

**Original Article**

Awareness, Attitudes, and Menstrual Hygiene Practices Among In-School Secondary School Students in Ilorin West Local Government Area, Kwara State

Farida Abubakar

Department of Public Health, Faculty of Basic Medical Sciences, Al-Hikmah University, Ilorin, Kwara State, Nigeria.

ARTICLE INFO**Article History**

Received: 25th December, 2025

Accepted: 10th January, 2026

Available online: 30th January, 2026

Keywords:

Menstrual hygiene management
Awareness
Attitudes
Practices
Adolescent girls
Ilorin West.

ABSTRACT

Background: Menstrual hygiene management is an important public health issue affecting the health, education, and well-being of adolescent girls. This study addresses the lack of local data on MHM among secondary school students in Ilorin West, Kwara State, Nigeria.

Objective: To assess adolescents' awareness and knowledge of menstruation, attitudes and perceptions toward menstruation, menstrual hygiene practices, and challenges faced in managing menstruation at school.

Methods: A school-based cross-sectional quantitative survey design was adopted, involving 400 female students selected through a multistage sampling technique. Data were collected using a structured, self-administered questionnaire and analyzed using the Statistical Package for Social Sciences (SPSS) version 26, employing descriptive statistics

Results: The study found a high level of pre-menarcheal awareness (85.3%) and good knowledge of MHM (over 60%). However, negative attitudes, including shame and embarrassment, were widely reported. Disposable sanitary pads were the most common material (70%), but a majority (60.8%) reported changing materials infrequently (1 time per day). Crucially, significant school-based infrastructural deficits—including a lack of access to water and soap (36.5%), and clean toilet (31.7%)—were identified as major barriers which caused absenteeism (53.8%) among the female students. Consequently, over half of the respondents (53.8%) reported missing school during menstruation.

Conclusion: Although awareness of menstruation is relatively high, menstrual hygiene management among secondary school girls in Ilorin West is limited by stigma, negative attitudes, and poor school WASH facilities. Improving menstrual health education, access to affordable sanitary products, and gender-sensitive WASH infrastructure is essential.

Please cite this article as: Abubakar, F. (2026). Awareness, Attitudes, and Menstrual Hygiene Practices Among In-School Secondary School Students in Ilorin West Local Government Area, Kwara State. *Al-Hikmah Journal of Health Sciences*, 5(1), 54-60.

Corresponding Author:**Farida Abubakar**

Department of Public Health, Faculty of Basic Medical Sciences, Al-Hikmah University, Ilorin, Kwara State, Nigeria.

Phone number: +2347011492120

Email: faridabubaqr@gmail.com

Introduction

Menstruation, a natural biological process, remains a significant public health and social challenge in many

parts of the world, particularly in sub-Saharan Africa. The effective management of menstrual hygiene (MHM) is essential for the physical health,

psychological well-being, and educational attainment of adolescent girls (Hennegan, 2018).

In Nigeria, the transition to menarche is often accompanied by a lack of accurate information, leading to fear, anxiety, and reliance on myths and misconceptions (Fehintola et al., 2017). While some studies suggest a high level of general awareness, there is often a critical gap between knowing about menstruation and understanding the practical, hygienic, and destigmatized management of it (Rabiu et al., 2018). Socio-cultural norms frequently perpetuate a culture of silence and shame around menstruation, leading to discriminatory practices and restrictions that further marginalize menstruating girls (Canon, 2021).

A major practical challenge is the accessibility and affordability of appropriate menstrual hygiene materials. The high cost of commercial sanitary pads often forces girls from low-income backgrounds to resort to unhygienic alternatives such as old rags, cotton wool, or tissue paper (Nwachukwu et al., 2025). These improvised materials are often ineffective and pose serious health risks, including reproductive tract infections (Amore et al., 2023).

Furthermore, the school environment, which should be a supportive setting, frequently lacks the necessary infrastructure for effective MHM (Fehintola et al., 2017). Inadequate water supply, lack of private and clean toilet facilities, and the absence of safe disposal mechanisms for used materials are common infrastructural deficits that directly contribute to discomfort and school dropout rates among girls (Obiano et al., 2023). Studies have consistently linked poor school WASH facilities to increased school absenteeism during menstruation (Adane et al., 2024). Despite the growing body of research on MHM in Nigeria, comprehensive, localized data remains crucial for targeted policy and intervention design. This study specifically focuses on the in-school adolescent girls in the Ilorin West Local Government Area of Kwara State to provide empirical evidence on their awareness, attitudes, practices, and the specific challenges they face, thereby informing local public health and educational strategies.

Methodology

Study Design and Area

This study utilized a school-based cross-sectional quantitative survey. The research was conducted in the Ilorin West Local Government Area of Kwara State, Nigeria, which is a semi-urban setting characterized by a mix of educational institutions and diverse socioeconomic backgrounds.

Study Population and Sampling

The study population consisted of adolescent girls (aged 10-18 years) currently enrolled in secondary schools within the Ilorin West Local Government Area. A total sample size of 400 respondents was determined and selected from four randomly chosen secondary schools. A stratified random sampling technique was employed to ensure proportional representation across different class levels (Junior and Senior Secondary School).

A sample size of 400 students was drawn from the total population using the Yamane (1967) formula for sample size determination:

$$n = \frac{N}{1+N(e)^2}$$

Where:

n=samplesize

N=population(13,240)

e = margin of error (0.05)

Substitution:

$$n = \frac{13,240}{1+13,240(0.05)^2}$$

$$n = \frac{13,240}{1+13,240(0.0025)}$$

$$n = \frac{13,240}{1+33.1}$$

$$n = \frac{13,240}{34.1}$$

$$n = \frac{13,240}{34.1} = 388.2 \approx 388$$

Therefore, the sample size (n) is approximately 390 secondary school students. However, 400 respondents will be sampled to equal participation of the four selected secondary schools within the local government.

Data Collection Instrument

Primary data were collected using a structured, self-administered questionnaire. The instrument was divided into sections to capture: (A) Socio-demographic characteristics, (B) Awareness and knowledge of menstruation and MHM, (C) Attitudes and perceptions towards menstruation, (D) Menstrual hygiene practices, and (E) Challenges encountered in school MHM. The questionnaire was pre-tested in a similar population outside the study area to ensure validity and reliability.

Data Analysis

Data collected were analyzed using the Statistical Package for Social Sciences (SPSS) version 26. Descriptive statistics, including frequencies and percentages, were used to summarize the socio-demographic characteristics and the key variables of awareness, attitudes, practices, and challenges. Findings were presented in tables and a bar chart.

Ethical Considerations

Ethical approval was obtained from the Research Ethics Committee of the Faculty of Basic Medical Sciences, Al-Hikmah University, Ilorin. Permission was also secured from the principals of the selected schools. Informed assent was obtained from the students, and participation was voluntary, and strict confidentiality and anonymity were maintained throughout the study.

Validity and Reliability

The questionnaire's validity was established through expert review by public health specialists, while reliability was confirmed via a pre-test that showed acceptable internal consistency (Cronbach's $\alpha \geq 0.70$). Although the data were self-reported and subject to possible social desirability bias, anonymity and

confidentiality were ensured to promote honest responses.

Results

Socio-demographic Characteristics of Respondents

A total of 400 questionnaires were administered and analyzed. The socio-demographic profile of the respondents is summarized in Table 1. The majority of the respondents were in the 16-18 years age bracket (28.6%), followed by the 13-15 years bracket (24.2%). Students from the Senior Secondary School (SSS) level constituted 50.0% of the sample, while Junior Secondary School (JSS) level constituted the other 50.0%. The religious distribution showed a predominance of Muslim students (55.2%), reflecting the demographic composition of the study area.

Table 1: Socio-demographic Characteristics of Respondents (N=400)

Variable	Category	Frequency (f)	Percentage (%)
Age	10–12 years	80	16.0
	13–15 years	121	24.2
	16–18 years	143	28.6
	19 years and above	56	11.2
Class	JSS 1	66	13.2
	JSS 2	67	13.4
	JSS 3	68	13.6
	SS 1	66	13.2
	SS 2	67	13.4
	SS 3	67	13.4
Religion	Islam	221	55.2
	Christianity	179	44.8
	Traditional	0	0.0
	Others	0	0.0
Total Respondents		400	100

Awareness and Knowledge of Menstrual Hygiene

The findings on awareness and knowledge are presented in Table 2. A high proportion of the girls (85.3%) reported being aware of menstruation before their menarche. The mother was identified as the

primary source of information (45.3%), followed by sister (15.3%) and school teachers (17.7%). Overall, 64.8% of the respondents demonstrated good knowledge of menstrual hygiene practices, such as the need for frequent changing and proper disposal.

Table 2: Awareness and Knowledge of Menstrual Hygiene (N=400)

Variable	Category	Frequency (f)	Percentage (%)
Have you heard about menstruation before your first period?	Yes	341	85.3
	No	59	14.7
Who informed you about menstruation first?	Mother	181	45.3
	Sister	61	15.3
	Teacher	71	17.7
	Friend	47	11.7
	No one	40	10.0
At what age did you start menstruating?	Below 10 years	41	10.3
	10–12 years	172	43.0
	13–15 years	161	40.3

	Above 15 years	26	6.5
Respondent's level of knowledge of menstrual hygiene	Very poor	17	4.3
	Poor	35	8.8
	Fair	89	22.3
	Good	191	47.8
	Excellent	68	17.0
Do you know the importance of changing your sanitary pad regularly?	Yes	342	85.5
	No	58	14.5
Are you aware that improper menstrual hygiene can cause infections?	Yes	355	88.8
	No	45	11.2

Menstrual Hygiene Practices (MHM)

Table 3 details the specific MHM practices adopted by the respondents. Disposable sanitary pads were the most commonly used material, reported by 70.0% of the girls. However, a significant number (16.3%) still relied on reusable cloth or rags. Concerning the frequency of changing, a majority (82.8%) reported changing their menstrual material only 1-2 times per

day, which is below the recommended standard of 3-4 times per day. A positive finding was the near-universal practice of bathing during menstruation (96.8%). Unsafe disposal practices were prevalent, with only 21.3% reporting disposal in a school toilet bin.

Table 3: Menstrual Hygiene Practices (N=400)

Variables	Response	Frequency (f)	Percentage (%)
Material used during menstruation	Disposable sanitary pads	280	70.0
	Reusable cloth	65	16.3
	Tissue paper	30	7.5
	Cotton wool	15	3.7
	Others	10	2.5
Frequency of change	Once	243	60.8
	Twice	88	22.0
	Three times	52	13.0
	Four or more times	17	4.2
Disposal method	Dustbin	210	52.5
	Toilet	85	21.3
	Open field	40	10.0
	Burn them	65	16.2
	I don't know	0	0.0
Do you take your bath during Menstruation?	Yes, regularly	387	96.8
	Yes, but not daily	9	2.2
	No	0	0.0
	Sometimes	4	1.0

Challenges in School MHM and Absenteeism

School-related challenges significantly affected menstrual hygiene management. A majority of respondents (63.7%) did not change their pads during school hours, while only 14.8% used school toilets, 11.2% went home, and 10.3% changed behind buildings, indicating inadequate facilities and lack of privacy. Only about half of the respondents (52.8%) felt comfortable attending school during menstruation,

and more than half (53.8%) reported missing school because of their periods. Although 60.8% acknowledged the availability of clean toilets, access to water and soap remained poor, with only 36.5% reporting availability. These findings show that inadequate facilities, limited privacy, and stigma contribute to discomfort and absenteeism, highlighting the urgent need for gender-sensitive school infrastructure and menstrual health support.

Table 4: School-based Menstrual Hygiene Management Challenges (N=400)

Variables	Response	Frequency (f)	Percentage (%)
Places Where Respondents Usually Change Pads During School Hours	Toilet	59	14.8
	Classroom	0	0.0
	Behind the building	41	10.3
	I go home	45	11.2
	I don't change in school	255	63.7
Do you feel comfortable attending school during your period?	Yes	211	52.8
	No	51	12.7
	Sometimes	138	34.5
Have you ever missed school because of menstruation?	Yes	215	53.8
	No	185	46.2
	Sometimes	0	0.0
Does your school provide a clean toilet for girls?	Yes	243	60.8
	No	127	31.7
	Sometimes	30	7.5
Do you have access to water and soap in your school toilet?	Yes	146	36.5
	No	183	45.7
	Sometimes	71	17.8

Summary of Key Findings

Figure 1 visually summarizes the key findings of the study, highlighting the disparity between high

awareness and the prevalence of negative outcomes like school absenteeism (53.8%).

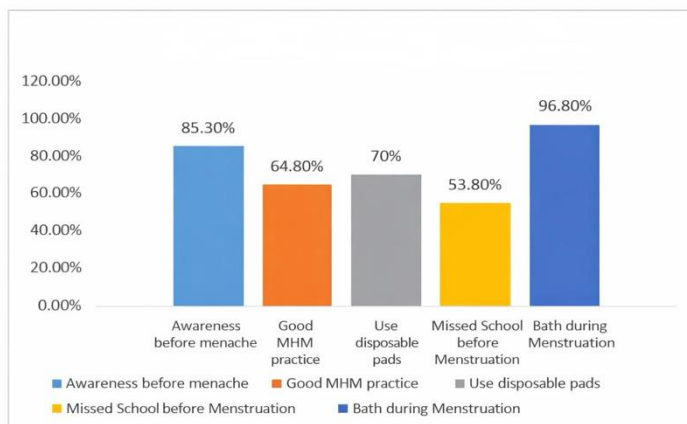


Figure 1: Key Findings on Menstrual Hygiene Management (N=400)

Discussion

The finding that 85.3% of the respondents were aware of menstruation before menarche is a positive indicator, suggesting that initial information dissemination, primarily from mothers (45.0%), is effective in the Ilorin West area. This high awareness level is consistent with other studies in Nigeria [3, 9]. However, the quality of this information is questionable, as evidenced by the persistence of negative attitudes and suboptimal practices. The fact that only 60.0% demonstrated good knowledge of

MHM suggests that the information received is often limited to the biological process and fails to cover comprehensive hygiene management and destigmatization.

The prevalence of disposable sanitary pad use (70.0%) is a sign of improved access compared to earlier studies where cloth use was dominant (Amore et al., 2023).. This practice is likely driven by the high cost of sanitary products, forcing girls to ration their use, a challenge noted in the background literature (Amore et al., 2023).

The most alarming finding of this study is the critical failure of the school environment to support MHM. The high percentages reporting a lack of soap (80.0%), water (75.0%), and disposal bins (70.0%) highlight a systemic infrastructural crisis. The school, which should be a safe and supportive space, is instead contributing to the problem. These infrastructural deficits are directly implicated in the high rate of school absenteeism (55.0%) reported by the girls. This rate is significantly higher than some regional reports and underscores the severity of the MHM crisis in Ilorin West schools (Adane et al., 2024). When girls miss school, their educational equity is compromised, reinforcing the cycle of poverty and gender inequality. The reported fear of stigma and shame (50.0%) further compounds the issue. This social barrier prevents girls from seeking help, discussing their needs, or even disposing of their materials properly, leading to the unsafe disposal practices observed. Addressing MHM, therefore, requires a dual approach: improving physical infrastructure and tackling the deep-seated cultural taboos through comprehensive, gender-sensitive education for both students and teachers. The study found that while secondary school girls in Ilorin West had relatively high awareness of menstruation, negative attitudes, poor hygiene practices, and inadequate school facilities remained common. Many girls changed menstrual materials infrequently, avoided changing pads at school, and experienced absenteeism due to menstruation. Statistical analysis indicated that both information and perceptions play critical roles in effective menstrual hygiene management.

From a policy perspective, the findings emphasize the need to strengthen school health programs by integrating comprehensive menstrual health education into school policies and curricula. Policies should also ensure the provision of gender-sensitive sanitation facilities, access to water and soap, and availability of sanitary materials in schools. These actions would support SDG 3 (Good Health and Well-being) by reducing health risks, SDG 4 (Quality Education) by reducing absenteeism, and SDG 5 (Gender Equality) by promoting dignity and equal participation of girls. At the local level, the results can guide Ilorin West education and health authorities in developing targeted, school-based interventions to address infrastructure gaps and menstrual stigma. More broadly, the findings reflect challenges common in Nigeria and sub-Saharan Africa, suggesting the strategies could be adapted in similar contexts. The study also provides a basis for future intervention and longitudinal research to assess the effectiveness and sustainability of menstrual hygiene management programs among adolescents.

Conclusion and Recommendations

Conclusion

This study concludes that while in-school secondary school girls in Ilorin West Local Government Area possess a high level of initial awareness regarding menstruation, their ability to practice effective menstrual hygiene management is severely undermined. The primary constraints are the pervasive social stigma and, more critically, the widespread inadequacy of supportive Water, Sanitation, and Hygiene (WASH) infrastructure within the school environment. These factors collectively contribute to a high rate of school absenteeism, negatively impacting the educational and health outcomes of adolescent girls.

Recommendations

Based on the empirical findings, the following recommendations are urgently proposed for policymakers, school administrators, and public health practitioners:

The Kwara State Ministry of Education should mandate the integration of comprehensive menstrual health education into the school curriculum. School authorities, in collaboration with the Local Government Area, must prioritize investment in gender-sensitive WASH infrastructure. This includes ensuring a constant supply of clean water and soap, providing private and lockable toilet cubicles, and installing safe, discreet disposal mechanisms for used menstrual products. The government and non-governmental organizations should implement programs to provide subsidized or free, high-quality sanitary pads to vulnerable students. There should be training programs for teachers, particularly female teachers, should be established to equip them as supportive MHM focal points.

Public Health Impacts

The findings of this study have important public health implications, as they highlight persistent gaps in menstrual hygiene awareness, practices, and school support systems among adolescent girls. Addressing these gaps through education, improved school facilities, and policy interventions can reduce health risks, improve school attendance, and promote the overall well-being and dignity of schoolgirls.

Conflict of Interest

The author declares no conflict of interest in the conduct of this study. There are no financial, personal, or institutional relationships that could have influenced the research design, data collection, analysis, interpretation of findings, or the preparation and submission of this manuscript for publication.

References

- Adane, Y., Ambelu, A., Azage Yenesew, M., & Mekonnen, Y. (2024). Menstrual hygiene management practices among schoolgirls in resource-limited settings of Bahir Dar City administration, Northwestern Ethiopia. *Women's Health*, 20. <https://doi.org/10.1177/17455057241308343>
- Adekanle, D. A., Akinleye, A. O., & Adekanle, O. (2019). Menstrual pattern and awareness of menstrual morbidity among adolescent school girls in Southwest Nigeria. *Journal of Basic and Clinical Reproductive Sciences*, 1(1), 27–31.
- Amore, A. A., Oyeyemi, A. O., & Jidda, K. A. (2023). Knowledge and hindrances to hygienic menstrual practices among secondary school girls in Kwara state, Nigeria. *Global Journal of Health Related Research*, 5(1), 7–17. <http://journals.abu.edu.ng/index.php/gjhr/article/view/1>
- Canon, M. (2021). The impact of menstrual hygiene management interventions on adolescent female's school attendance in middle- and low- income countries: A systematic review of the literature [Master's thesis, University of Arkansas]. ScholarWorks@UARK. <https://scholarworks.uark.edu/nursuht/143/>
- Hennegan, J., Zimmerman, L., Shannon, A., Exum, N., OlaOlorun, F., Omoluabi, E., & Schwab, K. (2018). The relationship between household sanitation and women's experience of menstrual hygiene: Findings from a cross-sectional survey in Kaduna State, Nigeria. *International Journal of Environmental Research and Public Health*, 15(5), Article 905. <https://doi.org/10.3390/ijerph15050905>
- Obiano, E. C., Umahi, E. N., Isikekpei, B., Sodeinde, K., Atinge, S., Okondu, E. O., Okoye, H. C., & Okorie, P. C. (2023). Assessment of menstruation-associated absenteeism among school girls in Jalingo: Cost-effective interventions for resource-constrained settings. *Journal of Health and Environmental Research*, 9(3), 76–82. <https://doi.org/10.11648/j.jher.20230903.11>
- Rabiu, A., Garba, I., & Abubakar, I. (2018). Menstrual hygiene among adolescent school girls in Kano. *Tropical Journal of Obstetrics and Gynaecology*, 35(2), 153–157. https://doi.org/10.4103/tjog.tjog_81_17