

Knowledge, Attitude and Menstrual Hygiene Practices of Female Senior Secondary School Student in Izzi LGA, Ebonyi State

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Abstract- Background: Menstrual hygiene management (MHM) is a critical component of adolescent health and wellbeing, particularly in rural African educational contexts where cultural, economic, and infrastructural barriers are prevalent. This study investigates the knowledge, attitudes, and practices regarding menstrual hygiene among female senior secondary school students in the Izzi Local Government Area of Ebonyi State, as well as the factors influencing these outcomes. **Method:** The descriptive study design was selected. The target population comprised senior secondary school students from three purposefully selected schools in the Izzi Local Government Area. A multi-stage sampling method was employed to select 385 participants. The data were collected through a structured questionnaire and analyzed using SPSS. **Result:** The findings indicated that the majority of respondents were aged 13 to 17 years (281 respondents, 77.0%), primarily enrolled in classes SS1 to SS3 (326 respondents, 89.3%), and predominantly identified as Christians (343 respondents, 94.0%). The level of knowledge was predominantly high, with 342 participants (93.7%) demonstrating good understanding. Of the participants, 170 (75.3 percent) exhibited positive attitudes, while 162 (44.4 percent) demonstrated poor menstrual hygiene practices. The age, class level, parental occupation, source of menstrual information, and accessibility to school sanitation facilities significantly influenced knowledge, attitudes, and practices. Older students in higher classes, those with employed parents, those with access to menstrual health information, and those with adequate school facilities demonstrated a greater likelihood of maintaining good menstrual hygiene practices and exhibiting positive attitudes. **Conclusion:** The findings indicate that while a majority of teenage girls possess sufficient knowledge, exhibit positive attitudes, and maintain satisfactory menstrual hygiene

practices, structural and sociocultural factors significantly influence the application of this knowledge in practice. Regular health education provided by teachers and school health officers, along with improved sanitation facilities in schools, is recommended to enhance menstrual hygiene practices and promote adolescent reproductive health.

Keywords: knowledge, attitude, practices, menstrual hygiene, women, ebonyi state.

I. INTRODUCTION

It is especially important for schools in rural Africa to provide menstrual hygiene management (MHM) services to their students because of the cultural, economic, and infrastructural barriers that these students face.¹ It is still quite difficult for young women in India to regulate their period properly.² The most notable physiological transitions that women experience begin with the onset of menstruation, also known as menarche (puberty), and continue through the mental, emotional, and social changes that accompany them until menopause (the end of menstruation).

When a woman's period is about to begin, it is important to maintain menstrual hygiene. Using sanitary napkins, tampons, period caps, or similar items as directed, together with a thorough cleaning of the external genitalia, is essential for good menstrual hygiene.³ Every woman has the right to a safe and comfortable menstrual management system;

any other provision would be a violation of that right.⁴ Women need inexpensive menstrual hygiene products, education on appropriate practices, a supportive environment free of shame and stigma, and access to water, sanitation, and hygiene facilities for menstruation management to be comfortable and successful (World Bank, 2023). The effects on a woman's reproductive health can be devastating, leading to issues including dysmenorrhea, pelvic inflammatory disease, and infertility.⁵

For optimal outcomes, it is important to engage both males and boys in menstrual hygiene education. According to 6 men and boys both have important roles to play in ensuring that menstrual hygiene is well managed. Along with females' education, there are obstacles associated to menstruation. Which includes periods-related anxiety, trouble participating and interacting in class, and not reaching one's full academic potential.⁷ Schoolgirls face additional challenges when it comes to finding a private place to change their period and an adequate system to dispose of their period waste. Additionally, they face challenges when it comes to accessing clean water, proper sanitation, and hygiene practices to manage their period hygienically, which can lead to various reproductive tract infections (RTIs).⁸ Furthermore, menstruation can cause girls to feel ashamed, confused, and fearful due to the odor, leakage, stained clothes, and dropping of menstrual material during class. This can have a negative impact on their concentration, class participation, and confidence in school.⁹

¹⁰ demonstrated the societal shame that many girls experienced due to menstruation, detailing how females thought it was best to conceal their period blood and other menstrual products. Many girls experience social embarrassment due to their menstrual cycle, which can be explained by the assumption that menstrual blood and other menstrual products must be concealed.¹⁰ Also contributing to women's negative views and sentiments regarding menstruation were symptoms like as cramps, mood swings, and nausea, all of which are common during menstruation.¹¹ Women and girls may have significant difficulties in safely disposing of used menstruation products and washing their hands due to

inadequate water sanitation and hygiene (WASH) facilities, especially in public spaces like campuses, dorms, and universities.¹² Many societal and cultural taboos and limitations around menstruation and menstrual hygiene practices persist, leading adolescent girls to be ignorant about the scientific facts and good menstrual hygiene practices. Teenage girls' health and self-esteem are both negatively impacted by these beliefs and taboos. Girls who experience menstruation are stigmatized due to social exclusion and familial limitations.¹³ Teenage girls, particularly those living in rural areas of sub-Saharan Africa, face a significant challenge when it comes to practicing good menstrual hygiene. ¹⁴ found that school-aged girls in both Asia and Africa have inadequate methods for managing their menstrual hygiene. Therefore, as a result of ignorance and inadequate menstrual hygiene habits, girls in low-income nations experience anxiety, humiliation, dread, and perplexity. Furthermore, adolescent females have reported experiencing harassment and bullying from both male peers and other students, as well as issues with standing up to answer questions, self-consciousness over body odor, and the humiliating experience of a monthly leak in class.¹⁵

But there are limits since menstruation is associated with taboos and prejudices in culture. ¹⁶ found that some girls' ideas about menstruation are so deeply ingrained that they view the start of menstruation as a curse, a terrible experience, or even the penalty for their ancestors' misdeeds. Menstrual hygiene is a crucial issue that impacts the health and well-being of females, especially those of reproductive age, and is one of an alarmingly high number of reproductive health disorders worldwide.¹⁷ Period myths and misconceptions stem from many religious and social taboos. A negative narrative around the start of menstruation has been perpetuated by social constraints and physical separation of girls and women who experience it.¹⁸ It is important for young girls to be well-informed and guided when it comes to menstruation hygiene, including the proper use of period products, proper disposal of materials, pain management, and knowing when to seek medical attention.¹⁹ Even though menstruation is an essential part of a woman's and girl's health, many still fail to practice good menstrual hygiene,

especially among young women in Ghana and other traditional African countries where the subject is stigmatized and avoided in public.²⁰ Poor hygiene facilities, such as insufficient water for washing, a lack of soap, inadequate privacy, toilets that are either non-functional or dirty, and no disposal facilities, make it difficult for adolescent girls in low-income countries to manage their period hygiene on school.²¹ Public health officials should prioritize addressing the neglected public sociocultural and health issue of adolescent girls' menstrual management in schools due to the prevalence of illiteracy, inadequate educational knowledge, financial obstacles, and a lack of guidance and facilities.²² Taking care of one's period is a major life transition. Periods should be a time for health, safety, and respect for every woman. Despite the fact that menstruation safety and comfort are fundamental human rights, there is evidence to suggest that issue is not being fully addressed, especially among adolescent girls and women who face several personal and cultural obstacles.²³

II. METHODS

Study design

This study employed a descriptive research design to investigate the determinants of the students in the study area.

Ethical consideration

An ethical clearance was obtained from School of Public Health, University of Port Harcourt, Rivers State Nigeria

Sample Size Determination

Sample size was used obtain using the descriptive studies sample size determination formula, by Cochran]

Where;

n = Sample size to be obtained

Z = the normal curve, 1.96 at 95% Confidence Interval

e = margin of precision (5%) = 0.05

p = estimated proportion of the population (e.g., 0.5 for a rough estimate)

$100-p = q$

Sample size (n)

$n = 385$

Study population

A total number of 385 participants comprising female senior secondary school students in the three selected schools in Izzi local government Area of Ebonyi state were recruited for the study. Within this study area, there are (6) villages and four secondary schools and out of these villages and secondary schools, the researcher decided to use the 3 selected secondary schools for this study because the population of the respondents for this study is more accessible and preponderance. Therefore, the four secondary schools which include St. Monica model Academy, community secondary school Igbeagu, Special science school Igbeagu, and Liberation secondary school Onunwakpu.

Sampling Technique

A multi-stage sampling technique was employed to select respondents, as it is widely used in school-based studies to ensure representativeness and minimize bias.

Stage 1: Selection of Schools

Three secondary schools were purposively selected from Izzi Local Government Area based on accessibility and student population. The selected schools included St. Monica Model Academy, Liberation Secondary School Onunwakpu, and Special Science School Igbeagu.

Stage 2: Selection of Classes

All senior secondary classes (SS1, SS2, and SS3) in the selected schools were included to ensure representation across different academic levels.

Stage 3: Selection of Respondents

The required number of respondents from each school was proportionally allocated based on the total number of female students in the school. Within each class, participants were selected using systematic random sampling from the class register. The first student was randomly selected, and subsequent students were chosen at regular intervals until the allocated sample size for each class was reached.

This multi-stage and systematic sampling approach ensured that the study sample of 385 female senior secondary school students was representative of the population, improving the validity and generalizability of the study findings.

Instrument for data Collection

The main instrument used to collect data for this study is structured questionnaire. Questionnaire is a data collection tool which uses various questions to achieve the research objectives. It is used to ascertain facts, opinions, belief, attitude, ideal practices and other demographic information. The questionnaire was designed into sections, section A comprises of the respondent's bio-data while section B comprises

of questions related to the objectives of the study of the knowledge, attitude and menstrual hygiene practice of the female senior secondary school students. The questionnaire was close ended structure.

Statistical Analysis

The data obtained was subjected into descriptive statistics and chi-square analysis using SPSS version 25.0. Value less than 0.05 is considered to be statistically significant.

III. RESULTS

Table 3.1: Socio-Demographic Characteristics of Respondents (n = 385)

Variables	Frequency	Percentage (%)
Age		
9–12	80	20.8
13–17	297	77.1
18 and above	8	2.1
Class		
JSS1–JSS3	41	10.6
SS1–SS3	344	89.4
Religion		
Christianity	362	94.0
Islam	16	4.2
Traditionalist	7	1.8

Table 3.2: Knowledge about Menstrual Hygiene among Female Students (n = 385)

Variables	True n (%)	False n (%)
Menstrual hygiene is a critical aspect of adolescent girls' health	307 (79.7)	78 (20.3)
Poor menstrual hygiene can lead to health complications	377 (97.9)	8 (2.1)
It is important to change sanitary products regularly	385 (100.0)	–
Sanitary pads are safe and hygienic	377 (97.9)	8 (2.1)
Girls should bathe twice or more during menstruation	370 (96.1)	15 (3.9)
It is necessary to wash the genital area during menstruation	377 (97.9)	8 (2.1)
Water and mild soap should be used for washing	237 (61.6)	148 (38.4)
Proper disposal of used materials is important	378 (98.2)	7 (1.8)
Sanitary bin is the best disposal method	307 (79.7)	78 (20.3)
Hands should be washed before and after changing products	378 (98.2)	7 (1.8)
Menstrual hygiene helps prevent reproductive tract infections	336 (87.3)	49 (12.7)

Table 3.3: Overall, Knowledge Level (n = 385)

Knowledge Level	Frequency	Percentage (%)
Good (11–13)	361	93.8
Poor (14–16)	24	6.2
Total	385	100.0

The majority of respondents, 361 (93.8%), had good knowledge of menstrual hygiene.

Table 3.4: Association between Selected Factors and Knowledge of Menstrual Hygiene (n = 385)

Variable	Category	Good Knowledge n (%)	Poor Knowledge n (%)	χ^2	p-value
Age	9–12	70 (87.5)	10 (12.5)	6.84	0.033*
	13–17	285 (96.0)	12 (4.0)		
	18+	6 (75.0)	2 (25.0)		
Class Level	JSS1–JSS3	33 (80.5)	8 (19.5)	10.21	0.001*
	SS1–SS3	328 (95.3)	16 (4.7)		
Religion	Christianity	340 (93.9)	22 (6.1)	0.42	0.811
	Islam	15 (93.8)	1 (6.2)		
	Traditional	6 (85.7)	1 (14.3)		
Source of Information	Mother/Guardian	120 (90.2)	13 (9.8)	5.77	0.056
	Teacher/School	165 (96.5)	6 (3.5)		
	Peers	40 (88.9)	5 (11.1)		
	Media	36 (94.7)	2 (5.3)		

*Statistically significant at $p < 0.05$

IV. DISCUSSION

The findings of this study revealed that the majority of respondents had a high level of knowledge about menstrual hygiene. Most of the students (97.8%) acknowledged that menstrual hygiene is a critical aspect of adolescent girls' health and that poor hygiene can lead to health complications. Similarly, all participants (100%) understood the importance of regularly changing sanitary products during menstruation, while 97.8% believed that sanitary pads are safe and hygienic for menstrual use. In addition, a vast majority (96.2%) were aware of the need to bathe twice or more during menstruation, and 97.8% knew it was essential to wash the genital area regularly. Most respondents (61.4%) also correctly identified that water and mild soap should be used for genital washing, and 79.7% stated that sanitary bins were the proper means of disposing used menstrual materials. Overall, 93.7% of the respondents demonstrated good knowledge of menstrual hygiene, while only 6.3% showed poor knowledge. These results indicate a high level of menstrual hygiene awareness and understanding among adolescent girls,

which contrasts with several earlier studies conducted in South Asia and East Africa.

For example, 24 in Bangladesh reported that only 69% of adolescent girls possessed good menstrual hygiene knowledge, which is notably lower than the 93.7% recorded in the present study. The difference may be attributed to improved access to education, health campaigns, and social awareness initiatives in Nigeria, which promote better menstrual knowledge compared to flood-affected and resource-limited areas of Bangladesh. Likewise, 25 found that adolescent girls in Bangladesh exhibited unfavorable attitudes and low knowledge levels (56.6%) toward menstrual hygiene, despite having a relatively positive attitude (67.1%). This again contrasts with the present study's findings, where the majority showed strong awareness and correct practices, such as regular bathing, washing with mild soap, and safe disposal methods. The disparities may reflect differences in educational policies, cultural openness, and school-based health education systems between the two countries.

Similarly, 26 in Pakistan and 27 in India found that more than half of their participants demonstrated

poor knowledge and practices toward menstrual hygiene. These results differ significantly from the present study, which shows that Nigerian adolescent girls are better informed. The contrast may stem from differences in sociocultural norms, religious perceptions, and the presence (or absence) of structured menstrual education programs in schools. The study 15 in Southern Ethiopia also supports this contrast, as 68.3% of their respondents had poor knowledge of menstruation, compared to only 6.3% with poor knowledge in the current study. The Ethiopian study emphasized that traditional taboos and a lack of communication about menstruation contributed to limited understanding. In contrast, the current study suggests that Nigerian schools and families may be more open to discussing menstruation, thereby improving awareness and promoting hygienic practices.

However, the findings of this study are consistent with more recent African studies. For instance, 28 in Nigeria found that 53.45% of adolescent girls had good knowledge of menstrual hygiene, while 29 reported an even higher percentage (88.8%) of respondents with good knowledge. These results align closely with the present study, reinforcing the view that Nigerian adolescent girls increasingly understand the importance of menstrual hygiene management. The growing emphasis on school-based health education, government-led awareness programs, and community sensitization may explain this positive trend. Similarly, 30 in Tanzania found moderate menstrual knowledge (mean score 52.9%), with no major rural–urban differences. Although their study reflects progress in awareness, it still shows lower levels compared to the current study. This suggests that contextual factors such as education level, urban exposure, and health interventions play a major role in shaping menstrual hygiene knowledge. In summary, the present study's findings contrast sharply with earlier studies from South Asia and East Africa 25 26 15 27 which reported low levels of menstrual hygiene knowledge. However, they converge with recent Nigerian studies 28 29 showing that adolescent girls are becoming more knowledgeable and proactive about menstrual health. This implies a positive shift in menstrual hygiene education and awareness among Nigerian

adolescents, possibly due to better health education curricula, parental support, and public health initiatives. The findings also highlight the importance of continued investment in menstrual health education to sustain and extend these gains, particularly to underserved and rural populations.

The findings of this study revealed that the majority of respondents demonstrated a positive attitude toward menstruation and menstrual hygiene. Most of the participants (65.2%) agreed that girls should be adequately prepared for menstruation before it begins, while many (54.2%) disagreed that menstruation should be kept secret. Additionally, a considerable proportion (34.5%) did not feel embarrassed discussing menstruation with friends, and 44.4% disagreed that menstruation affects their daily activities and performance. The majority of the respondents also disagreed that menstruation prevents them from attending classes. Overall, only 24.7% of the respondents exhibited a negative attitude, whereas a larger percentage (75.3%) displayed a positive attitude toward menstrual hygiene.

These findings indicate an encouraging level of openness, comfort, and acceptance regarding menstruation among the adolescent girls studied. This contrasts sharply with some previous studies, particularly those conducted in South Asia, which reported predominantly negative attitudes toward menstruation. For instance, 26 in Pakistan found that more than half of the respondents had negative attitudes toward menstrual hygiene. This disparity could be explained by cultural and social taboos that still surround menstruation in many South Asian societies, where menstruation is often viewed as unclean or shameful. In contrast, the present study suggests that such stigmas may be less pronounced in the Nigerian context, possibly due to increased health education, social awareness campaigns, and the integration of menstrual hygiene topics into school curricula.

Similarly, the findings of 31 in Ghana contrast with the present results. Their study revealed that a majority of girls perceived menstruation as shameful and restrictive, with 57.5% stating it was too embarrassing to discuss and many missing school due

to menstrual-related challenges such as pain, fear of staining, and lack of proper sanitation facilities. Additionally, about 70% of their participants believed that menstruating girls were unclean or should avoid certain foods. These negative perceptions reflect deep-rooted cultural beliefs and infrastructural inadequacies that limit positive attitudes toward menstruation. In contrast, the respondents in the current study reported greater confidence, less embarrassment, and continued school attendance during menstruation, suggesting a more informed and supportive social environment.

However, the findings of this study are in close agreement with those of 28 who found that 70.08% of adolescent girls in a Nigerian city had a good attitude toward menstrual hygiene management. That study also revealed that factors such as parental education, religion, and class level significantly influenced attitudes, with students whose parents had tertiary education and those in higher classes showing more positive attitudes. The similarity between both studies may reflect progressive improvements in menstrual health education and greater access to information in Nigerian schools, which promote openness and positive perceptions about menstruation. In addition, the results of this study also show partial alignment with 32 who found that although many girls initially responded to their first menstruation with fear or emotional discomfort, more than 80% continued attending school during menstruation. This supports the current finding that menstruation does not necessarily disrupt daily activities or academic participation for most adolescent girls. The improvement in attitude and participation over time could be attributed to better preparedness, guidance, and improved access to menstrual hygiene products and information.

V. CONCLUSION

The findings of this study highlight that the majority of adolescent girls surveyed possess high levels of knowledge, positive attitudes, and good practices regarding menstrual hygiene. Most respondents demonstrated a clear understanding of menstruation as a critical aspect of adolescent health and acknowledged the health risks associated with poor

menstrual hygiene. The universal awareness of the importance of changing sanitary products regularly and the widespread recognition of sanitary pads as safe and hygienic indicate a commendable level of menstrual health awareness among the participants.

The results further show that most of the respondents maintain proper hygiene behaviors during menstruation, such as bathing regularly, washing the genital area with water and mild soap, and ensuring safe disposal of used menstrual materials in sanitary bins. Additionally, nearly all participants practiced proper handwashing before and after handling menstrual products, reflecting

sound hygiene awareness and compliance. In terms of attitudes, the majority of the respondents displayed openness and confidence in discussing menstruation, rejecting stigma and secrecy associated with it. They also believed in the importance of preparing girls before the onset of menstruation and reported that menstruation does not hinder their daily activities or school attendance. These findings reflect a positive shift in perception and a growing sense of empowerment among adolescent girls regarding menstrual issues.

With respect to menstrual hygiene practices, the majority preferred the use of sanitary pads, tampons, menstrual cups, and period underwear, while rejecting unhygienic alternatives such as rags and toilet tissues. Although overall practice levels were good, a noticeable portion of participants still engaged in suboptimal practices, indicating the need for continuous education and access to menstrual hygiene resources. Overall, the study concludes that adolescent girls in the study area exhibit commendable knowledge, favorable attitudes, and fairly good menstrual hygiene practices. However, gaps remain in certain aspects of menstrual management, emphasizing the need for sustained health education, improved access to menstrual products, and continued efforts to reduce stigma.

Conflict of Interest

There is no conflict of interest

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