



Research Paper

Menstrual Hygiene Practices and Challenges among Adolescent Girls: A Case Study of Federal Government Girls College, Imiringi, Bayelsa State

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Abstract

Menstrual hygiene is a critical aspect of adolescent health, yet many girls face significant challenges in managing menstruation due to inadequate knowledge, cultural taboos, financial constraints, and poor sanitation facilities. This study examines menstrual hygiene practices, challenges, and influencing factors among adolescent girls in Federal Government Girls College, Imiringi, Bayelsa State. A descriptive survey design was employed, targeting female students in senior secondary classes (SS1–SS3). A total of 232 respondents were selected using Taro Yamane's formula and proportionate sampling. Data were collected through a structured questionnaire assessing socio-demographic characteristics, menstrual hygiene knowledge, practices, and barriers. The reliability of the instrument was tested using the test-retest method ($r = 0.81$). Data were analyzed using descriptive statistics via the Statistical Package for the Social Sciences (SPSS). While all respondents (100%) were aware of menstrual hygiene, their knowledge and practices varied. Teachers (43.97%) were the primary source of information. Only 59.91% of respondents changed sanitary pads regularly, and 31.47% bathed once daily during menstruation. The high cost of sanitary pads (90.09%) and lack of access to water (75%) were major barriers. Furthermore, menstrual stigma led to school absenteeism among 34.05% of respondents. Despite these challenges, 78.45% emphasized the importance of water and toiletries, while 68.97% supported school-based menstrual health education as a strategy for improvement. The study highlights the need for enhanced menstrual health education, improved access to sanitary products, and better sanitation facilities in schools. Addressing economic barriers, parental support, and social stigma can further improve menstrual hygiene management. Government and stakeholders should implement policies promoting affordable menstrual products, infrastructural development, and awareness programs to empower adolescent girls in managing menstruation with dignity and confidence.

Keywords: Menstrual hygiene, adolescent girls, school absenteeism, sanitary products, Bayelsa State

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I. INTRODUCTION

Menstruation is a universal and normal phenomenon during the reproductive age of women [1]. Kumar *et al*, [2] defined menstrual hygiene practice as the principle of maintaining cleanliness of the body during menstrual flow. The practice of menstrual hygiene as stated by Kumar *et al*, [2] include using basic sanitary materials such as appropriate clothes, soakage material, water, soap, sanitary pad, washing the genital area and toilet facilities with privacy. Menstruation is generally seen as been unclean in most societies especially in Africa, where menstruating girls are restricted, in their family, which reinforced a negative attitude towards the menstrual hygiene practices and school absenteeism [3].

Pandit, *et al*. [4] stated that menstrual hygiene practices are still clouded with lots of taboos and social cultural restrictions and most adolescent girls remain ignorant of the menstrual hygienic practices necessary for women's reproductive health. Belayneh, and Mekuriaw [5] further noted that, inadequate and proper consideration given to this phenomenon of menstrual hygiene has been a striking issue which approximately 40-45% of

adolescent girls worldwide lacks proper menstrual hygiene care. Furthermore, Deshpande *et al*, [6], accessed the menstrual hygiene practice among teenage girls and concluded that 70% of adolescent girls make use of same used cloth during menstruation, 63.34% change pad frequently and 78% reuse sanitary products after washing with soap and water [7].

Globally, menstrual hygiene practices contribute to school absenteeism of millions of schooling adolescents and increase the likelihood of school dropout [8]. Evidence has it that many adolescent girls stay home from school due to menstrual cramping, lack of water and sanitation facilities in schools, unsupportive environments [9]. A Nigerian study, highlighted that majority of the girl adolescents often experience feelings of fear, confusion and shame during their menstruation period as a result of smell, leakage, staining of clothes and dropping of sanitary materials during their class schedules which have had negative impact on their concentration, class participation and confidence of their studies [10].

This has made adolescent girls to find it difficult to properly dispose sanitary products which pollute the environment with offensive odour and capable of spreading infection [11]. Evidence suggest that, inadequate disposals menstrual hygiene products and practices can lead to various health issues, including urinary tract infections (UTI) and reproductive tract infections (RTI) [12]. More so, a study conducted to determine the prevalence of community acquired-UTI in rural Odisha showed that prevalence of UTI in females was 45.2% [13]. Evidence from a rural Nigeria community showed a high prevalence of these infections among girls who used unhygienic menstrual materials [14]. Focusing on the Federal Government Girls College in Imiringi, this research identified health risks and factors associated with poor menstrual hygiene and propose targeted health education programs.

Despite government efforts in Nigeria, such as donating integrated science and biology textbooks to secondary schools to improve menstrual health awareness, poor menstrual hygiene practices remain a pressing public health concern [15]. While educational interventions aim to enhance knowledge, they have not necessarily translated into improved practices among schoolgirls. A significant gap persists in understanding the extent to which access to menstrual hygiene education influences behavioral change in the absence of adequate sanitary facilities.

Moreover, the lack of essential infrastructure, such as private and hygienic washrooms, water supply, and disposal systems, continues to hinder effective menstrual hygiene management [8]. The relationship between knowledge dissemination and infrastructural deficiencies raises critical questions about the effectiveness of current government interventions. There is a need for empirical research to explore how these gaps in policy and practice impact menstrual hygiene behaviors, particularly in rural and underserved communities.

Additionally, the researchers observed that knowledge alone is insufficient to drive behavioral change in menstrual hygiene management. Even when students are aware of proper menstrual practices, they often lack the necessary facilities and resources to implement them effectively. This disconnect between knowledge dissemination and practical application raises concerns about the effectiveness of government policies focused solely on education without addressing structural barriers.

Although there are numerous studies on the phenomenon under study around Nigeria [10, 15], there are paucity of empirical study in Bayelsa State. Therefore, this study seek to examine menstrual hygiene practices and related factors in Federal Government Girls College in Imiringi.

II. RESEARCH METHOD

This study employed a descriptive survey research design to examine menstrual hygiene practices among female students in Federal Government Girls College Imiringi, Bayelsa State. The research was conducted within the school premises, which is well-equipped with academic and recreational facilities. The study population comprised all female students in senior secondary classes (SS1, SS2, and SS3), totaling 550 students. Using Taro Yamane's formula, a sample size of 232 students was determined and distributed proportionately across the three classes (see Table 1).

Table 1: Showing Proportion of students by Class grade

S/N	Grades of Students	Class Population	Estimated proportion for each Grade/Class
1	Class 1	249	105
2	Class 2	180	76
3	Class 3	120	51
	Total	550	232

(Source: Officer of the Principal)

A purposive sampling technique was adopted to select participants who had reached menarche, while a proportionate sampling method ensured equal representation across class levels. Convenience sampling was then used to recruit final participants. Data were collected using a self-structured questionnaire, divided into five sections covering demographic information, knowledge of menstrual hygiene, hygiene practices, contributing factors to poor hygiene, and potential improvements.

To ensure content and face validity, the questionnaire was reviewed by subject-matter experts, and the reliability of the instrument was tested using the test-retest method. A pilot study conducted at Federal Government Girls College Odi produced a Pearson Product Moment Correlation Coefficient of 0.81, indicating strong reliability. The questionnaire was administered with the assistance of three trained research assistants, and participants were given one hour to complete it. The data collection process was completed in a single day.

Data were analyzed using the Statistical Package for the Social Sciences (SPSS), with results presented in frequencies and percentages. Ethical approval was obtained from the Faculty of Nursing Sciences, Niger Delta University, and permission was secured from the school principal. Verbal consent was obtained from participants, and confidentiality and anonymity were maintained throughout the study.

III. RESULT

Table 2: Showing Socio-Demographic Data of Respondents n=232

	<i>Items</i>	<i>Frequency (f)</i>	<i>Percentage (%)</i>
Age	11-13	77	33.19
	14-16	122	52.59
	17-19	25	10.78
	19 and above	8	3.45
Religion	Christian	218	93.97
	Muslim	4	1.72
	Traditionalist	2	0.86
	Others	8	3.45
Class	SS1	62	26.72
	SS2	81	34.91
	SS3	89	38.36
Tribe	Izon	160	68.97
	Igbo	23	9.91
	Hausa	2	0.86
	Others	48	20.69
Types of family	Nuclear	133	57.33
	Polygamy	99	42.68

The socio-demographic data of the respondents, as presented in Table 2, provides an overview of the characteristics of the 232 students who participated in the study. The age distribution shows that majority of the respondents (52.59%) were within 14–16 years age group, followed by 33.19% who were aged 11–13 years. A smaller percentage (10.78%) were between 17–19 years, while only 3.45% were aged 19 years and above. This suggests that most of the students surveyed were in their mid-adolescence, an important phase for menstrual hygiene education and awareness. Regarding religion, an overwhelming majority (93.97%) of the respondents identified as Christians, with only 1.72% being Muslims and 0.86% practicing traditional religion. A small proportion (3.45%) indicated affiliation with other religious groups. This distribution aligns with the predominant religious demographics of the study location, where Christianity is the dominant faith. In terms of class distribution, students from SS3 constituted the largest group (38.36%), followed by SS2 students (34.91%), while the SS1 class had the least representation at 26.72%. This relatively even distribution across the three classes suggests that menstrual hygiene knowledge and practices may vary across different levels of secondary education. Ethnic diversity among the respondents was also assessed, revealing that the Izon ethnic group had the highest representation, accounting for 68.97% of the respondents. This was followed by the Igbo ethnic group at 9.91%, while Hausa students comprised only 0.86%. The remaining 20.69% of respondents belonged to other ethnic backgrounds, reflecting a degree of diversity within the study population. The dominance of the Izon ethnicity is expected, given that the study was conducted in Bayelsa State, where the Izon people form the majority. Furthermore, the family structure of respondents indicated that a larger proportion (57.33%) came from nuclear families, while 42.68% were from polygamous families. This suggests that while nuclear family settings are more prevalent among the study population, polygamous family structures are still relatively common.

Table 3: Showing Knowledge on Menstrual Hygiene Practices **n=232**

<i>Items</i>	<i>Statements</i>	<i>Frequency (f)</i>	<i>Percentage (%)</i>
Have you heard about menstrual hygiene	Yes	232	100
	No	-	-
If yes, source	Parents	56	24.14
	Teachers	102	43.97
	Friends	31	13.36
	Nurses	10	4.31
	Others	33	14.22
Is bathing daily without soap good for health	Yes	180	77.88
	No	52	22.41
Does poor menstrual hygiene affect one's health	Yes	168	72.41
	No	64	27.59

The data presented in Table 3 provides insights into the respondents' knowledge of menstrual hygiene practices among the 232 students surveyed. The findings indicate that all respondents (100%) had heard about menstrual hygiene, suggesting widespread awareness of the subject. When asked about the source of their information, the most common source was teachers (43.97%), highlighting the significant role that schools and educators play in menstrual health education. This was followed by parents (24.14%), indicating that a considerable number of students received guidance on menstrual hygiene from their family members. However, a notable proportion (13.36%) reported learning about menstrual hygiene from friends, which could suggest the presence of peer influence, though the accuracy of such information may vary. Additionally, nurses accounted for only 4.31% of the sources, suggesting limited direct involvement of healthcare professionals in menstrual health education within the study population. The remaining 14.22% of respondents cited other sources, which could include media, community programs, or independent learning. Regarding personal hygiene practices, 77.88% of the respondents believed that bathing daily without soap is good for health, while 22.41% disagreed. This finding suggests that although the majority understand the importance of daily bathing, there may be misconceptions about the necessity of using soap, which plays a crucial role in maintaining hygiene and preventing infections. When asked about the impact of poor menstrual hygiene on health, 72.41% of the respondents acknowledged that it can have negative effects, while 27.59% did not believe it could pose health risks. This indicates that while the majority of students recognize the importance of proper menstrual hygiene, a significant proportion may not fully understand the potential consequences of inadequate hygiene practices, such as infections or reproductive health issues.

Table 4: Showing Determinants of Menstrual Hygiene Practices **n=232**

<i>Statements</i>	<i>Frequency (f)</i>	<i>Percentage (%)</i>
Is regular washing of the body with soap and water good for the health during and after menstruation	Yes	162
	No	70
Does eating of adequate diet promote health during menstruation	Yes	145
	No	87
Does washing of pants and underwear's help to prevent infection during menstruation	Yes	166
	No	66
Does alcohol consumption promote menstrual hygiene	Yes	145
	No	87
Does changing of sanitary pads during menstruation help to promote good health	Yes	139
	No	93
Is it hygienic to use tissue paper during menstruation	Yes	141
	No	91
Is it hygienic to stay with pants that has been stained with menses for more than 24 hours	Yes	143
	No	89
During menstruation period do you come to school	Yes	153
	No	79
How often do you change your pad in a day during Menstruation	Once daily	56
	Twice daily	102
	Three times daily	46
	More often	27
	Once daily	73
How many times do you bathe in a day during menstruation	Twice daily	116
	Three times daily	29
	More often	15
	Sanitary pad	176
What do you use during menstruation	Tissue	37
	Tampon	4
	Others	15
	Waste bin	157
How do you dispose your absorbent materials like pads, tampons etc		67.67

Burning	15	6.47
Washing	17	7.33
Flushing in toilets	39	16.81
Others	4	1.72

The data presented in Table 4 highlights various factors that influence menstrual hygiene practices among the 232 respondents in the study. A majority (69.83%) of respondents recognized the importance of washing the body with soap and water during and after menstruation, while 30.17% did not consider it necessary. Similarly, 71.55% believed that washing underwear helps prevent infections, while 28.45% did not see it as a protective measure. These findings suggest that while most students understand basic menstrual hygiene, a significant proportion still lack complete knowledge about essential hygiene practices. Interestingly, 62.50% of respondents believed that alcohol consumption promotes menstrual hygiene, which indicates a widespread misconception that needs to be addressed through proper education. Furthermore, 60.77% of the participants considered the use of tissue paper hygienic during menstruation, while 39.22% did not, raising concerns about the inappropriate use of absorbent materials that may not be safe. Additionally, 61.54% of the respondents believed it was hygienic to stay in stained underwear for more than 24 hours, revealing a serious gap in understanding proper menstrual hygiene practices.

When asked about the role of diet in menstrual health, 62.50% agreed that consuming an adequate diet during menstruation is beneficial, while 37.50% disagreed. This shows that while a majority of students recognize the impact of nutrition, more emphasis is needed on educating them about the specific dietary requirements that can support menstrual health. Regarding the frequency of pad changes per day, 43.97% of respondents reported changing their pads twice daily, while 24.14% changed it only once daily, which may not be sufficient for maintaining hygiene. Meanwhile, 19.83% changed their pads three times daily, and 11.64% changed more frequently. These findings suggest that a notable proportion of students may not be changing their pads frequently enough, which could increase their risk of infections. Similarly, the frequency of bathing during menstruation varied among respondents. 50% of the students bathed twice daily, 31.47% bathed once daily, while 12.50% bathed three times daily, and 6.47% bathed more often. Regular bathing is crucial during menstruation to maintain cleanliness and prevent infections, and while most students bathed at least twice daily, a notable percentage did so only once.

The study found that 66% of respondents continued attending school during menstruation, while 34.05% stayed home. This suggests that a third of the students may experience discomfort, lack of menstrual products, or other challenges that prevent them from attending school while menstruating. Addressing these barriers through improved menstrual hygiene facilities and education could enhance school attendance rates. The majority of respondents (75.86%) reported using sanitary pads, while 15.94% used tissue paper, 1.72% used tampons, and 6.47% used other materials. The significant proportion of students relying on tissue paper rather than proper sanitary products raises concerns about affordability and accessibility to safe menstrual hygiene materials. Regarding the disposal of menstrual products, the most common method was disposing of them in a waste bin (67.67%), while 16.81% flushed them in toilets, which is not a recommended practice as it may cause blockages. Other disposal methods included burning (6.47%), washing and reusing (7.33%), and other unspecified methods (1.72%). These findings indicate the need for better education on appropriate and environmentally friendly disposal methods.

Table 5: Showing Factors that Contributing to Poor Menstrual Hygiene

<i>Items</i>	<i>Statements</i>	<i>Frequency (f)</i>	<i>Percentage (%)</i>
<i>High cost of sanitary pads</i>	Yes	209	90.09
	No	23	9.91
<i>Lack of water to wash body</i>	Yes	174	75.00
	No	58	25.00
<i>Low educational status of the parents</i>	Yes	170	73.28
	No	62	26.72
<i>Poor knowledge on reproduction health</i>	Yes	149	64.22
	No	83	35.78
<i>Lack of finance of the parents</i>	Yes	184	79.31
	No	48	20.69

Table 5 presents the key factors contributing to poor menstrual hygiene among the 232 respondents in the study. The most significant factor affecting menstrual hygiene was the high cost of sanitary pads, with 90.09% of respondents identifying it as a barrier. This finding suggests that economic constraints play a major role in menstrual hygiene practices, as many girls may struggle to afford proper menstrual products. The inability to purchase sanitary pads could force some students to resort to less hygienic alternatives such as tissue paper, cloth, or other unsafe materials, increasing the risk of infections and discomfort during menstruation.

A considerable proportion of the respondents (75.00%) reported that lack of access to water was a major challenge affecting their menstrual hygiene, while 25.00% did not see it as a problem. Limited access to clean water can hinder proper washing of the body, changing of pads, and cleaning of reusable menstrual materials, thereby increasing the risk of infections and poor hygiene maintenance. This highlights the importance of improving sanitation infrastructure, particularly in schools, to ensure that girls have access to clean water for menstrual management.

The study also revealed that 73.28% of respondents believed that low educational status of parents contributed to poor menstrual hygiene. This finding suggests that parents with limited education may lack the awareness and knowledge needed to guide their daughters on proper menstrual health practices. Additionally, less-educated parents may underestimate the importance of investing in menstrual products, further exacerbating hygiene challenges.

A significant proportion (64.22%) of respondents cited poor knowledge of reproductive health as a factor contributing to poor menstrual hygiene. This indicates that many students may not have received adequate education on menstruation and proper hygiene practices, which could lead to misconceptions and unhealthy habits. The lack of menstrual health education underscores the need for comprehensive reproductive health programs in schools to equip young girls with accurate information on managing their menstrual cycles effectively.

The findings also showed that 79.31% of the respondents attributed poor menstrual hygiene to the financial constraints of their parents, while 20.69% did not see it as a factor. This suggests that economic hardship within households directly affects menstrual hygiene management, as some families may prioritize other essential needs over menstrual products. In such cases, girls may lack access to sanitary materials, proper hygiene facilities, and necessary health education, further worsening menstrual hygiene conditions.

Table 6: Showing Possible Ways of Improving Menstrual Hygiene

<i>Items</i>	<i>Statements</i>	<i>Frequency (f)</i>	<i>Percentage (%)</i>
<i>Access to water and other toiletries regularly</i>	Yes	182	78.45
	No	50	21.55
<i>Regular discussion concerning sex education and personal hygiene from teachers/guidance</i>	Yes	160	68.97
	No	73	31.47
<i>Care and support from parents during menstrual period</i>	Yes	147	63.36
	No	85	36.64
<i>Care and support from the opposite sex (male) during menstrual period</i>	Yes	151	65.09
	No	77	33.19
<i>Care and support from female friends</i>	Yes	172	74.14
	No	60	25.86
<i>Participation in daily activities without exclusion nor being stigmatized during your menstrual period</i>	Yes	180	77.59
	No	52	22.41

Table 6 presents various strategies for improving menstrual hygiene among the 232 respondents, highlighting the role of access to water and toiletries, sex education, parental support, social support, and reducing stigma. A significant majority (78.45%) of respondents believed that regular access to water and other toiletries is essential for maintaining good menstrual hygiene. However, 21.55% did not see it as a necessary factor. The findings emphasize the need for adequate water supply and hygiene facilities in schools and homes, ensuring that menstruating students can clean themselves properly, wash reusable materials, and maintain overall menstrual hygiene.

Regular discussions on sex education and personal hygiene from teachers and guardians were identified as a key factor by 68.97% of respondents, while 31.47% did not see it as necessary. This highlights the importance of school-based menstrual health education programs, where teachers and guardians can provide accurate information on menstrual hygiene management, debunk myths, and promote healthy practices. Strengthening sex education in schools can equip young girls with essential knowledge and help break cultural taboos surrounding menstruation.

The findings also revealed that 63.36% of respondents believed that care and support from parents during menstruation can enhance menstrual hygiene practices, while 36.64% disagreed. Parental support may include providing sanitary materials, encouraging proper hygiene practices, and offering emotional reassurance. The relatively high percentage of students who did not see parental support as crucial suggests that some students may not receive sufficient guidance or assistance from their families regarding menstrual health.

Interestingly, 65.09% of respondents agreed that care and support from the opposite sex (males) during menstruation is beneficial, while 33.19% disagreed. This finding suggests that while many students recognize the importance of inclusivity and male support, a significant proportion still experience menstrual stigma or exclusion.

Educating boys about menstruation can foster a more supportive school and social environment, reducing shame, discrimination, and embarrassment for menstruating students.

Support from female peers was another key factor identified by 74.14% of respondents, while 25.86% did not see it as necessary. Menstruation can be an emotional and sometimes distressing experience for adolescents, and having support from female friends can enhance comfort, reduce anxiety, and improve menstrual hygiene practices. Encouraging peer discussions on menstrual health could further promote knowledge-sharing and positive hygiene behaviors.

A large majority (77.59%) of respondents believed that participating in daily activities without exclusion or stigma during menstruation is essential, while 22.41% did not see it as a concern. This finding highlights the prevalence of menstrual stigma, which can lead to absenteeism, reduced confidence, and feelings of embarrassment among students. To address this, efforts should focus on normalizing menstruation, promoting menstrual-friendly policies in schools, and encouraging open conversations that help girls feel comfortable and included in all activities during their periods.

IV. DISCUSSION

This study examines menstrual hygiene practices among female students in Federal Government Girls College, Imiringi, Bayelsa State, focusing on socio-demographic factors, knowledge, determinants, barriers, and possible ways to improve menstrual hygiene. The findings are discussed in relation to existing literature and studies on menstrual health.

Awareness and Knowledge of Menstrual Hygiene

The study revealed that 100% of the respondents were aware of menstrual hygiene, indicating a high level of awareness. However, sources of information varied, with teachers (43.97%) being the primary source, followed by parents (24.14%), friends (13.36%), and nurses (4.31%). This aligns with studies by Chidya, et al. [16] and Njee, et al. [17] which found that school-based menstrual health education plays a crucial role in shaping young girls' knowledge of hygiene practices. However, the low involvement of healthcare professionals in menstrual health education suggests a need for stronger health-sector engagement.

Although most respondents had basic knowledge of menstrual hygiene, 30.17% did not consider regular washing with soap and water as essential, and 28.45% did not believe washing underwear prevents infection. This supports findings [3, 7, 18] highlight gaps in menstrual hygiene awareness among adolescents, leading to unhygienic practices that increase health risks. Additionally, 39.22% of respondents believed using tissue paper during menstruation was hygienic, a misconception also noted in studies from sub-Saharan Africa, where economic constraints drive young girls to use unsanitary alternatives [19].

Determinants of Menstrual Hygiene Practices

The study found that several factors influence menstrual hygiene behaviors. The frequency of changing sanitary pads varied, with 43.97% changing their pads twice daily, while 24.14% changed pads only once daily, which is insufficient for maintaining hygiene. These findings align with Water Aid (2019) and Sommer et al. (2020), which emphasized the importance of frequent pad changes to prevent infections. Additionally, 31.47% of respondents bathed only once daily during menstruation, raising concerns about inadequate hygiene practices.

Economic factors also played a major role, as 90.09% of respondents identified the high cost of sanitary pads as a barrier to proper menstrual hygiene. This finding is consistent with studies by Sumpter & Torondel (2019), which found that lack of affordability and accessibility to menstrual products leads many girls to use unsanitary materials. Additionally, 79.31% of respondents cited financial constraints within their families as a limiting factor, reinforcing global findings that poverty is a major determinant of menstrual hygiene practices (Hennegan et al., 2021).

Barriers to Proper Menstrual Hygiene

Aside from financial constraints, 75% of respondents cited lack of access to water as a major issue affecting menstrual hygiene, a problem also reported in recent studies, which emphasized that inadequate water and sanitation facilities in schools discourage girls from maintaining proper hygiene [19, 20]. Furthermore, 73.28% of respondents believed that low parental education contributed to poor menstrual hygiene, suggesting that parents' knowledge and attitudes are vital in influencing menstrual health behaviors [21-23].

Another major concern was the stigma and exclusion that menstruating students faced. Although 66% of respondents reported attending school during their menstrual period, 34.05% were absent, indicating that menstruation negatively affects school attendance. Empirical findings aligning with study reported that, fear of leakage, stigma, and lack of menstrual hygiene products contribute to absenteeism and reduced academic performance among schoolgirls [22, 24].

Strategies to Improve Menstrual Hygiene

In identifying ways to improve menstrual hygiene, 78.45% of respondents emphasized the importance of regular access to water and toiletries, while 68.97% highlighted the need for regular discussions on sex education and personal hygiene. These findings align with recommendations from Kambala, et al.[25] and Yang, et al. [26] that stressed the need for comprehensive menstrual hygiene education, improved sanitation facilities, and affordable menstrual products as key interventions.

Interestingly, 65.09% of respondents believed that support from male peers could improve menstrual hygiene experiences. This suggests that menstrual health education should include boys, as studies have shown that breaking menstrual taboos requires male engagement and societal awareness [27, 28]. Additionally, 74.14% of respondents recognized support from female friends as beneficial, reflecting the social aspect of menstrual hygiene management, which has been emphasized in previous research [10, 21].

Furthermore, 77.59% of respondents supported the idea of participating in daily activities without exclusion or stigma, which aligns with Menstrual Hygiene Day (2020) reports, emphasizing the need to promote dignity, inclusivity, and menstrual-friendly policies in schools [29, 30].

V. CONCLUSION

This study examined menstrual hygiene practices among female students in Federal Government Girls College, Imiringi, Bayelsa State, identifying key factors influencing their menstrual health, challenges faced, and potential solutions. The findings indicate that while awareness of menstrual hygiene is high, knowledge gaps and barriers persist, affecting students' ability to manage menstruation effectively. Despite these challenges, the study highlighted possible strategies to improve menstrual hygiene, including providing access to affordable sanitary products, improving school sanitation infrastructure, increasing menstrual health education, and promoting social support systems. Encouragingly, the study found that support from teachers, parents, and peers positively influences menstrual hygiene management. Additionally, eliminating stigma and fostering inclusivity in school environments can empower students to manage menstruation with dignity and confidence.

Recommendations

Based on the findings of this study, the following are key recommendations:

1. Government and non-governmental organizations (NGOs) should subsidize menstrual hygiene products to make them affordable.
2. Schools should integrate menstrual health education into the curriculum and improve sanitation facilities.
3. Healthcare professionals should be actively involved in educating young girls on reproductive health.
4. Parental engagement in menstrual health discussions should be encouraged to support adolescent girls at home.
5. Community-wide advocacy programs should aim to reduce stigma and misconceptions about menstruation.

References

- [1]. Ishimwe Bazakare, M.L., B. Ngabo Rwabufigiri, and C. Munyanshongore, Knowledge and practice toward menstrual hygiene management and associated factors among visual impaired adolescent girls: a case of two selected institutions in Rwanda. *Ther Adv Reprod Health*, 2024. **18**: p. 26334941241303518.
- [2]. Kumar, G., J.G. Prasuna, and G. Seth, Assessment of menstrual hygiene among reproductive age women in South-west Delhi. *J Family Med Prim Care*, 2017. **6**(4): p. 730-734.
- [3]. Ahmed Shallo, S., W. Willi, and A. Abubeker, Factors Affecting Menstrual Hygiene Management Practice Among School Adolescents in Ambo, Western Ethiopia, 2018: A Cross-Sectional Mixed-Method Study. *Risk Manag Healthc Policy*, 2020. **13**: p. 1579-1587.
- [4]. Pandit, K., et al., Constraints and current practices of menstrual hygiene among Rohingya adolescent girls. *Heliyon*, 2022. **8**(5): p. e09465.
- [5]. Belayneh, Z. and B. Mekuriaw, Knowledge and menstrual hygiene practice among adolescent school girls in southern Ethiopia: a cross-sectional study. *BMC Public Health*, 2019. **19**(1): p. 1595.
- [6]. Deshpande, T.N., et al., Menstrual hygiene among adolescent girls - A study from urban slum area. *J Family Med Prim Care*, 2018. **7**(6): p. 1439-1445.
- [7]. Uzoechi, C.A., et al., Menstruation among In-School Adolescent Girls and Its Literacy and Practices in Nigeria: A Systematic Review. *Medicina (Kaunas)*, 2023. **59**(12).
- [8]. Hussein, J., T. Gobena, and T. Gashaw, The practice of menstrual hygiene management and associated factors among secondary school girls in eastern Ethiopia: The need for water, sanitation, and hygiene support. *Womens Health (Lond)*, 2022. **18**: p. 17455057221087871.
- [9]. Alam, M.U., et al., Evaluation of a menstrual hygiene intervention in urban and rural schools in Bangladesh: a pilot study. *BMC Public Health*, 2022. **22**(1): p. 1100.
- [10]. Nnennaya, E.U., et al., Menstrual hygiene management among adolescent school girls in Taraba State, Nigeria. *Afr Health Sci*, 2021. **21**(2): p. 842-851.
- [11]. Elledge, M.F., et al., Menstrual Hygiene Management and Waste Disposal in Low and Middle Income Countries-A Review of the Literature. *Int J Environ Res Public Health*, 2018. **15**(11).
- [12]. Al Karmi, J., et al., Urinary and reproductive tract infection symptoms and menstrual hygiene practices in refugee camps in Jordan: A cross-sectional study. *Womens Health (Lond)*, 2024. **20**: p. 17455057241240920.
- [13]. Dash, M., et al., Antimicrobial resistance in pathogens causing urinary tract infections in a rural community of Odisha, India. *J Family Community Med*, 2013. **20**(1): p. 20-6.

- [14]. Onubogu, C.U., et al., Menstrual hygiene practices of adolescent secondary school girls in rural Anambra communities. *Womens Health (Lond)*, 2024. **20**: p. 17455057241228204.
- [15]. Agbede, C.O. and U.C. Ekeanyanwu, An outcome of educational intervention on the menstrual hygiene practices among school girls in Ogun State, Nigeria: a quasi-experimental study. *Pan Afr Med J*, 2021. **40**: p. 214.
- [16]. Chidya, R., et al., Evaluation of knowledge, attitude, practices and effectiveness of menstrual hygiene interventions in rural schools from Lilongwe, Malawi. *BMC Public Health*, 2024. **24**(1): p. 1435.
- [17]. Njee, R.M., et al., Menstrual health and hygiene knowledge among post menarche adolescent school girls in urban and rural Tanzania. *PLoS One*, 2024. **19**(3): p. e0284072.
- [18]. Kumbeni, M.T., E. Otupiri, and F.A. Ziba, Menstrual hygiene among adolescent girls in junior high schools in rural northern Ghana. *Pan Afr Med J*, 2020. **37**: p. 190.
- [19]. Anbesu, E.W. and D.K. Asgedom, Menstrual hygiene practice and associated factors among adolescent girls in sub-Saharan Africa: a systematic review and meta-analysis. *BMC Public Health*, 2023. **23**(1): p. 33.
- [20]. Wada, O.Z., et al., School water, sanitation, and hygiene inequalities: a bane of sustainable development goal six in Nigeria. *Can J Public Health*, 2022. **113**(4): p. 622-635.
- [21]. Worku, Y., et al., Menstrual hygiene management practice and associated factors among high school and preparatory school adolescent students in Debre Markos town, Northwest, Ethiopia: a mixed-method study. *BMC Womens Health*, 2024. **24**(1): p. 420.
- [22]. Shah, S.F., et al., Knowledge, Attitudes, and Practices Regarding Menstrual Hygiene among Girls in Ghizer, Gilgit, Pakistan. *Int J Environ Res Public Health*, 2023. **20**(14).
- [23]. Sommer, M., et al., Menstrual hygiene management in schools: midway progress update on the "MHM in Ten" 2014-2024 global agenda. *Health Res Policy Syst*, 2021. **19**(1): p. 1.
- [24]. Miiro, G., et al., Menstrual health and school absenteeism among adolescent girls in Uganda (MENISCUS): a feasibility study. *BMC Womens Health*, 2018. **18**(1): p. 4.
- [25]. Kambala, C., et al., Acceptability of menstrual products interventions for menstrual hygiene management among women and girls in Malawi. *Reprod Health*, 2020. **17**(1): p. 185.
- [26]. Yang, Y.T. and D.R. Chen, Effectiveness of a menstrual health education program on psychological well-being and behavioral change among adolescent girls in rural Uganda. *J Public Health Afr*, 2023. **14**(3): p. 1971.
- [27]. Mohammed, S. and R.E. Larsen-Reindorf, Menstrual knowledge, sociocultural restrictions, and barriers to menstrual hygiene management in Ghana: Evidence from a multi-method survey among adolescent schoolgirls and schoolboys. *PLoS One*, 2020. **15**(10): p. e0241106.
- [28]. Jayamohan, A. and S.P. Tomar, Menstruation and masculinity: Exploring the relationship between boys and menstruation. *J Family Med Prim Care*, 2024. **13**(10): p. 4331-4335.
- [29]. Adane, Y., et al., Assessment of the barriers towards menstrual hygiene management: evidence from a qualitative study among school communities: lessons from Bahir Dar city in northwest Ethiopia. *Front Reprod Health*, 2024. **6**: p. 1445862.
- [30]. Ene, N., et al., "If I use pad, I feel comfortable and safe": a mixed-method analysis of knowledge, attitude, and practice of menstrual hygiene management among in-school adolescent girls in a Nigerian city. *BMC Public Health*, 2024. **24**(1): p. 1721.