



The Knowledge, Pattern and Practice of Menstrual Hygiene among Female Secondary School Students in Ogbomosho, South-west Nigeria

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Abstract

Background: Adolescent girls in developing countries may lack appropriate information, means or materials, and access to the right sanitary facilities to manage menstruation. Hence, they have adopted unsafe hygienic practices during menstruation that in turn have a negative impact on their health and education. **Aim:** Thus, this study aimed to assess the pattern and practices of menstrual hygiene and its associated factors among secondary school girls in Ogbomosho. **Methodology:** A school-based cross-sectional study was conducted in February 2022 among secondary school girls. A total of 460 girls were selected randomly and interviewed using a structured interviewer-administered questionnaire. Logistic regression analysis was employed to identify predictors of good menstrual hygiene management practices. **Results:** Overall, 76.3% of the girls had satisfactory menstrual hygiene management practices. (88%) of them used commercial sanitary pads as absorbent, 56.4% changed sanitary materials more than three times a day, 22% of them experienced restrictions and 68.3% cleaned their external genitalia daily during their menstruation. 37.1% of the respondents reused the absorbent material and 86.8 used soap and water to wash the absorbent material being reused, while 58.9% dried the absorbent materials indoors. 51% of the respondents change the absorbent material thrice a day and above 70% change in the bathroom. The majority of the respondents disposed of the absorbent material by burning (64.8%) while 27.9% disposed of the materials in the toilet. **Conclusion:** In this study, the practice of proper menstrual hygiene management of secondary schoolgirls was quite satisfactory when compared with findings in previous studies in the same geographical area. The majority of the respondents had mothers with tertiary education and these mothers were mainly responsible for the provision of information about menstruation and its hygiene management. Hence, it is important to state that the role of mothers, their level of education and the information about menstrual hygiene cannot be overemphasized as it pertains to knowledge of menstruation and the practice of menstrual hygiene.

Keywords: Menstrual, Hygiene, Knowledge, Pattern, Practices, Female Secondary School Students

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Introduction

The onset of menstruation is one of the most important physiological changes occurring in girls during the adolescent years.

Menstruation heralds the onset of physiological maturity in girls. It becomes part and parcel of their lives until menopause. Apart from personal importance, this

phenomenon also has social significance. Menstrual hygiene practices vary worldwide and depend on the individual's socio-economic status, beliefs and access to water and sanitation resources.

Menstrual hygiene management is defined as "women and adolescent girls using a clean menstrual management material to absorb or collect blood that can be changed in privacy as often as necessary for the duration of the menstrual period, using soap and water for washing the body as required and having access to facilities to dispose of used menstrual materials. (WHO and UNICEF Joint Monitoring Programme 2019).

Unhygienic menstrual practices can affect the entire reproductive career of a woman, frequent episodes of reproductive tract infections can lead to future consequences like difficulty in conceiving, increased risk of abortions and preterm delivery.

Deep-seated Menstrual taboos, common among many Nigerian tribes have also served as major setbacks to proper menstrual hygiene management. With all of these, the period poverty struggle, made worse by poor water sanitation and hygiene facilities in Nigerian communities continues. (Odey & Amusile 2021)

In Nigeria, menstruation is surrounded by myths and misconceptions with a long list of "do's" and "don'ts" for women. Menstruation and menstrual practices are still clouded by taboos and socio-cultural restrictions resulting in adolescent girls lacking knowledge and remaining ignorant of the scientific facts and hygienic health practices, which sometimes results in adverse health outcomes. (Odey & Amusile 2021)

Period poverty is a term used to describe the lack of access to adequate menstrual health management supplies. (Kanik 2021) There is difficulty obtaining proper menstrual materials and thus, the use of alternative products, or using products longer than intended, can lead to health complications,

infections, and long-term health issues. (Kanik 2021).

Globally, over 500 million women and girls lack adequate facilities for menstrual hygiene management. (World Bank Group 2018). In Nigeria, 25% of women lack adequate privacy for menstrual hygiene management. (World Bank Group 2017). For women and girls, the lack of safe, accessible water; sanitation and hygiene is particularly troubling during menstruation. It has been estimated that half a billion (or 13%) of women lack a place to defecate, have little to no privacy for menstrual hygiene management, and 3/4 of those lack access to soap and water. (Loughnan & Rob 2016)

There are few statistics for proper investment to help deal with this issue; sadly, this has been a contributory factor to the increase in period poverty and unhygienic menstrual behaviours. This can be seen in the substitute of clean, soft absorbent sanitary products with rags, tissue papers, newspapers, and pieces of clothing (Odey & Amusile 2021; Adinma & Adinma 2008).

Evidence shows a rapid increase in the knowledge level about menstrual hygiene management through the synergistic efforts of the previously mentioned sects from 60% of adolescents and a deficiency of knowledge in about 40%, and the family primarily responsible for this increase to 94.3%. Abioye-Kuteyi (2000). Nevertheless, there is a wide gap between knowledge of menstrual hygiene management and its practice.

Therefore, this study aimed to assess the prevalence and pattern of unhygienic menstrual practices among female secondary school students in Ogbomosho.

Methodology

The study was a community-based descriptive cross-sectional study to determine the Prevalence and Patterns of unhygienic Menstrual practices amongst Female Secondary students in Ogbomosho North LGA.

It was conducted between February to March 2022.

A target population of 460 female secondary school students residing in Ogbomosho North Local Government Area was randomly selected.

Inclusion Criteria

Menstruating students residing in Ogbomosho.

Exclusion Criteria

Including students who have not attained menarche and those who refused to participate in the study.

The desired sample size was obtained using Cochran's formula: $n = z^2 P(1-P)/d^2$ (Robert & Judy 1986)

Where: n = desired minimal sample population; z = standard normal deviation which is 1.96 at 95% confidence level; $p = 51.2\%$ (2017 estimated prevalence rate of knowledge, attitude and practice of menstrual hygiene in secondary school students in Ogbomosho North); d = degree of accuracy (5%).

By substituting the values into the formula, $n \approx 384$

To address the possibility of non-response/incomplete questionnaires and attrition, 20% was added to the calculated sample size. Hence, a total sample size of 460 female secondary school students was estimated for this study.

A structured pretested questionnaire was used to obtain data on participants. The questionnaire included aspects of sociodemographic characteristics, knowledge, prevalence and pattern of unhygienic menstrual practices. The questionnaire was in English language, and it was explained in simple terms to young secondary students who may have difficulty understanding some terms. Consent was sought from the school and its eligible students after a clear explanation of the study was given to the students and their teachers by the researchers.

Participation was voluntary and the confidentiality of information received from respondents is assured that the questionnaire was made anonymous. Ethical approval for the study was obtained from the Bowen University Teaching Hospital Health Research Ethics Committee. After checking the completeness and appropriateness of the data collected, analysis was carried out using the IBM Statistical Package for Social Sciences (SPSS) version software. The level of statistical significance was set at $p < 0.05$. The result was presented in the form of frequencies and percentages by using tables and charts.

Result

Four hundred and fifty-five females participated in this study. The majority of the study subjects belonged to the age group 13-19 (59.1%). The mean age of study participants was 14.5 years ($SD = 0.765$) and the mean age at menarche was 11 years, however majority (53.0%) of the respondents attained menarche between the ages of 12 and 13 years.

Under Table 1, the majority of the respondents were Christians and were of the Yoruba ethnicity. Most of the respondents' parents attained the tertiary level of education. A significant portion of the respondents was from the monogamous family setting and the majority of these respondents live with both parents (81.8%). Table 1 The majority of the students had heard about menstruation before the onset of menarche and the major source of information was from the mothers (353;77.6%), a total number of 446 students believed menstruation to be a normal process unique to girls and about 369 students (81.1%) believe hormones to be the cause of menstruation.

The majority of the respondents said the source of the menstrual blood was from the vagina, while only 17.4% said it was from the uterus. Amongst the respondents, 44.7% said the normal cycle length is between 21-35 days.

The majority (400) of the respondents were aware of menopause.

The majority of the respondents (62.4%) experienced menstrual symptoms, most of which included pain in the lower abdomen and legs, general body weakness, acne and mood swings. More than 95% of students attended school during their menstruation, majority of the students did not experience restrictions.

However, 22% felt menstruation prevented them from being able to attend religious activities, cook, or even feel comfortable interacting with the opposite gender; About 31.2% described the feeling of menarche as scary, 29.7% described it as pleasant, 26.6% as a feeling of discomfort and about 12.5% were emotionally disturbed.

Sanitary pads were the major absorbent material (88%) used, which was followed by the use of new cloth (10.5%). Less than half (37.1%) of the respondents reused the absorbent material and 86.8% used soap and water to wash the absorbent material being reused, while 58.9% dried the absorbent materials indoors. About half (51.0%) of the respondents change the absorbent material thrice a day and above. The majority (70.0%) of these changes occur in the bathroom. A total of 52.4% changed panties twice a day and 38.1% changed three times or more. The majority of the respondents disposed of the absorbent material by burning (64.8%) while 27.9% disposed of the materials in the toilet. The majority (97.6%) of the respondents cleaned their genitals during the period of menstruation.

Under Table 3, in general, it was observed that there was no statistically significant relationship between the age of the respondents($p=0.262$), age at menarche($p=0.109$), whether or not the patient resides with the parents($p=0.315$) and source of information about menstrual and menstrual hygienic practices($p=0.829$) and menstruation and the practice of menstrual hygiene.

Discussion

The onset of menstruation is one of the most important physiological changes occurring in girls during adolescence. Generally, It is believed that lack of knowledge regarding menstruation and menstrual hygiene leads to poor attitude and practice. Several studies have been conducted in the past to ascertain the level of knowledge of menstruation and the practice of menstrual hygiene or otherwise. (El-Gilany & Badawik 2005; Dasgupta & Sarkar 2008; Fehintola & Fehintola 2017).

Findings from our study revealed that most of the respondents (74.0%), were menstruating girls around age 13-19 years. The mean age of menarche was observed to be 11 years, this was similar, though lower to 12.5 years observed from a previous study. (Fehintola & Fehintola 2017). This study reveals that about 95% of respondents had knowledge of menstruation even before menarche was attained; this is similar to 96.42% (Fehintola & Fehintola 2017) but different from 67.5% observed by Dasgupta *et al.* in India. The observed difference may be due to geographical or sociocultural differences. (Dasgupta & Sarkar 2008).

Mothers were the major sources of menstrual hygiene information rather than the mass media in the studies reviewed. (Dasgupta & Sarkar 2008), (El-Gilany & Badawik 2005), (Torondel & Sinha 2018). From our study, it was not surprising that mothers contributed significantly to information on menstruation because most of the respondents had educated mothers (306;67.3%).

On consideration of menstrual hygienic practices, under Table 1 additionally, it was observed that the type of absorbent material used by most respondents in this study is a sanitary pad (88%) as opposed to rags/used clothes (46.8%) in the study by (Fehintola & Fehintola 2017) and this has significantly reduced the prevalence of reuse of absorbent materials. The use of disposable sanitary pads has been shown to prevent some of the diseases associated with the reuse of absorbent materials like bacterial infection

(e.g. bacteria vaginosis), dermatitis, and candida. (Torondel & Sinha 2018).

The method of disposal of used absorbent materials mainly was by burning (293;64.8%), unlike a previous study in which the majority disposed their sanitary pads through the toilet(124;52.1%). The burning method is considered a safe method of sanitary pad disposal. It has been observed that this is better because the toilet disposal method leads to blockage of the sewage system especially because the adhesive wings and the perforated plastic layers in the sanitary pads are not easily biodegradable. (Kaur & Kaur 2018).

The frequency of changing absorbent material during menstruation has also increased with most of the frequency of changing absorbent material during menstruation has also increased with most girls changing their sanitary pads at least 2 times a day. There was a positive association between the high socio-economic status of parents and good menstrual hygiene of adolescents which could be because of a good supply of sanitary pads.

The frequency of washing of genitalia during menstruation was about three times a day in this study (53.9%) which was significantly more than a study carried out by (Tharkre & Tharkre 2011), [15] where about 66.15% of respondents were washing their genitals less than two times or nil. A satisfactory number of respondents use just water to wash their genitalia, which is more hygienic than water and soap, which was predominant in the study by Tharkre *et al.* (Tharkre & Tharkre 2011). Overall, 76.9% of the respondents had a satisfactory knowledge of menstruation and 70.8% had a satisfactory practice. Hence, we can say that there is a positive association between a satisfactory knowledge of menstruation and hygienic menstrual practices.

From the findings in our study, it is possible to infer that knowledge and practice of good menstrual hygiene have improved over the years compared to the study in Ogbomoso by

Fehintola *et al.* (Fehintola & Fehintola 2017), where just 25% of respondents practised good menstrual hygiene.

In conclusion, our study clearly revealed an improvement in the practice of proper menstrual hygiene management of secondary schoolgirls when compared with what was observed in previous studies conducted in the same geographical area. Significantly it was observed that the majority of the respondents had mothers with tertiary education and these mothers were mainly responsible for the provision of information about menstruation and its hygiene management. Hence, it is important to state that the role of mothers, their level of education and the information about menstrual hygiene cannot be overemphasized as it pertains to knowledge of menstruation and the practice of menstrual hygiene. As a result of these findings, subsequent programs and policies aimed at improving menstrual hygienic practices amongst females of secondary school should be designed to involve the mothers since they play a huge role in ensuring a positive outcome.

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Table 1.0 Demographic Characteristics of Respondents

Demographic Characteristics	Frequency(n)	Percentage (%)
Age		
<13	116	25.5
13-19	337	74.0
>19	2	0.5
Class		
JSS 1-3	109	24.0
SSS 1-3	346	76.0
Type of School		
Private	204	44.8
Public	251	55.2
Religion		
Christianity	416	91.5
Islam	37	8.1
Traditional worshipper	1	0.2
Others	1	0.2
Fathers' highest Educational level		
Informal	5	1.1
Primary	11	2.4
Secondary	134	29.5
Tertiary	305	67.0
Mothers Highest Level of Education		
No Formal Education	5	1.1
Primary	10	2.2
Secondary	134	29.4
Tertiary	306	67.3
Residential support of Respondents		
Lives with Both Parents	372	81.8
Mother Only	32	7.0
Father Only	10	2.2
Relatives	32	7.0
Alone	2	0.4
Others	7	1.6

Table 2.0: Knowledge of Normal Menstruation

Variables	Frequency (n=455)	Percentages (%)
Aware of menstruation prior to Menarche		
Yes	429	94.3
No	26	5.7
Age at Menarche		
<8years	0	0
9 years	8	1.8
10 years	21	4.6
11 years	58	12.7
12 years	125	27.5
13 years	116	25.5
14 years	59	13.0
15 years	17	3.7
>16 years	2	0.4
Uncertain	49	10.7
What is Menstruation		
It is normal and unique to girls	446	98
It is an illness	0	0
It is a curse from God	6	1.3
I don't know	3	0.7
What Causes Menstruation		
Hormones	369	81.1
Caused by disease	5	1.1
Cursed from God	27	5.9
I don't know	54	11.9
Source of menstrual blood		
The uterus	79	17.4
The vagina	320	70.3
The bladder	7	1.5
The abdomen	5	1.1
Uncertain	44	9.7
How long is the normal menstrual cycle		
<21 days	123	27
21 – 35 days	203	27
> 35	16	3.5
I don't know	113	24.8
At what age does menstruation stop		
It is forever until a girl dies	5	1.1
It ends at menopause	400	87.9
It ends after sexual intercourse	10	2.2
uncertain	40	8.8
What is the normal menstrual bleeding duration		
< 2 days	42	9.2
2 – 7 days	309	67.9
> 7 days	60	13.2
Uncertain	11	9.7

Table 3.0: Menstrual Hygiene and Practices

Variables	Frequency (n=455)	Percentages (%)
Types of Absorbent Material		
Sanitary Pad	400	88
Tampons	2	0.4
New Cloth	48	10.5
Rag/Used Cloth	3	0.7
Toilet roll	2	0.4
Cotton wool	0	0
Others	0	0
Frequency of change of absorbent material		
I don't change	6	1.3
Once	13	2.9
Twice	160	35.2
Thrice	232	51
More than 3 times	44	9.8
Place of change		
Toilet	29	6.4
Bedroom	59	13
Bathroom	361	79.3
Outside/Bush/Field	2	0.4
Others	4	0.9
Frequency of change of panties during menses		
No change during the day	16	3.5
Once	27	6.0
Twice	237	52.4
Three times or more	172	38.1
Method of disposal of used absorbent materials		
Toilet	126	27.9
Waste bin	30	6.6
The Drain	2	0.4
Open Field	1	0.2
Burning	293	64.8
Materials used to wrap absorbent materials		
Plastic bag/cover of pad	296	65.2
Toilet paper	64	14.1
Cloth	25	5.5
Others	22	4.8
I don't wrap	47	10.3
Washing of hands before changing		
Never	16	3.5
Sometimes	157	34.5
Every time	282	62.0
Washing of hands after changing		
Never	8	1.8
Sometimes	60	13.2
Every time	387	85.0
Washing of Genitals		
Yes	444	97.6
No	11	2.4

Variables	Frequency (n=455)	Percentages (%)
Frequency of Washing		
Do not wash	6	1.3
Every 2 – 3 days	34	7.5
Once per day	53	11.7
Twice per day	116	25.6
3 or more times per day	246	53.9
Materials of washing		
Does not wash	6	1.3
Soap and water	136	29.9
Water only	312	68.6
Paper	1	0.2
Daily bathing with soap and water during the period		
Yes	446	98.0
No	9	2.0