

MENSTRUAL HYGIENE MANAGEMENT AND RESOURCES FOR ADOLESCENT GIRLS IN AN URBAN SETTING IN ACCRA, GHANA

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Abstract

Background: Menstruation is the recurring peeling of the inner part of the uterus or the shedding of the uterine lining on a regular basis in the reproductive-aged females during the monthly menstrual cycles. Menstrual hygiene management (MHM) is an everyday challenge to the adolescent girl child globally, and in developing countries like Ghana. Positive menstrual hygiene management is important because it helps in preventing several health challenges which may be associated with poor menstrual hygiene management. The aim of this study was to determine the state of MHM among adolescent girls in Accra.

Method: Quantitative cross-sectional study was conducted using self-administered questionnaires to collect data which was analysed to evaluate the sanitary provisions in the school. Two Basic Schools in Legon, Accra were identified and random sampling procedure was used to select research participants.

Results: Findings revealed that the mean age at menarche of adolescent girls in Basic Schools in Legon

was 11.9 \pm 1.2 years; and that MHM was promoted at home and in schools. In all, 68% and 21% of the adolescent girls routinely bathed two and three times daily respectively during menstruation; 50% of the respondents changed sanitary products three times daily when menstruating, this was followed by 47% who changed twice daily. More than half of them disposed of their used sanitary products by wrapping and putting in the dustbins. Sanitary facilities were seen to be available and in use during the time of survey.

Conclusion: Menstrual hygiene practices among the Basic School girls were good, with socio-economic factors contributing to the use of good disposable menstrual products during menstruation. Sanitary facilities were seen to be available and in use although resources such as running water, soap for hand washing, and sanitary products in the event of an emergency were unavailable.

Key Words: Menstruation, Menarche, Adolescent girls, Accra, Sanitary products, Resources Basic Schools

Background

According to the World Health Organization (WHO), the adolescent age is between the ages of 10 and 19; and they account for about 20% of the world's population with 85% of them resident in developing countries such as Ghana¹. The crucial and indeed one of the most challenging period of a girl child is when nature gives rise to varied changes that cause emotional and psychological instability, all occurring at the same time and progressively leading to womanhood². One of such changes is menstruation. Menstruation refers to the recurring peeling of the inner part of the uterus or the shedding of the uterine lining on a regular basis in the reproductive-aged females during the monthly menstrual cycles³. Menstruation, which can be experienced about 3000 times in a woman's life time⁴, is a physiological condition that is associated with diverse terms.

Worthy of note, is that in defining MHM, due consideration must also be given to the educational and

psychological needs of girls undergoing the monthly process of menstruation. MHM includes the use of water and soap to clean the body, and also gaining access to sanitary facilities in order to dispose of used sanitary products⁵.

In most traditional settings including African societies the topic of menstruation is largely treated as a taboo, and is rarely discussed publicly⁶. This is because of the prevalent misconceptions; one of which is that menstruation is considered impure in some societies⁷. This often limits the amount of information available to adolescent girls especially teenagers who are going through the process. This often leaves many adolescent girls disillusioned and saddled with a feeling of guilt, shame and 'unworthiness' and many may not know how to maintain optimum hygiene required at such times.

Furthermore, the adolescent girl gets predisposed to health, social and cultural factors including infection as a result of poor hygiene practices during menstruation⁸. These factors may also be as a result of inadequate sanitary use, water source and low income. In resource-poor settings, access to sanitary materials and appropriate sanitary facilities is limited thus posing a huge challenge to the comfort of menstruating girls.

The situation is almost dire in most public schools in that consideration is often not given to the hygienic needs of menstruating girls with regards to adequate health education and type of sanitary facilities available for use. Girls need to have access to adequate water

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supply, soap and sanitary towels/pads and proper disposal facility to maintain optimum hygiene. Absence of an enabling environment can impact on the school attendance of students as some are left with no other alternative but to stay at home for the duration of their menstruation. This brings to the fore the need for a rethink on the approach to health education. The aim of this study therefore, was to assess menstrual hygiene practices and resources among Basic School girls in an urban setting (Legon) in Accra; to create the basis for planning and policy formulation on menstrual education is an essential aspect of school health education programmes.

Methodology

Study population

Participants in this study comprised all adolescent school girls from the University of Ghana Legon Basic School and Legon Staff Village Basic School who had attained menarche. These two schools were purposively selected in line with the study objectives.

Data collection

The tools used for data collection included a checklist, self-administered questionnaire which was completed by all students. It consisted of open-ended and closed ended questions with sections for demographic data of students and questions on menstrual hygiene management practices.

Prior to the data collection period, the Basic Schools were visited to inform them of the selection criteria that participants would have to meet. An empty class room was selected during break session for data collection to prevent participants from staying out of school lessons. Students from class 5 to JHS 3 from the University of Ghana Basic School and Staff village Cluster Basic School who had started menstruating participated in the study. The participants were randomly selected and the process of response to the questionnaire was under strict monitoring to prevent them biasing each other in the course of conversing among themselves. The following procedures were employed to ensure that questionnaires were properly administered.

Step no. 1: A sampling frame was drawn, that is a complete list of all the sampling units of girls who had attained menarche from primary 5 to JHS 3 and the sample size for each school was proportionally allocated to each stratum. Thereafter, sampling size for each stratum was determined.

Step no. 2: Students' register containing their names was collected and checked to ascertain for completeness of participants names.

Step no. 3: Systematic method of sampling was used to determine participating students for the study from the total student numbers of each stratum.

Step 4: The first girl (participant) was a number chosen from 1 to k by simple random sampling (balloting). Afterwards, every Kth girl on the class register was selected and administered questionnaire until the sample size was obtained. When the end of the register was reached, a return to the top of the list was made so as to continue selection of the girls.

Data analysis

Each completed coded questionnaire was checked manually on hard copy to ensure no information was missed. Background features of the survey respondents were obtained and entered into the Excel 2013 version. This was imported into Stata version 13 software package and analysed using descriptive as well as inferential statistics.

Results were expressed as percentages and presented using tables, frequency distributions and graphs. The outcome (dependent) variable was MHM while the independent variables were health/ hygiene knowledge, Behavioural patterns, Culture and societal norms, Hand washing practices and Resource availability.

Ethical issues

The ethical clearance to conduct this research was obtained from the Ghana Health Service Ethical Review Board. In addition, permission and clearance was obtained from the Director, Metro Educations Board and selected Basic School's headmasters/mistresses.

Permission to send written informed consent forms to parents/ guardians of pupils was obtained from authorities of the schools and thereafter issued to the pupils to be signed by their parents/ guardians. Assent forms were signed by the participants before administration of questionnaires.

Results

Socio-demographic characteristics of respondents

Table 1 shows that majority 209 participants, (89.0%) were between the ages 12-15 years, with a mean age of 13.4 ± 1.3 years. The mean age of girls at menarche was 11.9 ± 1.2 years. The predominant ethnic group was Akan, (43.5%). Among the 209 participants, 69.9% were surprised at the onset of their first menses; 12.9% were happy; 10.5% were sad and 6.7% indicated they were prepared.

Menstrual Hygiene Practices

Table 2 demonstrates that a little over half of the participants (51.7%) had a menstrual flow duration of 1-4 days,

Table 1: Socio-demographic Characteristics of the Adolescent Girls in the Basic Schools in Accra

Characteristics	Numbers (N)	%
Age (years)		
Mean \pm SD	13.4 \pm 1.3	
Age of first menses (years)		
Mean \pm SD	11.9 \pm 1.2	
Grade in school		
Class 5	27	12.9
Class 6	29	13.9
JHS 1	52	24.9
JHS 2	68	32.5
JHS 3	33	15.8
Religion		
Christianity	201	96.2
Islam	8	3.8
Ethnicity		
Akan	91	43.5
Ewe	66	31.6
Northern	18	8.6
Ga	28	13.4
Other	6	2.9
Personal affect at the onset of first period		
Prepared	14	6.7
Happy	27	12.9
Sad	22	10.5
Surprised	146	69.9
Total	209	100.0

39.2% (5-7 days) and 9.1% (more than 7 days). Virtually all participants (99.0%), took their bath regularly when menstruating. In all, 68.0% of participants took their bath twice daily, and 20.6% took it three time or more.

Overall, half of the participants (50.2%) changed their sanitary pads three times or more and another 47.4% changed it twice daily. Close to three quarters of the girls (74.6%) changed their sanitary products while in school, and most of these (76.1%) indicated they found a private place on the school premises to do this. Regarding modes of disposal of the used sanitary pads among the 209 adolescent girls, 60.8% disposed them off in a dustbin, 33.0% burnt them and 17.7% buried them.

In addition, 39.2% of the adolescent girls had a moderately painful menses, 20.6% experienced very painful menses and 12.4% had extremely painful menses.

Interestingly, the painful menses resulted in 13.9% of the participants absenting themselves from school during the menstrual period.

Table 2: Menstrual Hygiene Practices among Adolescent Girls in two basic schools in Accra

Hygiene Practices	N	%
Days bled in a month		
1-4	108	51.7
5-7	82	39.2
Above 7	19	9.1
Take bath when menstruating	207	99.0
Yes	2	1.0
No		
Number of times bath taken daily		
None	1	0.5
Once	21	10.1
Twice	142	67.9
Three times or more	43	20.6
Don't remember	2	1.0
Number of times sanitary products changed daily		
None	1	0.5
Once	4	1.9
Twice	99	47.4
Three times or more	105	50.2
Methods of disposing used sanitary products		
Bury	37	17.9
Burn	69	33.3
Wash	4	1.9
Wrap in a dustbin	127	61.4
Flush	4	1.9
Sanitary products changed in school		
Yes	156	74.5
No	53	25.4
Private place available to change in school		
Yes	159	23.9
No	50	76.1
Level of pain experienced during menses		
None	35	16.8
Mild	23	11.0
Painful	82	39.2
Very painful	43	20.6
Extremely painful	26	12.4
Total	209	100.0

Availability of Menstrual Resources

In all, as depicted in Table 3, 77.5% of participants indicated they always had water to wash and change during menstruation and 63.6% had access to soap. The assessment showed that 97.6% adolescent girls washed

their genitals when menstruating. Among this cohort, 61.2% used water only, while 38.4% used both soap and water.

The majority (98.1%) of the participants had been taught about hand washing practice and 97.6% washed their hands after change of sanitary materials.

Regarding the most common type of sanitary product used during menses, almost three-quarters of participants (73.2%) indicated they used disposable sanitary pads. However, a few (16.3%) used toilet paper, (6.2%) a piece of cloth, and (2.4%) used tampon.

Table 3: Resources available for the menstruating adolescent girl in two basic schools in Accra

Menstrual Resources	N	%
Have water to wash when menstruating	5	2.4
Not at all	13	6.2
Few times	29	13.9
Most times	162	77.5
Always		
Wash genital when menstruating	204	97.6
Yes	4	1.9
No	1	0.5
Don't know		
How genital hygiene is maintained	128	61.2
Water only	80	38.3
Soap and water	1	0.5
Nothing		
Access to soap at all times		
Not at all	27	12.9
Few times	21	10.1
Most times	28	13.4
Always	133	63.6
Most common type of sanitary material used	34	16.3
Toilet paper	2	1.0
Cotton wool	1	0.5
Mattress foam	153	73.2
Disposable sanitary pad	13	6.2
Piece of cloth	5	2.4
Tampon	1	0.5
Menstrual cup		
Total	209	100.0

Survey of Sanitary Facilities in Basic Schools

The sanitary survey assessed the provision, availability and functionality of some indicators such as the school's committee and clubs, menstrual hygiene resources, menstrual hygiene practices, disposal of used sanitary products and operational maintenance as well as schools' sanitation system.

In all, menstrual hygiene resources such as running water, soap for hand washing and other sanitary products were not available at the time of the survey in the basic schools. Some health education on menstrual hygiene was provided in both schools

Waste bins were available for the disposal of used sanitary products, and an incinerator was found in one of the schools, while the other school was linked to the University community's waste management system for final waste disposal.

Generally, the toilet facilities in the two schools were not in a hygienic state and did not offer an enabling environment (privacy, availability of water etc) for maintaining appropriate menstrual hygiene among the adolescent girls.

Discussion

Findings from survey demonstrated that all the participants were between the ages of 10-17 years, with a mean of age at menarche of 11.9 ± 1.2 years, which was less than a year (0.6 years) earlier than the mean age at menarche of 12.5 ± 1.28 years found in a similar study of Ghanaian school girls⁹. This slight decrease in age at menarche can be attributed to changing environmental conditions such as urbanization, nutrition type as well as general wellbeing of the adolescent girls. The study also revealed that about two thirds of the adolescent girls were surprised at the onset of their first menstrual period.

Improved hygiene practice during menstruation is an important factor that reduces predisposition to urinary tract infections and improve personal hygiene.

To achieve improved menstrual hygiene practice, menstrual resources such as water, soap, sanitary products must be readily available. Our survey found that disposable sanitary pads were most commonly used. This contrasts with findings from studies in Uganda and India where the majority of the respondents used traditional materials like cloth because of the poor socio-economic status of the adolescent girls studied^{2, 6, 10}.

In the current survey, most of the girls had access to water, and above three quarters had access to soap, which enabled more than half of the girls to wash their genitals frequently when menstruating. This practice may be due to knowledge of menstrual hygiene gained from home or at school since almost all respondents acknowledged having been taught health or hygiene in relation to menstruation at school.

Regular bathing during menstruation was observed among the respondents, an observation similar to that seen in a study conducted in Mali¹². Facilities for bathing were not available on the school premises, which may be challenging for adolescent girls who may begin menstruation while school is in session.

The most common sanitary material used was disposable sanitary pads. The socioeconomic status of the participants and the location of the schools in a relatively higher socio-economic environment in Accra may account for this. However, this finding is in congruence and compares favourably with those done in rural schools with low socioeconomic status^{2,6,13}.

Menstruation as a taboo may greatly influence adolescent girls' hygiene practices during menstruation as well as ways and methods in which used sanitary

products are disposed of². One study¹⁴, found a third of adolescent girls disposed of their used sanitary products into pit latrines, reason being that it was the safest for them. This is in contradistinction to our findings, where over two thirds of the school girls disposed of their used sanitary pads by wrapping and throwing them in a dustbin. This was indeed similar to what was observed in Mansoura, Egypt where most of the adolescent girls disposed of their used sanitary products in domestic waste¹⁵.

Adequate sanitary facilities within the school premises when promoted improve menstrual hygiene among adolescent girls especially while in school. This study found that although three quarters of participants changed sanitary products in school, most of them did not have a private place to do this. Thus, adolescent girls may experience challenges when menstruating during school sessions¹⁶.

Water and sanitation at school, in workplaces and at home are ingredients for the maintenance of health and hygiene of the adolescent girl and necessary for the reduction of reproductive tract infections in line with the United Nations Sustainable Development Goals 3 and 6.

Improved hygiene practices, such as the use of clean sanitary products and also adequate washing of the genitalia with soap and water during menstruation cannot be overemphasized. Access to clean and soft absorbent disposable sanitary pads by adolescent girls to enable optimal protection during menstruation is imperative.

Limitation: Study was undertaken in an urban setting with a relatively high socioeconomic levels and findings may not reflect that of the entire Ghanaian population. However, key policy implications are applicable and useful for planning in basic schools of the country

Conclusion

Perceptions and practices of menstrual hygiene management among the two basic schools in Accra was relatively good and most of the adolescent girls used clean disposable sanitary pads during menses. The schools had some sanitary facilities in use and waste disposal systems that promoted the maintenance of hygiene among the adolescent girls. However, lack of privacy and unavailability of resources (running water, and soap for hand washing), were identified.

In as much as the study found that menstruation was not a major influence on school attendance, a few adolescent girls missed school during the period of their menses. In the quest to achieve universal basic education, no girl should miss or be out of school because of menstruation-related issues including hygiene and dysmenorrhea. Teachers at the basic school level need to be provided with the skills to guide and provide accurate information on health and hygiene for the adolescent girls.

Ethics approval and consent to participate

The ethical clearance to conduct this research was obtained from the Ghana Health Service Ethics and Research Committee of the Research and Development Division (RDD), Ghana Health Service, Accra, with approval identification number GHS-ERC 45/12/15. In addition, permission and clearance was obtained from the Director, Accra Metropolitan Education Board and the headmasters/mistresses of the selected Basic Schools.

Written informed consent was obtained from parents/ guardians of pupils and assent forms were signed by the participants before administration of questionnaires.

Consent for publication

Written informed consent was obtained from parents/ guardians of pupils and assent forms were signed by the participants before administration of questionnaires. Parents/ guardians of pupils were assured of strict confidentiality of data obtained.

Availability of data and material

All data generated or analyzed during this study are included in this published article and its supplementary information files.

Competing interests

The researchers declare no conflict of interest in this research.

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Authors' contributions

BE developed the concept, designed the research and collected data. BE and AE analyzed the data and drafted the manuscript. All the authors reviewed the manuscript before submission.

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