

# Menstrual Hygiene Practices Among Adolescent Girls in Junior High Schools in Selected Communities of Ashanti Region, Ghana

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## Abstract

**Introduction:** Menstruation is a phenomenon unique to the females and menstrual hygiene is still a problem for adolescent girls especially in low and middle income countries particularly when attending school. This issue is insufficiently acknowledged and has not received adequate attention in the reproductive health sectors in developing countries including Ghana and its relationship with the achievement of Sustainable Development Goals (SDGs).

**Objectives:** This study examined the knowledge and practices of menstrual hygiene among adolescent girls, the cultural beliefs that influence menstrual hygiene practices, and the problems adolescent girls face in practicing menstrual hygiene.

**Methodology:** A quantitative research method using descriptive cross-sectional survey design was employed in the study. Using a multi-staged sampling technique, a sample size of 151 adolescents in Juniors High schools who had reached menarche was selected from four (4) schools located in Asamang, Sekyere south District of Ashanti region of Ghana. Data was collected through a researchers' constructed and validated questionnaire titled "Adolescents knowledge and practice of menstrual hygiene questionnaire (AKPMHQ)". Data was analysed using simple frequencies and percentages.

**Results:** The study revealed that 68(45%) of the girls were in the Junior High School three (JHS3) and 88(58.5%) of them ranged between 14-15 years. Most of them (74.2%) had pre-menarche education given by their family members. Most of the parents 94(62.3%) had secondary education. Majority of the girls practiced good menstrual hygiene. Their culture does not exert much influence on their knowledge and practices of menstrual hygiene. However, there were some myths which are not scientifically based. Most of the girls experience some challenges during menstruation such as lower abdominal pain 77(51.0%) and unavailability of facility in school to change during menstruation 61(40.4%).

**Conclusion:** The adolescent girls are knowledgeable about menstrual hygiene and also have good menstrual hygiene practices. However, there exist few cultural practices in the community that may have negative effect on their knowledge and practice of menstrual hygiene in the midst of some physical and social challenges experienced by the adolescents during menstruation.

**Keywords:** Adolescent girls, menstrual hygiene, knowledge, practices, culture

## 1. Introduction

Menstruation is the periodic blood that flows as a discharge from the uterus through the vagina. It occurs as a result of cycle of events in the ovaries which produces changes not only in the uterus but in the female body as a whole. (Fraser & Copper, 2009). It begins between the ages of 11–15 years with a mean of 13years and continuous throughout the child bearing years and ends around age 55years (Aluko et al., 2014). The average length of the cycle is 28days although there are considerable variations among women and monthly cycles. The blood flow last for an average period of 4–5 days and the amount lost is between 50-150ml but the duration and amount also vary from each woman (Fraser & Copper, 2009). Girls in many low- and middle-income countries (LMIC) enter puberty with knowledge gaps and misconceptions about menstruation, unprepared to cope with it and unsure of when and where to seek help. This is because the adults around them, including parents and teachers, are

themselves ill-informed and uncomfortable discussing sexuality, reproduction and menstruation (Lee et al., 2006). The manner in which a girl learns about menstruation and its associated changes may have an impact on her response to the event of menarche. As stated by Rao, Joshi and Kanade, (2009) menstruation is a natural process but it is linked with several misconceptions and practices, which sometimes result into adverse health outcomes. Similarly a study conducted in south eastern Nigeria revealed that up to 44.8% of the adolescent girls had no pre-menarcheal training, which resulted in inappropriate menstrual experiences and poorer menstrual hygiene practice (Aluko et al., 2014).

Effective menstrual hygiene management is vital to the health, wellbeing, dignity, empowerment, mobility and productivity of women and girls. Poor menstrual hygiene may cause stigma and ill health, and can lead to school absenteeism and increased school dropout rates (Poureslami & Osati-Ashtiani, 2002). Hygiene related practices of women during menstruation are of considerable importance, especially in terms of increased vulnerability to reproductive tract infections (RTIs), hence women having better knowledge regarding menstrual hygiene and safe practices are less vulnerable to RTI and its consequences (Phani et al., 2019). Good menstrual hygiene management involves women or adolescent females using clean blood-absorbing materials which can be changed often in a secure place in privacy, after which soap and water are available to wash hand and body as well as having access to secured used sanitary material disposal facility (UNESCO, 2014).

In Ghana a study found that, menstrual hygiene practices among basic school level in urban settings were good with socio-economic factors contributing to the use of good disposable menstrual product (Blessing, 2016). In the contrary, a study by Asimah, Diabene and Wellington (2017) revealed that at school girls were limited in managing their menstrual periods than at home even though there were still societal restrictions on menstrual hygiene methods at home. This limitation was due to the fact that they stayed in the same room with many other children and had anxieties about whether or not they would have menstrual accidents (Asimah et al., 2017). Menstruation has always been surrounded by different perceptions throughout the world. Differences still exist between countries, cultures, religions and ethnic groups. In many low income countries, during menstruation girls are still perceived to be impure, causing the girl under menstruation to nurse feelings of shame and un-cleanliness. Even today menstruation is a secret of mother and daughter, as it is not discussed openly in many families (Ali & Rizvi, 2010). Studies conducted across the world have shown inadequate knowledge and practice of menstruation hygiene among adolescent and pre-tertiary students (Water Aid, 2009). In lieu of this, knowledge, practices and information regarding optimal menstrual hygiene still needs to be explored especially in rural settings. The understanding of these will help to put proper menstrual management measures in place. With this background, the study specifically sought to address the following questions;

- 1) Are adolescent girls in Asamang knowledgeable about menstrual hygiene practices?
- 2) How do the adolescent girls practice menstrual hygiene?
- 3) What are the cultural beliefs that influence menstrual hygiene practices among adolescent girls?
- 4) What problems do adolescent girls face when practicing menstrual hygiene?

## 2. Operational Definition of Terms

**Adolescent girl:** A girl between the ages of 10–18 years

**Junior High School (JHS):** The school level between primary and secondary school

**Menarche:** The first experience of menstruation by a girl

**Menstrual hygiene practices:** Whatever the adolescent girl does to maintain proper hygiene and cleanliness during menses

**Premenstrual Training/Education:** Coaching about menstruation before it starts.

## 3. Materials and Methods

The study utilized a cross-sectional descriptive design. The study was conducted in Asamang, a town in Sekyere South District of Ashanti region. The town has four (4) electoral areas: Aburaso, Ahenbronum, Siawuo and Konya/Brehoma and a total population of about 6,983. It shares boundaries with Agona on the north, on the east with Mampong Municipal Assembly, south with Sekyere East and west with Kona. There are four (4) Basic and Junior High Schools, one senior high School and one University College, as well as a hospital operated by the Seventh Day Adventist Church. The people of Asamang are mostly farmers with few traders and government workers. Majority are also Christians whilst the others are Muslims and traditionalist.

The study population is adolescent girls in junior high schools in Asamang between the ages of 12 and 19 years.

This group was chosen because they might have experienced menarche and therefore will be able to share experiences associated with menstruation. Those students who had attained menarche at the beginning of the study were included and those who were not willing to take part in the study as well as those who had not reached menarche were excluded from the study. The total number of students was 276 with the breakdown as shown in Table 1.

Table 1. Distribution of students based on the four (4) schools selected (N=276)

S/N	SCHOOL	LEVEL	NUMBER OF STUDENTS
1	Asamang D/A	Junior Secondary school (JSS)	32
2	Seventh Day Adventist JSS	JSS	106
3	Amoakohene JSS	JSS	100
4	Presbyterian JSS	JSS	38

Source: Data gotten from accessible population in each school.

The sample size of 151 girls who had reached menarche were selected using the following statistical formula:  $n = Z^2 \frac{p(1-p)}{w^2}$  where:

N=Sample size

Z=Confidence interval

p=Proportion of adolescent girls

w=Margin of error

$$n = (1.96)^2 * (0.1 * 0.9) / (0.05)^2$$

$$n = 3.842 * 0.09 / 0.0025$$

$$n = 0.34578 / 0.0025$$

$$n = 138$$

Attrition rate of 10%=13

$$N = 151$$

The town has four junior high schools. Multi-staged sampling technique was used to select participants for the study. All the four (4) schools were purposely selected, and each school was further stratified based on their sections. For selection of representative numbers of students, the ratio of students in the respective school and class were considered. The sample size was allocated for the schools using population proportion to the sample for each selected school. Finally, proportional number of participants (students) was selected by simple random sampling technique from each class. The sampling frame was obtained from the student registration books of the respective schools. Thus the sample size for the study as drawn from each school are represented below in **Table 2**.

Table 2. Showing the distribution of study sample based on the selected schools (N=151)

Class	SDA	Amoakohene	Presby	D/A	Total
JSS 1	13	10	5	4	32
JSS2	20	16	8	7	51
JSS3	20	24	6	18	68
Total	53	50	19	29	151

Source: field survey.

Data was collected through a researchers' constructed and validated questionnaire titled "Adolescents knowledge and practice of menstrual hygiene questionnaire (AKPMHQ)". The instrument was made up of four (4) sections viz; Section A: covered Socio- Demographic Data of the respondents, Section B: was on Knowledge about menstrual hygiene practice, Section C: examined Practice of menstrual hygiene, Section D: was on Cultural beliefs

infringing on menstrual hygiene practices, while Section E: was on challenges of practice of menstrual hygiene. Face validation was done by experts in test and measurements. Its reliability was assured through reliability test using Chrombach's Alpha method which yielded a high reliability coefficient of 81.0%.

Before the sampling was done, explanation and the purpose of the study were given to the students including the option to participate or withdraw. After this, those who opted to participate signed the consent form and they were given numbers after which the numbers were written on pieces of paper, reshuffled and picked at random. Any girl whose number was picked was selected until the number for that school was selected. The selection was done with replacement giving every student an opportunity of being selected. Before the study, a formal written permission was obtained from District Education Directorate, same presented to the head teachers of the schools. The study instruments were self-administered. On the spot data collection was done by the researchers. Regular verification and validation of data were done with all inconsistencies being checked and resolved. Data collected was analysed using SPSS, version 21.0, and findings presented in frequencies, percentages and bar charts. Institutional Ethical committee approval was obtained before conducting the study. In addition, participation was voluntary, and respondents were assured of confidentiality of the information provided, hence personal identifiers were removed from the data summary.

#### 4. Results

Table 3. Distribution of Study population according to socio-demographic factors

Variable	Number (151)	Percentage
<b>Age</b>		
12 – 13	39	25.8
14 – 15	88	58.3
16 – 17	20	13.2
18 – 19	4	2.6
<b>Religion</b>		
Christianity	133	88.1
Moslem	15	9.9
Traditionalist	3	2.0
Others	0	0
<b>Class of Adolescent Girl</b>		
Form one	32	21.2
Form Two	51	33.8
Form Three	68	45.0

Field survey, 2020.

Table 4. Education and occupation Distribution of Respondents' Parents/Guardians

Variable	Number (151)	Percentage (100)
<b>Education of Parents</b>		
Primary	42	27.8
Secondary	94	62.3
Tertiary	11	7.3
Others (No education)	4	2.6

<b>Occupation of Parents</b>		
Farming	82	54.3
Trading	60	39.7
Teaching	6	4.0
Others	3	2.0

Field survey, 2020.

Table 4 shows that majority 88(58.3%) of the participants aged between 14 and 15 years and only 4(2.6%) were between age 18–19. Out of this, 133(88.1) were Christians and few 3(2%) were traditional worshippers. Sixty eight (45%) of the respondents are in JHS3 and those in JSS 1 were 32 representing 21.2%. The educational background of most of their parents shows that 94(62.3%) attained secondary level education and 4(2.6%) had no education. The occupation of majority 82(54.3%) of their parents was farming and 6(4%) were teachers.

Table 5. Participants' Knowledge about Menstrual Hygiene Practice (N=151)

<b>Variable</b>	<b>NUMBER</b>	<b>PERCENTAGE</b>
<b>Knowledge about menstrual hygiene before menarche</b>		
No	25	16.6
Yes	126	83.4
<b>Source of Information about menstrual hygiene</b>		
Family member	84	55.6
Friend	9	6.0
Teacher	56	37.1
Social media	1	0.7
Friend and Teacher	1	0.7
<b>Knowledge about where Menstrual blood come from</b>		
Uterus	19	12.6
Vagina	109	72.2
Abdomen	6	4.0
No idea	17	11.3
<b>Knowledge of how often a girl should menstruate in a month</b>		
Once every month	127	84.1
Once every other month	5	3.3
Twice every month	16	10.6
Other	3	3.0
<b>Knowledge about menstrual hygiene practice</b>		
1. Bath twice a day	112	74.2
2. Insert your finger in the vagina to clear dead blood	14	9.3
3. Wash hand before and after changing pad	20	13.3
4. Use chemical to bath	5	3.3
<b>Were you given any premenstrual training before menarche</b>		
Yes	112	74.2
No	39	25.8

**Duration of menstrual flow**

Less than 3 days	8	5.3
4-5 days	97	64.2
More than 7 days	46	30.4

Field survey, 2020.

Table 5 shows that respondents had good knowledge of menstrual hygiene practices. Out of 151 respondents, 126(83.4%) indicated that they had knowledge about menstrual hygiene before menarche. For 84 (55.6%), the information about menstrual hygiene was given by a family member, whilst 1(0.7%) had the information from the social media, friends and teachers. Majority of the respondents 109 (72.2%) knew that the menstrual blood comes from the vagina, while 17 (11.3%) had no knowledge about where it comes from. Most of the respondents, 127 (84.1%) said menstruation comes every month while 3 (3.0%) said it comes twice a month. Most of the respondents 112 (74.2%) said that they were taught to bath twice during menstruation. Most of the respondents 112(74.2%) indicated they were given pre-menstrual training before menarche, and 97(64.2%) knew that the menstrual blood should last between four to five days.

Table 6 shows that respondents had good menstrual hygiene practices. Out of the 151 respondents, 96(63.6%) indicated that when their periods start at school, they go home immediately while a few 5(3.3%) wait until school closes before going home. Majority of them 139 (92%) said they use sanitary pad for the menstrual flow, whilst 1(0.7%) mentioned the use of tissue paper and menstrual cup respectively. Most of them 103(68.2%) dispose their used menstrual material into the toilet and 3(2.0%) reuse the material. They all said they wash the washable menstrual materials with soap and water and dry 151(100%). Ninety seven (64.2%) of them use tap water during menstruation, and 115 (76.2%) of the respondents change their menstrual material twice a day.

Table 6. Showing Respondents' menstrual hygiene practices (N=151)

	NUMBER	PERCENTAGE
What do you do when your period starts in school		
I tell my teacher for help	48	31.8
I tell a friend for help	2	1.3
I go home immediately	96	63.6
I wait until school closes	5	3.3
Material used when menstruating		
Sanitary pad	139	92.0
Menstrual cup	1	0.7
Old cloth	10	6.6
Tissue paper	1	0.7
How do you take care of the menstrual material after use		
Disposed into a dust bin	42	27.8
Disposed into the bush	3	2.0
Disposed into toilet	103	68.2
Washed and reuse	3	2.0
Care of reusable material		
Soak, wash and dry	0	0
Wash with hot water and dry	0	0
Wash with soap and water and dry	151	100
Others	0	0

Does the kind of water used during menstruation affect menstrual hygiene		
Yes	53	35.1
No	98	64.9
The common household water used during menstruation		
Tap water	97	64.2
Bore whole	51	33.8
River and Stream	3	2.0
Others	0	0
How often do you change your menstrual material during menstruating		
Once a day	15	9.9
Twice a day	115	76.2
Thrice a day	19	12.6
More than thrice	2	1.3

Field survey, 2020.

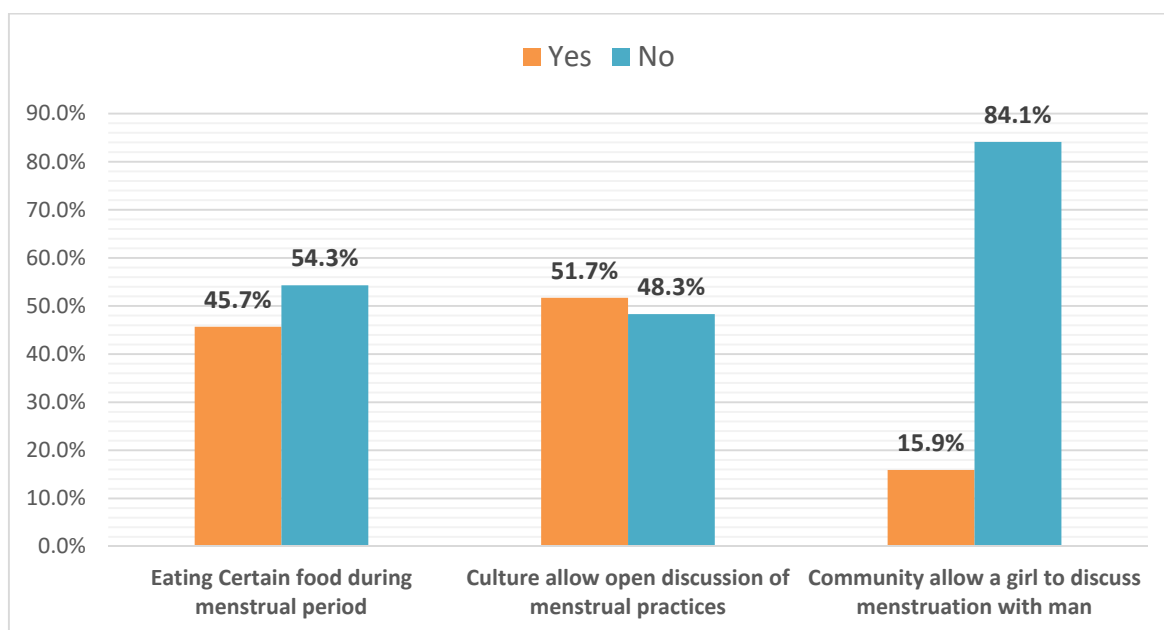


Figure 1. Distribution of adolescent girls regarding restrictions practiced during menstruation

Figure 1 shows that most 127 (84.1%) of the respondents indicated that they are not allowed to discuss menstruation with men, and 82 (54.3%) said they are not restricted from eating certain food. Majority 78 (51.7%) said their culture allows open discussion of menstrual practices.

Table 7. Community belief and practices in relation to menstruation

Variable	Number	Percentage
How do your Community members see menstrual blood		
Normal physiological process	55	36.4
Release of bad blood	43	28.5
Cleansing of the womb	14	9.3
No idea	39	25.8
What belief or myths does your community have in relation to menstruation		
You will become sick when your menstrual pad is seen by another.	52	34.4
Some people bleed from their palm	43	28.5
Eating certain foods can cause abdominal crams	48	31.8
Others (don't know)	8	5.3
What is your community belief about burning of sanitary pad		
The girl will be unable to give birth	52	34.4
The girl will not menstruate again	15	9.9
It accepted to be burnt	51	33.8
No idea	33	21.9
What restriction does your culture impose on you during menstruation		
Not allowed to cook	56	37.1
Not allowed to go to place of worship	50	33.1
Not allowed to go to river side	40	26.5
Others (palace)	5	3.3
What is your belief about drying of reusable sanitary material in the opened		
It is a taboo for others to see such material	52	34.4
Is shameful for others to see	32	21.2
It is good to dry them outside	47	31.1
No idea	20	13.3

Field survey, 2020.

From Table 7, according to 55 (36.4%) of the respondents, the community see the menstrual blood as a normal physiological process whilst 14 (9.3%) see it to be the cleansing of the womb. Majority 52 (34.4%) indicated that it is a belief in the community that if another person see your menstrual pad you will become sick but few of them 8 (5.3%) had no idea about such belief. Majority, 52 (34.4%) of the respondents indicated that it is their belief that if the menstrual pad is bunt, the girl will not be able to give birth, while 15 (9.9%) indicated that the person will not menstruate again. Majority 56 (37.1%) responded that a menstruating woman is restricted from cooking in the community, 50 (33.1%) indicated that they are not allowed into the places of worship, 40 (26.5%) indicated that they are not allowed to go to the river side, while 5(3.3%) indicated that they are restricted from going to the palace. Majority of the respondents, 52 (34.4%) responded that it is a taboo in the community to dry reusable menstrual material outside for others to see. However 20 (13.3%) of the respondents had no idea about such belief.



Table 8. Challenges When Practicing Menstrual Hygiene

Variable	Number	Percentage
What are some of the physical challenges you face during menstruation		
Headache	42	27.8
Depressed	32	21.2
Lower abdominal pain	77	51.0
How do you manage these physical challenges during menstruation		
Take over the counter drug	51	33.8
Take traditional medicine	27	17.9
Go to the hospital	66	43.7
Others (do nothing)	7	4.6
What problems do you face in getting proper menstrual material to use		
Products not available in my community	15	9.9
I do not have money to buy the material	45	29.8
The products are expensive	24	15.9
I do not have any problem to get the material	67	44.4
How do your mates react when they see you menstruating		
They tease me	14	9.3
I am ignored	12	7.9
They show support	107	70.9
They are in different	18	11.9
Does the fear of staining yourself interfere with your studies		
All the time	23	15.2
Sometimes	64	42.4
Most of the time	21	13.9
Not at all	43	28.5
Do you have privacy to change menstrual materials in school		
YES	92	61.0
NO	59	39.0
How will you rate the facilities available for you to change yourself when menstruating?		
Adequate	50	33.1
Not adequate	26	17.2
Not available at all	61	40.4
Neutral	14	9.3

Field survey, 2020.

As shown in table eight, challenges experienced by respondents during menstruation were; lack of money to purchase menstrual materials 45(29.8%), fear of staining themselves during menstruating sometimes interferes with their studies 64(42.4%), and unavailability of facilities in school to change during menstruation 61(40.4%), leading to lack of privacy to change during menstruation in school as expressed by 59(39%) of the respondents. These challenges occur in addition to the physical challenges they experience, such as lower abdominal pains during menstruation 77(51.0%), headache 42 (27.8%). However, 107 (70.9%) respondents indicated enjoying some form of support from their mates during this period.

## 5. Discussion of Findings

Majority of the adolescent girls in the junior high schools in Asamang had good knowledge of menstrual hygiene practices. Most of them gained this knowledge before menarche, taught them by their family members. This is consistent with the findings of the study by Parajuli, Paradel and Shresta (2017), which showed that majority of the girls had knowledge of menstruation, and in more than half of the respondents, their mothers taught them about menstruation. This may be attributed to the educational level of the parents being secondary school level. Similar results were obtained by Lawan et al. (2010); George (2012). This observation is likely because mothers are often the closest informant and “teacher” of the growing adolescent girls owing to their similarities in reproductive physiology (Ali & Rizvi, 2010). However, some studies have revealed that information on menstruation given by the mother is often incomplete and incorrect, usually being based on cultural myths, and therefore probably perpetuating negative and distorted perceptions and practices of menstruation (Lee et al., 2006). Very few of them had the information from the social media and teachers. This may indicate that the girls are not having access to phones and at the same time their teachers are also not giving them information about menstruation. Most of them mentioned that they were between ages 13–14 years when they were given information about menstrual hygiene. This is in consonant with what was found by George (2012) that adolescent girls above age 12 had 61.8% rating in knowledge on menstrual hygiene than those younger than 12 years who had had poor knowledge about menstrual hygiene practices, even though they had attained menarche, which contradict what was found by Lawan et al. (2010) that most respondents 85.4% knew about menstruation before menarche. In response to where the menstrual blood comes from, Majority of the respondents knew that the menstrual blood comes from the vagina, which disagrees with the findings of study by Ahuja & Tiwari (2009), which revealed that about three-quarters of girls were ignorant about the physiology of menstruation. Majority of the respondents knew that menstruation comes every month. This indicates that the family members are giving the girls right information about the physiology of menstruation. Most of the respondents were taught to bath twice during menstruation. Chauhan, et al (2019) found similar results that about 71.7% of the adolescents they studied knew that unhygienic conditions put them at risk of genital infections. However in the same study, they found that all the respondents took a daily bath. Most of the respondents indicated they were given pre-menstrual training before menarche which is consistent with what was found by George (2012) that most of the adolescent school girls (92.2%) had pre-menarcheal counselling. Also most of them know that the menstrual blood should last between four to five days. This knowledge may have resulted from the pre-menarcheal training they had.

Furthermore, the findings showed that the adolescent school girls exhibited good menstrual hygiene practices. Majority (63.6%) of the respondents indicated that when their menses start at school, they go home immediately. Trinres, et al. (2015) also found similar report that majority of girls would go home immediately if their period started while at school. This may be either due to lack of facility in the school to accord them the privacy to change, or their unpreparedness for the menses or because they live closer to the school and the few who wait until school closes before going home may have prepared for it. Additionally Majority of them used sanitary pad for the menstrual flow. This is contradictory to what was found by Dasgupta and Sarkar (2007) in which a total of 11.25% of the girls used sanitary pads. Similarly, the study by Thakre, et al. ((2011), 45.74% of the girls used old cloth during menses, unlike what was found in our study where only 6.6% used old cloths. The pre-menarcheal training given to the girls may have contributed to this practice. On the disposing of menstrual materials, most of the respondents disposed their used menstrual materials into the toilet and those who used reusable material washed them with water and soap and dried. Related to this, Thakre, et al., (2011) found in their study that 41.86% of the girls used cloth material but did not clean it properly. Unlike our study in which only 2% use re-useable material even though the setting is rural. The pre-menarcheal training may as well have been a contributory factor. There was lack of knowledge on the potential for contaminated water to cause infection since (64.9%) of them indicated that the type of water used during menstruation does not have any effect on menstrual hygiene. This notwithstanding, majority of them use tap water during menstruation. Most of the respondents indicated changing their menstrual material twice a day which agrees with what was found in the study by Ibaishawa and Achakpa (2016), which observed that 61.3% changed the menstrual pad/material 2-3 times a day. This indicates averagely good menstrual hygiene management practice.

Regarding the cultural beliefs infringing on menstrual hygiene practices, most (84.1%) of the respondents indicated that they are not allowed to discuss menstruation with men. This may account for why most of the girls run home when their menses start in the school especially if their teachers are males. About an average number (54.3%) of respondents said they are not restricted from eating certain food, contradicting the study by Trinres, et al (2015); Kumar and Srivastava (2011), in which strict dietary restrictions such as eating of sour food are imposed on women and girls during menstruation in some parts of India. The belief is that eating such foods will disrupt the

menstrual flow. Most of the respondents indicated their culture allows open discussion of menstrual practices. This is not consistent with the study by Kaur et al. (2018) in which it was found that men do not support women regarding menstrual hygiene and have never discussed menstrual issues with their wives and daughters. According to 36% of the respondents, the community members see the menstrual blood to be a normal physiological process. The same result was found in the study by Parajuli, Paradel and Shresta (2017), in which majority (83.3%) of the girls had knowledge that menstruation is a physiological process, contrary to Wateraid (2012) in Surinam, who found in their study that menstrual blood is perceived to be dangerous. Most of the respondents indicated the presence of some myths in the community that one will become sick if the menstrual pad is seen by another person. The study in Surinam found similar results (Wateraid, 2012), and added that a bad person can use black magic to harm a menstruating woman or girl when seen. However, majority had no idea about any belief concerning burning of sanitary pad, but a few indicated that there is a belief that if the sanitary pad is burnt, the girl will not menstruate again. This supports what was found among the girls from the slums, in a study by Kumar and Srivastava (2011). This findings show that their knowledge about the physiology of menstruation is not adequate and therefore the need to be educated properly. Fifty six (37%) respondents said their culture restrict them from cooking when menstruating. Kumar and Srivastava (2011) found similar restriction in their study. Five (3.3%) said menstruating women are not supposed to go to the palace. However none of the reviewed literature mentioned this restriction. Millington and Bolton (2015) similarly found that reusable menstrual products are not washed and dried properly by the girls because there is the taboo around menstruation that such items cannot be dried outside which makes the girls hide them under their bed or on thatched roof to dry. In this current study majority of them said it a taboo in the community to dry reusable material in the open for others to see supporting what had been found earlier. This practice will likely make the materials contaminated and increases the risk of the girls getting infections.

Majority of the respondents indicated their experience of physical discomfort during menstruation, such as 77 (51.0%) lower abdominal pains. Dogbetor (2015) cited that Montgomery (2012) found that girls missed up to 5 days in a month from school due to physical discomfort such as cramps during menstruation. In managing this, Montgomery's study revealed that the girls took pain killers to relieve the pain, while in our study, majority of the girls go to the hospital to manage the physical challenges they have during menstruation. The presence of a hospital in the community and the menstrual practice education by family members may have contributed to this behaviour. Most of them 67 (44.4%) do not have any problem getting menstrual material to use. However according to Pandey (2014), for some women particularly those living in poverty, it may still be a struggle to have access to products even in countries where the products are available. This hold true for (29.8%) of them who indicated they do not have money to buy the menstrual material. Poor accessibility to feminine hygiene products can lead to girls and young women missing school and even contracting infection. In Montgomery's (2012) study, some girls indicated that they did not bring menstrual material to the school because they feared that other students may see them in their bags and make fun of them. However in our study, majority of the respondents indicated that their mates show support when they see them menstruating. This shows that the mates show maturity in such matters. Majority of them also indicated that the fear of staining themselves when menstruating sometimes interferes with their studies. This is similar to findings of Pandey (2014), in which the girls indicated that in the classroom they are particularly cautious about their movement. A lot of care was taken when standing, sitting and walking all because of the fear of staining their uniform accidentally. This shows the need for the girls to be educated on the use of proper menstrual material during menstruation. Lack of place to change used menstrual materials at school was indicated as a huge challenge by 61(40.4%) of the respondents. It could mean that those who indicated to have privacy have their homes close to the school and therefore can have access to private room to change.

## 6. Summary and Conclusion

Our study found that the adolescent girls in JHS in Asamang district in Kumasi, Ghana, had good knowledge of menstrual hygiene which translated into good menstrual hygiene practices. The cultural beliefs in the community do not impose so much restriction on the girls regarding their menstrual practices, however, there were some myths which are not scientifically based. For the adolescent girls, experience of menstruation was not devoid of challenges, amidst physical challenges. The study therefore concludes that;

- Most of the adolescent school girls under study were between the ages of 13-14 years of age, and had pre-menstrual training by their family members.
- Majority of them lacks knowledge about the source of menstrual blood. However, they know that, menstrual flow should last for 4-5days.
- Most of the girls were unprepared for menstruation and had to rush home any time they have their menses

in school.

- Most of the girls uses sanitary pads and disposed them into the toilet, and this practice could cause potential sewage blockage. Those who were using reusable materials washed them with soap and water before drying them. Some lack the knowledge that contaminated water can cause infection during menstruation.
- Their culture discourages them from discussing menstruation issue with men. It was also a taboo to dry reusable materials in the open for everyone to see.
- They had no restriction to the type of food they are to eat during the period of menstruation. However, most of them were restricted from cooking.
- They have a myth that, when someone sees the used sanitary pad, the menstruating girl will become sick. Also, when the sanitary pad is burnt the person will not menstruate again.
- Fear of being soiled with menstrual flow was among the challenges experienced by most of the girls, which sometimes disrupt their studies if it occur. Physical challenges included having lower abdominal pains during menstruation. However, their friends act as a major support during menstruation in school.
- Majority of the girls indicated lack of facilities to accord them the privacy to change menstrual materials.

## 7. Recommendations

Based on the findings of the study, the following recommendations were made;

1. Pre-menstrual education should be made a core component of the school curriculum for the JHS level, where normal physiology of menstruation will be taught. This will inculcate into the girls the right knowledge about menstrual hygiene practices to prevent infection and ill health. With such knowledge, most of the cultural beliefs and myths about menstruation will be disregarded.
2. The Ministry of Gender and Social Protection should institute distribution of menstrual pad to the adolescent girls in vulnerable areas so that those who cannot afford to buy the pad can benefit.
3. Schools could liaise with the District Assembly to assist in the provision or construction of a decent place of convenience for the schools, to accord the girls privacy when changing during menstruation.
4. A specific waste bin could be provided at strategic points in the school for menstrual material disposal, which should subsequently be sent to the regular waste removal. This will prevent menstrual waste disposal into the toilet causing blockage.
5. Parents should educate their teenage girls on the proper application of menstrual material to prevent soiling themselves while in schools.

## 8. Implication of the Study

The onset of menstruation is one of the most important changes occurring among the girls during the adolescent years. Knowledge of menstrual hygiene and hygiene-related practices of adolescent girls during menstruation are of considerable importance, as it has a health impact in terms of increased vulnerability to reproductive tract infections (RTI). This, if occurs may have a long term maternal morbidity effect on the adolescent girl, which by extension could encroach on the achievement of Sustainable Development Goal 3(Good health and wellbeing).

## 9. Suggestion for Further Studies

This study should be replicated as a comparative study in other schools within the rural communities of Ghana using a larger sample size for generalization to be made.

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## Competing Interests Statement

The authors declare that there are no competing or potential conflicts of interest.

## References

- Ali, T. S., & Rizvi, S. N. (2010). Menstrual knowledge and practices of female adolescents in urban Karachi, Pakistan. *Journal of Adolescence*, 33, 531-541. <https://doi.org/10.1016/j.adolescence.2009.05.013>
- Aluko, O. O., Oluya, O. M., Olaleye, O. A., Olajuyin, A. A., Olabintan, T. F., & Oloruntoaba-Oju, O. I. (2014).

- Knowledge and menstrual hygiene practices among adolescents in senior secondary schools in Ile Ife, south-western Nigeria. *Journal of water, sanitation and hygiene for development*, 4(2), 248-256. <https://doi.org/10.2166/washdev.2014.084>
- Ahuja, A., & Tewari, S. (1995). Awareness about pubertal changes among adolescent girls. *Journal of Family Welfare*, 41(1), 46-50.
- Asimah, S. A., Diabene, P. Y., & Wellington, S. N. L. (2017). Menstrual hygiene management in Ghana: Understanding the socio-cultural, economic, political factors, challenges and opportunities. In *Proceedings of the 40th WEDC International Conference, Loughborough, UK* (pp. 24-28). Retrieved from <https://dspace.lboro.ac.uk/2134/31431> and Hygiene
- Chauhan, P., Shaik, R. A., Anusha, D. V. B., & Sotala, M. (2019). A study to assess knowledge, attitude, and practices related to menstrual cycle and management of menstrual hygiene among school-going adolescent girls in a rural area of South India. *International Journal of Medical Science and Public Health*, 8(2), 114-119. <https://doi.org/10.5455/ijmsph.2019.1131809112018>
- Dasgupta, A., & Sarkar, M. (2007). Menstrual hygiene: How hygienic was the adolescent girl? *Indian journal of community medicine: official publication of Indian Association of Preventive & Social Medicine*, 33(2), 77-80. <https://doi.org/10.4103/0970-0218.40872>
- Dorgbetor, G. (2015). Mainstreaming MHM in schools through the play-based approach: lessons learned from Ghana. *Waterlines*, 34(1), 41-50. <https://doi.org/10.3362/1756-3488.2015.005>
- Ibaishwa, R. L., & Achakpa, P. M. (2016). Menstrual hygiene management amongst marginalized physically challenged women and adolescent girls in 10 states of Nigeria. [http://www.wecf.eu/download/2016/december/nigeria\\_study1mhm-wep](http://www.wecf.eu/download/2016/december/nigeria_study1mhm-wep)
- Kaiser, S. (2008). *Menstrual Hygiene Management*. Retrieved March 25 2019, from: <http://www.sswm.info/content/menstrual-hygiene-management>
- Kumar, A., & Srivastava, K. (2011). Cultural and social practices regarding menstruation among adolescent girls. *Soc Work Public Health*, 26, 594-604. <https://doi.org/10.1080/19371918.2010.525144>
- Kumari, S. (2017). Social, cultural and religious practices during menstruation. *Journal of Development and Management Studies XISS, Ranchi*, 15(3), 7451-7459.
- Lawan, U. M., Yusuf, N. W., & Musa, A. B. (2010). Menstruation and menstrual hygiene among adolescent school girls in Kano, North western Nigeria. *African Journal of Reproductive Health*, 14(3), 201-207.
- Lee, L. K., Chen, P. C., & Lee, K. K. (2006). Menstruation among adolescent girls in Malaysia a cross sectional school survey. *Singapore Med J*, 47(10), 869-74.
- Matrika, C. J. (2009). *The Mythic Origins of the Menstrual Taboo in the Rig Veda*. Retrieved April 2019, from <http://www.matrika-india.org/Research/MythicOrigins.html>
- Millington, K. A., & Bolton, L. (2015). Improving access to menstrual hygiene products (GSDRC Helpdesk Research Report 1280). Birmingham, UK: GSDRC, University of Birmingham. *Enquirer*: Australian Government
- Morley, W. (2014). *Common myths about your period*. Retrieved 26 2019 from: <http://www.womenshealth.answers.com/menstruation/common-myths-about-your-period>
- Nayak, S., (2016). A study on practices regarding menstrual hygiene among adolescent girls of urban areas of Jabalpur District. *International Journal of Medical Sciences & Public Health*, 5, 2355-2357. <https://doi.org/10.5455/ijmsph.2016.23042016483>
- Oche, M. O., Umar, A. S., Gana, G. J., & Ango, J. T. (2012). Menstrual health: the unmet needs of adolescent girls' in Sokoto, Nigeria. *Scientific Research and Essays*, 7(3), 410-418. <https://doi.org/10.5897/SRE11.1842>
- Pandey, A. (2014). Challenges experienced by adolescent girls while menstruation in Kathmandu, Valley: A qualitative study. *Journal of Community Medicine & Health Education*, 4(285), 2161-0711. <https://doi.org/10.4172/2161-0711.1000285>
- Parajuli, P., Paudel, N., & Shrestha, S. (2017). Knowledge and practices regarding menstrual hygiene among adolescent girls of rural Nepal. *Journal of Kathmandu Medical College*, 5(1), 23-27. <https://doi.org/10.3126/jkmc.v5i1.18262>
- Phani Madhavi, K.V. et al. (2019). Menstrual hygiene and practices among adolescent girls in rural Visakhapatnam:

- a cross-sectional study. *Int J Community Med Public Health*, 6(1), 432-436. DOI: <http://dx.doi.org/10.18203/2394-6040.ijcmph20185284>
- Poureslami, M., & Osati-Ashtiani, F. (2002). Assessing knowledge, attitudes, and behavior of adolescent girls in suburban districts of Tehran about dysmenorrhea and menstrual hygiene. *Journal of International Women's Studies*, 3(2), 51-61.
- Quazi, S.Z., Gaidhane, A., & Singh, D. (2009). Beliefs and practices regarding menstruation among the adolescent girls of high schools and junior colleges of the rural areas of Thane district. *J DMIMSU*, 2, 76-71.
- Kaur, R., Kaur, K., & Kaur, R. (2018). Menstrual hygiene, management, and waste disposal: Practices and challenges faced by girls/women of developing countries. *Journal of environmental and public health*, 2018. <https://doi.org/10.1155/2018/1730964>
- Rao, S., Joshi, S., & Kanade, A. (2009). Height velocity, body fat and menarcheal age of Indian girls. *Indian Pediatr*, 35, 619-628.
- Sharma, P., Malhotra, C., Taneja, D. K. et al. (2008). Problems related to menstruation amongst adolescent girls *Indian Journal of Paediatricians*, 75, 125-129. <https://doi.org/10.1007/s12098-008-0018-5>
- Setia, M. S. (2016). Methodology series module 1: Cohort studies. *Indian J Dermatol*. 61, 21-5. <https://doi.org/10.4103/0019-5154.174011>
- Thakre, S. B., Thakre, S. S., Reddy, M., Rathi, N., Pathak, K., & Ughade S. (2011). Menstrual hygiene: Knowledge and practice among adolescent school girls of Saoner, Nagpur district. *Journal of Clinical and Diagnostic Research*, 5 (5), 1027-1033. Retrieved from [www.jcdr.net](http://www.jcdr.net)
- UNESCO. (2014). *Puberty education and menstrual hygiene management*. Paris, UNESCO.
- UNICEF. (2008). Bangladesh: Tackling menstrual hygiene taboos. *Sanitation and Hygiene Case Study No. 10*. Retrieved April 1 2019, from [http://www.unicef.org/wash/files/10\\_case\\_study\\_BANGLADESH\\_4web.pdf](http://www.unicef.org/wash/files/10_case_study_BANGLADESH_4web.pdf)
- Wateraid.org. Module one: Menstrual Hygiene Basics. (2012). Retrieved March 25 2019, from [http://www.wateraid.org/~media/Files/Global/MHM%20files/Module1\\_HR.pdf](http://www.wateraid.org/~media/Files/Global/MHM%20files/Module1_HR.pdf)

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