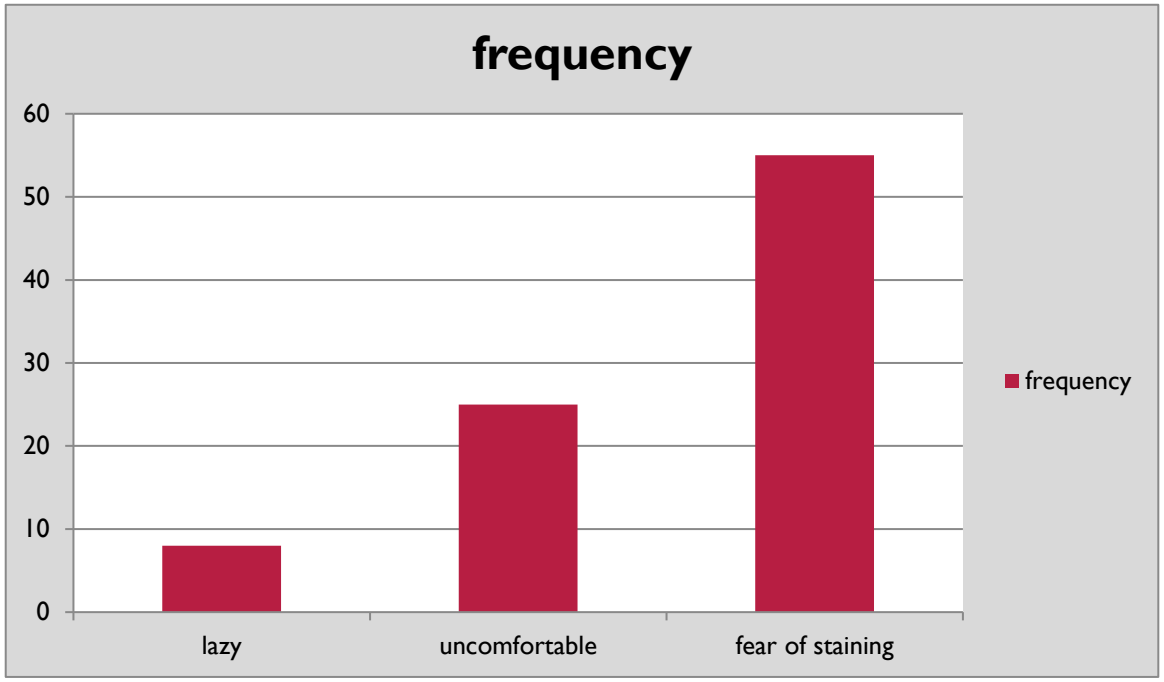


Table 7 Social support :

S.NO	Variable	Characteristics	Frequency	Percentage
1.	Did anyone help you for 1st time?	Yes No	68 20	77.3% 22.7%
2.	Did you keep it as a secret when you got your 1st period?	Yes No	68 20	77.3% 22.7%

Around 77.3% has got help from their family or acquaintances when they got their period for the first time.

Table 8 Cultural aspects during menstruation:

S.NO	Variables	Characteristics	Frequency	Percentage
1.	Did you perform any traditional acts during your menstruation?	Yes No	70 18	79.5% 20.5%
2.	Who performed them?	Parents Relatives Grandparents	44 20 24	50% 22.7% 27.3%
3.	Restrictions during menstruation?	Not to go temples Do not touch clothes Not go to kitchen Separate sitting	24 10 20 34	27.3% 11.4% 22.7% 38.6%

Table 9 ASSESSMENT OF MHM AMONG TEACHER:

S.NO	Variables	Characteristics	Frequency	Percentage
1.	Is reproductive/sexual health part of curriculum?	Yes No	30 0	100% 0%
2.	which class onwards sexual health is taught in classes?	5 6 7 8	5 10 15 0	16.7% 33.3% 50% 0%
3.	who is responsible for providing the information?	Teachers Parents	10 20	33.3% 66.7%
4.	Are boys and girls taught together about menstrual hygiene and health?	Yes No	6 24	20% 80%
5.	Are teachers comfortable about teaching menstrual hygiene?	Yes No	9 21	30% 70%
6.	Do males and females feel differently while teaching menstruation?	Yes No	22 8	73.3% 26.7%
7.	Do you recognise any difference in attendance between girls and boys?	Yes No	20 10	66.7% 33.3%
8.	what to do to increase attendance rates of girls?	Sanitary facilities Friendly teaching Support and care	12 8 10	40% 26.7% 33.3%
9.	In some school, girls are teased if they know they are menstruating?	Yes No	23 7	76.7% 23.3%
10.	what are most common causes for low attendance rates in girls?	Health problems Personal problems Menstrual cramps	2 18 10	6.7% 60% 33.3%

According to the teachers who were interviewed, only 10 teachers feel that it is their responsibility to provide information about menstruation and 20 feel its parents responsibility and only six members, i.e., 20% teach about menstrual hygiene to both boys and girls together and this might lead to lack of sensitisation of the topic menstruation which in turn leads teasing of girls by boys if they come to know about menstruating. Also, only nine teachers are comfortable teaching about menstrual hygiene to children. Also, 60% of teachers think the most common causes for low attendance rates in girls is because of personal problems.

DISCUSSION:

The study's objective is to evaluate schools' readiness for MHM. Although there is literature on hygienic facilities in schools, it is not yet available to guide the creation of policies. The study advances knowledge of the difficulties menstruation schoolgirls face as a result of subpar facilities for personal hygiene. The survey also showed that most of the schools in the area were unprepared for MHM**.**

The study states that only 3 infrastructure facilities are present in all 10 schools and 3 schools are prepared for MHM. There is a maximum of 10 bathrooms in a school and an average of 6 restrooms. Based on the number of students enrolled in each school,

the washrooms are deemed insufficient. This is consistent with the opinion of Loughnan et al.29, who stated that over half a billion women and girls are unable to manage their menstruation in private due to insufficient or non-existent access to washrooms (toilets or latrines).

All of the girls stated in the in-depth interviews that their schools have separate urinals and latrines for boys and females. This is in contrast to, Montgomery et al.[25] found that the majority of girls use the same urinals and toilets as boys and Wendland[26] asserted that there is often not enough toilets or urinals for all pupils and no separate facilities for urinals for girls and boys in schools In the current study that all the three schools had inadequate toilets and urinals. Some girls who were interviewed revealed that due to the limited number of these latrines and urinals, they are sometimes forced to use the bush. This is in accordance to the study conducted in Accra, Ghana, in particular, Sommer *et al*,[27] reported insufficient toilets and inadequate privacy measures in toilets at public schools.

This assertion confirms that although there are separate facilities (toilets and urinals), there are no strict regulations on the usage, so it is usually used based on convenience.

It was observed that 5.7% girls said that their schools have unhygienic facilities i.e, the waste bins are not emptied regularly.

It was also revealed that, 77.3% said there is no designated place accessible during menses. So, most of the girls who stay near their schools had to ask permission to go home to change their used pads or to wash their soiled dresses.

It is crucial that there be a water supply on school grounds so that students may easily obtain water for drinking and hand washing[11], as well as to promote menstrual hygiene practices[12]

This study revealed that all the 3 schools had available source of water but 11.4% said the water source which is available is not functional at all.

Adequate hygienic infrastructure, clean water sources for washing and cleaning, the use of appropriate sanitary products, and facilities for changing during menstruation particularly during school hours are all essential components of good MHM practice[13]. The study further revealed that only 22.7% girls had designated places for changing sanitary napkins during menses. This finding is better than the findings of studies in primary schools in Niger and Burkina Faso which showed that there were no MHM facilities in schools.[14]

However, the current finding 22.7% is slightly lower than the 33% of girls who do not have designated and isolated places for changing during menses in Malawi.[15]

Moreover, the United Nations and UNICEF claim that the lack of hygienic facilities for girls reaching puberty is a significant contributing factor to the poor enrolment of girls in schools (1:5) compared to boys (1:6)[16].

Almost all girls (92%) have soap for regular washing of hands. This finding is in contrast with studies which reported that there were no soaps in schools for hand washing in Ghana[17]. The supply of menstrual sanitary materials together with soap and water availability promotes hygienic and healthier behaviours, while deficient or no access to these hygiene facilities pushes girls into not washing their hands and consequently practicing poor MHM in public school[18].

The practice of proper hand washing could go a long way to prevent other diarrhoeal infections as well[19]. The absence of these facilities therefore exposes not only the girl child but the entire students to fall into ailments.

This study revealed that girls are typically very sedentary during their periods due to the way their male peers treat them once they find out. This conclusion is based on research done in India, which revealed that boys' perceptions of menstruation female make them afraid to participate in class[20].

A study showed that sanitary facilities, information and/or absorbent materials when absent or limited in a school, the menstruating girls find it very difficult to manage themselves and hence they may become distracted and unable to focus in class[21]. As a result, girls may stop participating in class, distance themselves, or experience social exclusion from their peers. Some may feel so uncomfortable that they decide to completely skip school and stay at home. Regarding the above mentioned, some school girls miss class when they are menstruating. Numerous studies show that because of subpar facilities in schools, girls who attend school are typically absent during their menstrual cycle, which may have an impact on their life in the future[22]. According to this study, these students skipped class because of the inadequate menstrual hygiene facilities and their fear of being embarrassed because of menstrual flow leaks. This is consistent with Arya and Ambily's findings from Kannur District, India, which said that unclean restrooms and a lack of private spaces for girls are to blame for a higher school dropout rate[23].There is significant increase in Knowledge regarding menstruation in the present study. This result is consistent with research by Mohammed and Emam[24], Tegegne[25], et al., which found that health education increased the understanding of the hormonal changes causing menstruation and the uterus as the source of monthly bleeding. The above data show that only 30% of basic schools in the WGM are prepared towards MHM. All the 10 schools had water source available but they were functional only in 6 schools. Only 3 infrastructure facilities are present in all 10 schools and 9 infrastructure facilities are not present in all schools only 3 schools are prepared for MHM. Most of the schools had no hygiene facilities. Also, majority (60%) of the schools have no soap for regular hand washing. In 100% of the school, girls and boys had a separate washroom. It was also observed that only 20% of schools had absorbent

materials in stock for emergency use at the time of this study. Only 4 schools out of 10 had designated place but in 6 schools, the designated place was not accessible because the doors and windows of that place were destroyed. In all the 10 schools the designated place for changing sanitary napkins was not at all clean. In all the 10 schools, there were waste bins to collect the used sanitary napkins/materials.

Girls found it challenging to practise good hygiene during their periods because the school's restrooms were compact and had little room. Without a door or lock, these latrines are not private and don't seem secure. A few girls expressed their preference to hold off on changing their sanitary pads until they reached home. Teachers found that most girls preferred to stay home during their periods so they could change in comfort, but those who decided to go to school would beg to use the clean, private restrooms provided by the teachers.

From the study sample, it is evident that 23 girls, i.e, 26.1% change their napkins 6 times a day which might be due to menorrhagia. Out of the 22 girls, who use re-usable napkins, 18 of them i.e, 81.8% dry them inside which lacks sunlight and result in improper drying of the napkins which result in many fungal infections.

Also, the practice of washing hands after disposal of napkins in school is followed by 65.9% only as the water source which is available is not functional for the remaining 30 girls in a school.

This survey also showed that menstrual hygiene was covered in the curriculum for several of the courses taught in the schools (social studies, integrated science, for example). It is important to remember that pre-menstruation education covers a lot of the much-needed advancements in girl education that are taught at lower educational levels. With improved holding and grade advancement for females in many countries, there is a global increase in the education of girls in the community. Even though menstrual hygiene management (MHM) is included in the curriculum, it was discovered that not all teachers had participated in workshops on the subject and that schools lack MHM teaching resources. The majority of girls reported that some teachers avoided talking about menstruation in class, and that boys show anxiety when the subject is brought up.

SUMMARY & CONCLUSIONS

In this study school preparedness among rural adolescent girls is assessed in 10 schools and each school 10 girls are interviewed and among 100 girls excluding criteria is applied and only 88 girls from 16-19 years are interviewed. 30 teachers are interviewed. Out of 10 schools only 3 schools are having school preparedness and 7 schools are not prepared for MHM. Only 3 basic infrastructure facilities are there in all schools and 9 infrastructure facilities are not there in schools. Government is giving importance to MHM but not implemented.

In study setting, MHM facilities & practises in schools are subpar. The government has created national standards covering every facet of an MHM-friendly institution. But there is a lack of effective implementation in practise. The majority of research on MHM in schools focuses on observational studies to evaluate girls' MHM knowledge and behaviours. Furthermore, there is little research on the other areas, which include management information, teacher knowledge assessment, and waste management.

There is a lot of room for incorporating different menstrual health education curricula or non-curriculum-based initiatives, and schools are a great place to share MHM knowledge. Making the current infrastructure menstruation hygiene-friendly must be the top priority for all schools, whether they are public or private. The programme might be easily implemented in all the schools by management committees. Improved menstrual health outcomes could be achieved by combining the increased motivation by small and medium-sized businesses, and non-governmental organisations.

The biggest obstacle that came up during the study's fieldwork was that, although meeting the inclusion requirements, several of the girls were reluctant to take part in the current investigation. This can emphasise even more how delicate the subject is in our culture. Lastly, despite efforts to limit it, reporting bias cannot be excluded out because the respondents self-reported their menstrual hygiene practises.

However, the study shed light on how ready the institution was for MHM given the context.
Policymakers may find it useful to strategize focused efforts in this direction with the aid of cutting-edge scientific discoveries and creative solutions from MHM programmes. Furthermore, extending MHM accountability from the ministries of health and sanitation to other departments will support multilateral improvements in the nation's menstrual hygiene standards.

We require more research studies with a wider range of approaches to gain a better understanding of the issues surrounding MHM for teenage girls attending school and the effects of MHM therapies.

The results of this study demonstrated that these schools lacked the necessary resources to effectively implement MHM. This might be a significant blow to the municipality's young girls' health and educational outcomes as well as the government's attempts to achieve the Sustainable Developmental Goals (SDG).

REFERENCES

1. Adolescent health [Internet]. Who.int. [cited 2023 Nov 8]. Available from: https://www.who.int/health-topics/adolescent-health
2. Unicef E. WASH in schools empowers girls' education proceedings of the menstrual hygiene management in schools

virtual conference 2013 III UNICEF and centre for global safe water. New York; 2013.
3. Sommer M, Sahin M. Overcoming the taboo: Advancing the global agenda for menstrual hygiene management for schoolgirls. Am J Public Health [Internet]. 2013;103(9):1556–9. Available from: http://dx.doi.org/10.2105/ajph.2013.301374
4. Menstrualhygieneday.org. [cited 2023 Nov 8]. Available from: http://menstrualhygieneday.org/wp-content/uploads/2016/04/FSG-MenstrualHealth-Landscape_India.pdf
5. Keatman T, Cavill S, Mahon T. Menstrual Hygiene Management in Schools in South Asia, Synthesis Report; Water Aid. Synthesis Report; Water Aid Synthesis Report. 2018;
6. Training Module for ASHA on Menstrual Hygiene. National Rural Health Mission. New Delhi, India; 2011.
7. Ministry of Drinking Water and Sanitation. Menstrual Hygiene Management, National Guidelines; Ministry of Drinking Water and Sanitation. New Delhi, India; 2015.
8. Mahon T, Fernandes M. Menstrual hygiene in South Asia: a neglected issue for WASH (water, sanitation and hygiene) programmes. Gend Dev [Internet]. 2010;18(1):99–113. Available from: http://dx.doi.org/10.1080/13552071003600083
9. Sommer M, Sutherland C, Chandra-Mouli V. Putting menarche and girls into the global population health agenda. Reprod Health [Internet]. 2015;12(1). Available from: http://dx.doi.org/10.1186/s12978-015-0009-8.
10. 10. Tiu Wright L. Exploring the in-depth interview as a qualitative research technique with American and Japanese firms. Mark Intell Plan [Internet]. 1996;14(6):59–64. Available from: http://dx.doi.org/10.1108/02634509610182913.
11. Johnston Molloy C, Gandy J, Cunningham C, Glennon Slattery C. An exploration of factors that influence the regular consumption of water by Irish primary school children. J Hum Nutr Diet [Internet]. 2008;21(5):512–5. Available from: http://dx.doi.org/10.1111/j.1365-277x.2008.00880.x
12. House S, Mahon T, Cavill S. A resource for improving menstrual hygiene around the world. menstrual Hyg matters, water aid. London, UK; 2012.
13. H. Parker A, A. Smith J, Verdemato T, Cooke J, Webster J, C. Carter R. Menstrual management: a neglected aspect of hygiene interventions. Disaster Prev Manag [Internet]. 2014;23(4):437–54. Available from: http://dx.doi.org/10.1108/dpm-04-2013-0070
14. Millington KA, Bolton L. Improving access to menstrual hygiene products. Gov Soc Dev Resour Cent. 2015;
15. Mchenga J, Phuma-Ngaiyaye E, Kasulo V. Do sanitation facilities in primary and secondary schools address Menstrual Hygiene needs? A study from Mzuzu City, Malawi. Phys Chem Earth (2002) [Internet]. 2020;115(102842):102842. Available from: http://dx.doi.org/10.1016/j.pce.2020.102842
16. Tiswin TN. Assessing the availability and utilisation of water, SANlTATION and hygiene (wash) facilities in public primary schools in the ZABZUGU district of Ghana. 2016.and utilisation of water, SANlTATION and hygiene (wash) facilities in public primary schools in the ZABZUGU district of Ghana. 2016.
17. Edu.gh. [cited 2023 Nov 9]. Available from: http://ugspace.ug.edu.gh/handle/123456789/21125
18. Vivas AP, Gelaye B, Aboset N, Kumie A, Berhane Y, Williams MA. Knowledge, attitudes and practices (KAP) of hygiene among school children in Angolela, Ethiopia. J Prev Med Hyg. 2010;51(2):73–9.
19. Wolf J, Hunter PR, Freeman MC, Cumming O, Clasen T, Bartram J, et al. Impact of drinking water, sanitation and handwashing with soap on childhood diarrhoeal disease: updated meta-analysis and meta-regression. Trop Med Int Health [Internet]. 2018;23(5):508–25. Available from: http://dx.doi.org/10.1111/tmi.13051
20. Mason L, Sivakami M, Thakur H, Kakade N, Beauman A, Alexander KT, et al. 'We do not know': a qualitative study exploring boys perceptions of menstruation in India. Reprod Health [Internet]. 2017;14(1). Available from: http://dx.doi.org/10.1186/s12978-017-0435-x
21. Haver J, Long JL. Menstrual hygiene management: operational guidelines. save the children. 2015.
22. Jogdand K, Yerpude P. A community based study on menstrual hygiene among adolescent girls. Indian J Matern Child Health. 2011;13:1–6.
23. Arya M, Ambily AS. Menstrual hygiene management- a study among adolescent tribal girls in Kannur district with special refrefence to Kolayad Grama Panchayath. J Adv Res Dyn Control Syst. 2017;9:978–89.
24. Mohammed E, Emam S. Impact of health education intervention on knowledge and practice about menstruation among female secondary school students in Zagazig City. J Am Sci. 2011;7:147–73.
25. Tegegne TK, Sisay MM. Menstrual hygiene management and school absenteeism among female adolescent students in Northeast Ethiopia. BMC Public Health [Internet]. 2014;14(1). Available from: http://dx.doi.org/10.1186/1471-2458-14-1118