

Menstrual Hygiene Management Practices among Undergraduates of Imo State, Nigeria

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ABSTRACT

Ensuring proper hygiene during menses is very crucial to the dignity of girls and women. This study was carried out to investigate the menstrual hygiene management practices among undergraduate female students in tertiary institutions of Imo State, Southeastern Nigeria. This study was a cross-sectional study of tertiary institutions located in Imo State, Southeastern Nigeria. Six hundred and seventy female undergraduates between 16 and 28 years from six tertiary institutions were interviewed using a well-structured questionnaire. Results showed that on absorbents use among University students, 20 representing 5.71% very often used reusable cloth/towel, 12(3.43%) very often used tampon, 264 representing 75.43% very often used disposable sanitary pad, 0(0.00%) very often used menstrual cup, while 20 representing 5.71% very often used toilet paper/tissue. Among Polytechnics/Monotechnic students, absorbent mostly used by female students was disposable sanitary pad, the most common frequency of change of absorbent was twice a day. The results on the rate of use of absorbents was 10 representing 7.14% very often used reusable cloth/towel, 4(2.86%) very often used tampon, 78 representing 55.71% very often used disposable sanitary pad, 0(0.00%) very often used menstrual cup, while 8 representing 5.71% very often used toilet paper/tissue. On the rate of using absorbents among Colleges of education students, 14 representing 7.78% very often used reusable cloth/towel, 19(10.56%) very often use tampon, 112 representing 62.22% very often

used disposable sanitary pad, 0(0.00%) very often used menstrual cup, while 8 representing 4.44% very often used toilet paper/tissue. While there was a poor level of menstrual hygiene management practices among the students, there was no significant difference ($P>0.05$) in the menstrual hygiene management practices among female undergraduates in tertiary institutions in Imo State. Proper menstrual hygiene education was recommended for all young girls in tertiary institutions.

Keywords: Menstrual hygiene, Absorbents, Sanitary pads, Toilet paper, Students

INTRODUCTION

The Center for Diseases Control and Prevention [1] define hygiene as behaviors that can improve cleanliness and lead to good health, such as frequent hand washing, face washing and bathing with soap and water. Many people equate hygiene with 'cleanliness', but hygiene is a broader term. Hygiene in a variety of settings plays an important role in preventing the spread of infectious diseases. [2] Good hygiene is an effective barrier to many infectious diseases, and improves health and well-being. Improvements in hygiene should be made alongside improvements in water supply and sanitation, and integrated with other interventions, such as improving nutrition and increasing incomes. By so doing, hygiene would achieve greater benefits as

regards public health. [3] According to Nadvorny et al. [4], hygiene is a science of preserving and promoting the health of both the individual and the community. There are several aspects of hygiene: personal hygiene (proper living habits, cleanliness of body and clothing, wholesome diet, a balanced regimen of rest and exercise); domestic hygiene (sanitary preparation of food, cleanliness, and ventilation of the home); public hygiene (supervision of water and foods, control on communicable disease, disposal of garbage and sewage, control of air and water pollution); industrial hygiene (measures that minimize occupational disease and accident rate); mental hygiene (recognition of mental and emotional factors in healthy living) among others. [4]

Globally, about 52% of the female population is within the reproductive age. Of these, women and girls will menstruate each month for between two and seven days. Menstruation is a normal vaginal bleeding that occurs as part of a woman's monthly cycle. [5] Ensuring proper hygiene during menses is very crucial to the dignity of girls and women. While these are important, menstrual hygiene is more than just access to sanitary pads and adequate toilets. It is also about ensuring that women and girls live in an environment which values and promotes their capacity to manage their menstruation with dignity. [5]

Menstrual hygiene management is described as the process whereby "women and adolescent girls use clean menstrual hygiene management (MHM) material to absorb or collect blood that can be changed in privacy as often as necessary for the duration of the menstruation period, using soap and water for washing their bodies as required and having access to facilities to dispose of used menstrual management material". [6] According to Sommer and Sahin [7] and UNICEF/Australian Aid [8], the lack of adequate facilities such as gender-separated improved toilet facilities, adequate safe water supply in schools for washing hands and stained clothes and the absence of sanitary menstrual materials

might prevent girls from safe menstrual hygiene management. According to WHO/UNICEF [6], the 2011 Colombo Declaration stressed the need to raise the profile of water and sanitation in schools with a view to ensuring that every school at every educational level has toilets, separate for girls and boys and with menstrual hygiene facilities. This marked the first time the issue of functional toilets and menstrual hygiene management were elevated for inclusion in an official declaration. Menstrual hygiene management practices vary from region to region and depend on the individual's socio-economic status, personal preferences, local customs and beliefs, as well as access to water and sanitation facilities. [9]

Management approaches often times could be unhygienic and inconvenient, particularly in the poorer settings. Good menstrual hygiene is important for women and girls' safety, wellness, integrity, education, mobility and productivity. Poor menstrual hygiene can lead to stigma and ill health, and school absenteeism. Menstruation is a taboo subject across the globe, and this could lead to misinformation and the promotion of unsafe menstrual hygiene practices. Some repercussions of poor MHM are discomfort, bad odour, fear of soiling, menstrual pain making concentration difficult, among others. [10,11] The preference of absorbent used to manage menstrual bleeding is based on personal choice, cultural acceptability, economic status, and availability in local market. [12] Some materials/absorbents used during menstruation include:

Disposable sanitary pads: These seem to be girls'/women's preferred method for managing menstrual bleeding. [13] They are believed to be more absorbent than cloths and other materials, simpler to use, and easier to dispose of. However, they are expensive, compared to cloth pads, and not eco-friendly.

Reusable cloth pads: They might serve as sustainable sanitary option if hygienically washed and dried in the sunlight. The sun's heat being a natural sterilizer sterilizes and dries the cloths/cloth pads for future use. Cloth pads are less expensive, readily available and eco-friendly. However, they need to be stored in a clean dry place for reuse to avoid contamination. [12]

Tampons: They are the type of absorbent that provides internal protection. They are kind of soft material (cotton) which is inserted into the vagina to absorb the menstrual flow before it leaves the body. They are expensive, not easily degradable in nature and hence, not very eco-friendly. Lately, sea sponge tampons are available in the market and serve as natural alternative to synthetic tampons. [12] Worthy of note is the fact that using highly absorbent tampons during light flow or no menstruation can cause toxic shock syndrome (TSS), and/or vaginal irritation. [14,15]

Menstrual cups: They are small, flexible funnel-shaped cup made of rubber, silicone or latex inserted into the vagina to catch and collect menstrual blood. Cups can hold more blood than other methods. [16] They can be worn for up to 4-12 hours depending on the flow before being emptied, rinsed and reinserted. They are reusable and eco-friendly. Many women claim they have never heard of menstrual cups though some may know them as 'Diva cups' or 'Moon cups' which are some brand names of menstrual cup. [16]

Toilet paper or tissues: This is easily available in the local market. The disadvantages are that the toilet paper loses strength when wet and can fall apart, they are difficult to hold in place and may be too expensive for the poorest users. [14]

This study was carried out among undergraduate female students in tertiary institutions of Imo State, Southeastern

Nigeria to investigate their menstrual hygiene management practices.

MATERIALS AND METHODS

This study was a cross-sectional study of tertiary institutions located in Imo State, Southeastern Nigeria. Six hundred and seventy female undergraduates between 16 and 28 years from six tertiary institutions were interviewed using a well-structured questionnaire which they filled out and submitted. The multi-stage sampling technique was used to select participants for the study. All the students gave an informed consent to be part of the study. Tables were used to present data.

RESULTS

Table 1 showed that the mostly used absorbent by female undergraduates in Universities in Imo State was disposable sanitary pad, the most common rate of change of absorbent was twice a day, while the most common way of disposal of absorbent was by throwing into the general waste bin. On absorbents use, 20 University undergraduates representing 5.71% very often used reusable cloth/towel, 12(3.43%) very often used tampon, 264 representing 75.43% very often used disposable sanitary pad, 0(0.00%) very often used menstrual cup, while 20 representing 5.71% very often used toilet paper/tissue. On the other extreme, 311 (88.86%) of the undergraduate students rarely used reusable cloth/towel, 314 (89.71%) rarely used tampon, while 345 or 98.57% rarely used menstrual cup. The mean score for the rate of use of disposable sanitary pad was 3.38. On the rate of change of absorbents, the most hygienic rate of changing absorbent is several times a day (not less than 3 – 4 times). Only 56 female university undergraduate students representing 16.00% very often (VOF) changed their absorbent several times a day, while 246 or 70.29% of the undergraduates rarely did so. The most frequently adopted rate of changing absorbents by female university undergraduates as shown by a mean of 2.53 was twice a day (morning and

night). The results showed that 138 or 39.43% of the university undergraduates very often (VOF) change their absorbents twice a day, 50 (14.29%) often changed their absorbents twice a day, 22 (6.29%) sometimes changed their absorbents twice a day, while 140 (40.00%) rarely changed their absorbent twice a day. The most hygienic way of disposing absorbents was by throwing into special bins for pads. The results however, showed that only 63 representing 18.00% very often (VOF) dispose their absorbent by throwing into special bins for pads, while 222 (63.43%) rarely disposed theirs by throwing into special bins for pads. However, the commonly used method of disposing absorbents is by throwing into general waste bins, for which 118 (33.71%) very often (VOF) did so.

Table 2 showed that the absorbent most used by female undergraduates in Polytechnics/ Monotechnic in Imo State was disposable sanitary pad (mean of 2.73), the most common frequency of change of absorbent was twice a day (mean value of 3.24). The results on the rate of use of absorbents was: ten (10) Polytechnics / Monotechnic students representing 7.14% very often used reusable cloth/towel, 4(2.86%) very often used tampon, 78 representing 55.71% very often used disposable sanitary pad, 0 (0.00%) very often used menstrual cup, while 8 representing 5.71% very often used toilet paper/tissue. On the other extreme, 122 (87.14%) of the undergraduates of polytechnics/monotechnic rarely used reusable cloth/towel, 134 (95.71%) rarely used tampon, while 137 (97.86%) rarely used menstrual cup. On the rate of change of absorbents, only 18 Polytechnics/Monotechnic undergraduate female students representing 12.86% very often (VOF) change their absorbent several times a day, while 106 (75.71%) rarely changed several times a day. The most frequently adopted rate of changing absorbents by Polytechnics/Monotechnic undergraduates was twice a day (morning

and night). The results showed that 68 (48.57%) of the Polytechnics/Monotechnic undergraduates very often (VOF) changed their absorbents twice a day, while 16 (11.43%) rarely changed their absorbent twice a day. The hygienic method of disposing absorbents was throwing into special bins for pads (mean value of 3.16). The results however, showed that only 26 representing 18.57% very often (VOF) disposed their absorbents by throwing into special bins for pads, while 100 (71.43%) rarely disposed theirs by throwing into special bins for pads. However, the commonly used method of disposing absorbents was by throwing into general waste bins, for which 34 (24.29%) very often (VOF) while 97 (69.29%) often (OF) threw their used absorbent into general waste bin.

Table 3 showed that the mostly used absorbent by female undergraduates in Colleges of Education in Imo State was disposable sanitary pad, the most common frequency of changing absorbent was twice a day. On the rate of using absorbents, 14 Colleges of education students representing 7.78% very often used reusable cloth/towel, 19(10.56%) very often use tampon, 112 representing 62.22% very often used disposable sanitary pad, 0(0.00%) very often used menstrual cup, while 8 representing 4.44% very often used toilet paper/tissue. On the rate of changing absorbents, the best rate of changing absorbent is several times a day (not less than 3 – 4 times), but only 16 Colleges undergraduate female students representing 8.89% very often (VOF) changed their absorbents several times a day. The most frequently adopted rate of changing absorbents by College of education undergraduates was twice a day (morning and night). The results showed that 52 or 28.29% of the Colleges of education undergraduates very often (VOF) and 93(51.67%) often changed their absorbents twice a day. The best way of disposing absorbents was by throwing into special bins for pads, which should subsequently be

burnt in incinerators. The results however, showed that 14 or 7.78% of the Colleges of education undergraduates very often (VOF) burned their absorbents. On the other hand, only 28 representing 15.56% very often (VOF) disposed their absorbent by throwing into special bins for pads. However, the common method of disposing absorbents was by throwing into general waste bins, for which 100 or 55.56% very often (VOF) dispose by throwing into general waste bins.

Table 4 showed the ANOVA F-ratio for testing the significance or otherwise of the menstrual hygiene management

practices among female undergraduates in tertiary institutions in Imo State. The calculated F-ratio was 1.976, the critical F-ratio was 3.00, while the p-value was 0.140. Since, the calculated F-ratio was less than the critical F-ratio and the p-value was greater than 0.05, the null hypothesis two was accepted. Hence, there was no significant difference in the menstrual hygiene management practices among female undergraduates in tertiary institutions in Imo State. This shows that the same menstrual hygiene practices were common in all the institutions.

Table 1: Distribution of menstrual hygiene management practices among undergraduates in Universities in Imo State

Item Statements	VOF ≥75% f (%)	OF 50-74% f (%)	ST 25-49% f (%)	Rarely <25 f (%)	\bar{X}
Rate of use of absorbents					
Reusable cloth/towel	20(5.71)	12(3.43)	7(2.00)	311(88.86)	1.26
Tampon	11(3.14)	13(3.71)	12(3.43)	314(89.71)	1.20
Disposable sanitary pad	264(75.43)	16(4.57)	8(2.29)	62(17.71)	3.38
Menstrual cup	0(0.00)	0(0.00)	5(1.43)	345(98.57)	1.01
Toilet paper/tissue	20(5.71)	16(4.57)	26(7.43)	288(82.29)	1.34
Rate of change of absorbent					
Once a day	34(9.71)	16(4.57)	12(3.43)	288(82.29)	1.42
Twice a day (morning & night)	138(39.43)	50(14.29)	22(6.29)	140(40.00)	2.53
Only when it is soaked	64(18.29)	26(7.43)	30(8.57)	230(65.71)	1.78
Several times a day (not less than 3 – 4 times)	56(16.00)	8(2.29)	40(11.43)	246(70.29)	1.64
Disposal of used absorbents					
By burying	34(9.71)	30(8.57)	26(7.43)	260(74.29)	1.54
By burning	82(23.43)	8(2.29)	28(8.00)	232(66.29)	1.83
Throwing it into special bins for pads	63(18.00)	29(8.29)	36(10.29)	222(63.43)	1.81
Throwing it into the general waste bins	118(33.71)	170(48.57)	28(8.00)	34(9.71)	3.06
Throwing it into nearby bushes	46(13.14)	28(8.00)	24(6.86)	252(72.00)	1.62

Source: Field Survey, 2019. VOF -very often; OF -often; ST -sometimes; \bar{X} - mean

Table 2: Distribution of menstrual hygiene management practices among Undergraduates in Polytechnics/Monotechnic in Imo State

Item Statements	VOF ≥75% f (%)	OF 50-74% f (%)	ST 25-49% f (%)	Rarely <25 f (%)	\bar{X}
Rate of use of absorbents					
Reusable cloth/towel	10(7.14)	3(2.14)	5(3.57)	122(87.14)	1.29
Tampon	4(2.86)	0(0.00)	2(1.43)	134(95.71)	1.10
Disposable sanitary pad	78(55.71)	4(2.86)	0(0.00)	58(41.43)	2.73
Menstrual cup	0(0.00)	2(1.43)	1(0.71)	137(97.86)	1.04
Toilet paper/tissue	8(5.71)	4(2.86)	8(5.71)	120(85.71)	1.29
Rate of change of absorbents					
Once a day	6(4.29)	9(6.43)	1(0.71)	124(88.57)	1.26
Twice a day (morning & night)	68(48.57)	54(38.57)	2(1.43)	16(11.43)	3.24
Only when it is soaked	20(14.29)	8(5.71)	10(7.14)	102(72.86)	1.61
Several times a day (not less than 3 – 4 times)	18(12.86)	2(1.43)	14(10.00)	106(75.71)	1.51
Disposal of used absorbents					
By burying	12(8.57)	6(4.29)	12(8.57)	110(78.57)	1.43
By burning	16(11.43)	6(4.29)	6(4.29)	112(80.00)	1.47
Throwing it into special bins for pads	26(18.57)	10(7.14)	4(2.86)	100(71.43)	1.73
Throwing it into the general waste bins	34(24.29)	97(69.29)	3(2.14)	6(4.29)	3.14
Throwing it into nearby bushes	4(2.86)	2(1.43)	4(2.86)	130(92.86)	1.14

Source: Field Survey, 2019. VOF -very often; OF -often; ST -sometimes; \bar{X} - mean

Table 3: Distribution of menstrual hygiene management practices among Undergraduates in Colleges of Education in Imo State

Item Statements	VOF ≥75% f (%)	OF 50-74% f (%)	ST 25-49% f (%)	Rarely <25 f (%)	\bar{X}
Rate of using absorbents					
Reusable cloth/towel	14(7.78)	9(5.00)	8(4.44)	149(82.78)	1.38
Tampon	19(10.56)	0(0.00)	11(6.11)	150(83.33)	1.38
Disposable sanitary pad	112(62.22)	14(7.78)	4(2.22)	50(27.78)	3.04
Menstrual cup	0(0.00)	0(0.00)	0(0.00)	180(100.00)	1.00
Toilet paper/tissue	8(4.44)	6(3.33)	12(6.67)	154(85.56)	1.27
Rate of changing absorbent					
Once a day	16(8.89)	6(3.33)	4(2.22)	154(85.56)	1.36
Twice a day (morning & night)	52(28.89)	93(51.67)	30(16.67)	5(2.78)	3.07
Only when it is soaked	22(12.22)	8(4.44)	12(6.67)	138(76.67)	1.52
Several times a day (not less than 3 – 4 times)	16(8.89)	2(1.11)	14(7.78)	148(82.22)	1.37
Disposing of used absorbents					
By burying	36(20.00)	6(3.33)	8(4.44)	130(72.22)	1.71
By burning	14(7.78)	4(2.78)	8(4.44)	154(85.56)	1.32
Throwing it into special bins for pads	28(15.56)	10(5.56)	8(4.44)	134(74.44)	1.62
Throwing it into the general waste bins	100(55.56)	68(37.78)	6(3.33)	6(3.33)	3.46
Throwing it into nearby bushes	6(3.33)	6(3.33)	4(2.78)	164(91.11)	1.19

Source: Field Survey, 2019. VOF -very often; OF -often; ST -sometimes; \bar{X} - mean

Table 4: Summary ANOVA Table

F_{Cal}	df_1	df_2	F_{Crit}	$p - value$	$\alpha - level$	Decision
1.976	2	324	3.00	0.140	0.05	H_0 is accepted

DISCUSSION

Data obtained showed that 75.43% of female university undergraduates (Table 1), 55.71% of those in polytechnics/monotechnic (Table 2) and 62.22% in colleges of education (Table 3), used disposable sanitary pads very often as absorbent for their menses. 4.57%, 2.86% and 3.33% often used tissue paper in the same order. To ensure proper menstrual hygiene, these absorbents have to be changed frequently, at least three times a day. Tables 1, 2 and 3 again revealed that only 16.00%, 12.86% and 8.89% respectively from universities, polytechnics/monotechnic and colleges of education very often changed their absorbents at least 3-4 times a day. 39.43%, 48.57% and 28.89% very often changed their absorbents twice a day. The study also revealed that very often, these absorbents were thrown into the general waste bins (33.71%, 24.29%, 55.56% among universities, polytechnics/monotechnic and colleges of education respectively). 23.43%, 11.43% and 7.78% burnt their used absorbent very often for fear that the absorbents might be picked up by ritualists as they believed that such might affect them

(the undergraduate) physically or spiritually. There was no statistically significant difference in the menstrual hygiene management practices among the various types of institutions ($p > 0.05$). These findings are in line with that of Alam, et al. [17] who reported that about 86% of primary and secondary school girls did not change their absorbents during school hours which spanned approximately four hours for primary schools and seven hours for secondary schools. Similar studies [18-20] also corroborated some of the findings from this research in which students disposed their used absorbents through pit latrines, burning and comingled with domestic solid wastes. These poor menstrual hygiene management practices predispose the undergraduates and also those that cart away the waste bins to bacterial infections and Hepatitis B. [20] Good menstrual hygiene is important for women and girls' health, safety, dignity, education, mobility and productivity. Poor menstrual hygiene could cause stigma and ill health, which might lead to absenteeism from school. [21]

In conclusion, the menstrual hygiene management practices among female undergraduates in tertiary institutions of

Imo State, Nigeria were found to be below standards. In all the tertiary institutions studied, the level of menstrual hygiene management practice among the female students was the same. Proper menstrual hygiene education was recommended for all young girls in tertiary institutions.

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