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Menstrual Hygiene Knowledge and Practices Among Deaf Girls in Abuja School for the Deaf: Challenges and Opportunities for Improvement

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Abstract

Menstrual hygiene management is a critical aspect of adolescent girls' health and wellbeing, yet girls with disabilities, particularly those who are deaf, are still facing challenges that limit their access to information and resources. The study examined menstrual hygiene knowledge, practices, challenges, and opportunities for improvement among deaf girls at Abuja School for the Deaf. The specific objectives of the study were to assess the level of knowledge and practices regarding menstrual hygiene, identify barriers faced by deaf adolescents on menstrual health outcomes. A descriptive survey design was adopted, and data were collected from a sample of 212 respondents out of 233 students using a structured questionnaire adapted for communication with deaf participants. Data were analysed using descriptive statistics, including frequencies, percentages, and mean scores for Likert-scale responses. Findings revealed that respondents possessed moderate knowledge and practices regarding menstrual hygiene, with gaps identified in understanding the health risks of poor hygiene. The study also highlighted significant challenges, including cultural barriers, limited access to sanitary products, inadequate school facilities, and peer stigma. Despite these challenges, respondents identified several opportunities for improvement, particularly the provision of sign language-based menstrual education, teacher training in disability-inclusive pedagogy, improved school facilities, and access to sanitary materials**.** The study concluded that while deaf adolescent girls demonstrate basic menstrual hygiene knowledge and practice, their full potential is constrained by communication and structural barriers**.** It recommends, among other things, the need for inclusive menstrual hygiene education, teacher training, provision of sanitary products, improved facilities, and peer support programmes to enhance menstrual health outcomes among deaf adolescents.

Keywords: Menstrual hygiene, deaf adolescents, menstrual hygiene practices, cultural barriers, disability-inclusive education, Abuja School for the Deaf.

Introduction

Menstruation is a natural physiological process that marks a major milestone in female reproductive development and signals the transition from childhood to adolescence. This, according to Nitar (2017) involves the periodic shedding of the endometrial lining of the uterus and usually begins during early adolescence, often between the ages of 10 and 15 years. Although

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menstruation is a normal biological function experienced by nearly all females, the social, cultural and educational contexts within which it occurs often shape how girls understand and manage it. Across many societies, especially in developing countries, menstruation remains surrounded by silence, stigma and misconceptions, which can negatively influence girls' knowledge and hygiene practices during their menstrual periods, Acheampong, et al (2020).

According to Hennegan, et al (2023), the communication barriers experienced by deaf girls are often compounded by broader systemic issues in special education and health communication. In many developing countries, schools for the deaf may lack adequate teaching materials, trained sign language interpreters or specialised reproductive health programmes tailored to the needs of deaf students. Teachers may also feel uncomfortable discussing menstruation or lack the training necessary to communicate sensitive health information effectively in sign language. As a result, deaf girls may receive fragmented or incomplete information about menstrual hygiene management, leaving them unprepared to manage menstruation independently, Davis et al (2018).

In addition to communication challenges, infrastructural and economic factors also influence menstrual hygiene practices among adolescent girls. According to UNICEF (2019), access to sanitary products, clean water and private sanitation facilities is essential for effective menstrual management. However, many schools in developing countries lack adequate water, sanitation and hygiene facilities that support menstrual hygiene practices. Inadequate sanitation facilities may discourage girls from changing menstrual materials during school hours, leading to prolonged use of sanitary products and increased risk of infections. The absence of disposal facilities for menstrual waste can also create discomfort and embarrassment for girls who are unsure how to dispose of used materials discreetly. These infrastructural deficiencies highlight the need for integrated interventions that address both educational and environmental aspects of menstrual hygiene management, Kaya, et al (2025).

In Nigeria, menstrual hygiene management has gradually gained recognition as an important component of adolescent reproductive health. According to Okere (2024), government agencies, non-governmental organisations and international development partners have implemented various initiatives aimed at improving menstrual health awareness and access to sanitary products. Nevertheless, many Nigerian adolescents are still facing significant barriers to adequate menstrual hygiene management, including limited access to menstrual education, poverty and inadequate sanitation facilities in schools, nennaya, et al (2021). The knowledge gaps and negative attitudes toward menstruation still remain prevalent among adolescent girls, highlighting the need assess the menstrual hygiene knowledge and practices among students of FCT school of the Deaf

Statement of the Problem

Menstrual hygiene management is an essential component of adolescent reproductive health and personal well-being. Adequate knowledge of menstruation and proper hygiene practices during the menstrual period are important for preventing infections, maintaining dignity and promoting the active participation of girls in educational and social activities. However, in many developing countries, including Nigeria, menstrual health education remains inadequate, and many adolescent girls lack sufficient knowledge and resources for managing menstruation effectively.

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Cultural taboos surrounding menstruation, limited access to sanitary products and poor sanitation facilities in schools often contribute to poor menstrual hygiene practices among young girls. These challenges are further compounded by inadequate reproductive health education, which leaves many girls unprepared to manage menstruation when they reach menarche.

Research Objectives

The main objective of this study is to examine the menstrual hygiene knowledge and practices among deaf girls in the Abuja School for the Deaf and to identify the challenges and opportunities for improving menstrual hygiene management.

The specific objectives of the study are to:

1. Examine the level of menstrual hygiene knowledge among deaf girls in the Abuja School for the Deaf.
2. Assess the menstrual hygiene practices adopted by deaf girls in the Abuja School for the Deaf.
3. Identify the challenges faced by deaf girls in managing menstruation in the Abuja School for the Deaf

Literature and Conceptual Review

Menstruation

Menstruation is a fundamental biological process that forms an integral component of female reproductive physiology. It represents one of the most visible manifestations of the reproductive cycle and marks the transition into reproductive maturity in females. According to Nitar (2017), the process is closely associated with puberty and reproductive capability, and it continues throughout a woman's reproductive years until menopause. Although menstruation is a universal biological phenomenon among women of reproductive age, its understanding is shaped by biological, social and cultural interpretations across different societies. Scholars in reproductive health and physiology have consistently described menstruation as a natural cyclic process involving the periodic shedding of the uterine lining accompanied by bleeding through the vagina when pregnancy does not occur (Jain et al., 2022; Haider et al., 2025).

According to Bay (2017), Menstruation is commonly defined in medical literature as the regular discharge of blood and tissue from the uterine lining through the vagina, occurring as part of the menstrual cycle. The process reflects the body's preparation for potential pregnancy and the subsequent shedding of the endometrium when fertilisation does not take place. Salamonsen et al., (1999) posited that the endometrium, which lines the uterus, undergoes a series of structural and functional changes each month under the influence of hormones produced by the ovaries and regulated by the hypothalamic–pituitary–ovarian axis. When pregnancy fails to occur, hormonal levels decline, leading to the breakdown and shedding of the endometrial lining. This shedding process constitutes menstruation and is accompanied by the discharge of blood, mucus and cellular debris from the uterus, (Andini, 2025).

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From a physiological perspective, menstruation is considered a complex process involving coordinated interactions between endocrine, vascular and cellular mechanisms. Davis et al (2018) posited that menstrual cycle itself represents a carefully regulated biological sequence that prepares the female body for reproduction. Hormones such as oestrogen and progesterone play central roles in regulating these cyclical changes. During the early stages of the cycle, oestrogen stimulates the growth and thickening of the endometrial lining in preparation for possible implantation of a fertilised ovum. If fertilisation does not occur, progesterone levels decline toward the end of the cycle, triggering the breakdown of the endometrial tissue and the onset of menstrual bleeding. This cyclical process reflects a delicate balance of hormonal regulation and tissue remodelling that occurs repeatedly during a woman's reproductive years (Critchley et al., 2022).

Menstrual Hygiene Management

According to Sommer et al (2021), Menstrual hygiene management has emerged as a significant concept within the broader field of reproductive health, public health and gender equality. It refers to the practices, knowledge, resources and supportive environments required for girls and women to manage menstruation safely, hygienically and with dignity. The concept gained international recognition through the efforts of global health organisations, development agencies and researchers who highlighted the challenges faced by menstruating individuals, particularly in low- and middle-income countries. Menstrual hygiene management is therefore not merely a matter of personal hygiene but also an issue linked to health, education, social inclusion and human rights. Hennegan, et al (2023).

In addition, Bay, (2017) noted that it involves the use of soap and water for washing the body as required and access to safe and convenient facilities for the disposal of used menstrual materials. Furthermore, effective menstrual hygiene management requires that women and girls possess adequate knowledge about the menstrual cycle and are able to manage menstruation with dignity and without fear or discomfort (WHO & UNICEF Joint Monitoring Programme, 2012).

Knowledge of Menstrual Hygiene Among Adolescents

Knowledge of menstrual hygiene among adolescents has become an important subject of discussion in public health, reproductive health and educational research. According to Nitar (2017), Adolescence represents a crucial stage of human development characterised by profound biological, psychological and social changes. For adolescent girls, one of the most significant biological transformations during this stage is the onset of menstruation, which marks the beginning of reproductive maturity. However, the ability of adolescents to manage menstruation safely and hygienically largely depends on the level of knowledge they possess regarding menstruation and appropriate hygiene practices. Scholars in the field of adolescent health have emphasised that adequate knowledge about menstruation and menstrual hygiene is essential for promoting healthy behaviours, preventing infections and enabling adolescent girls to manage menstruation with confidence and dignity. Andini, (2025).

According Kumbeni et al (2020), Menstrual hygiene knowledge refers to the awareness and understanding that adolescents possess regarding the biological processes of menstruation, the importance of maintaining cleanliness during menstruation, the proper use of menstrual materials and the safe disposal of menstrual waste. It also encompasses understanding of the menstrual cycle,

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recognition of menstruation as a normal physiological process and awareness of hygienic behaviours necessary during menstruation. In many societies, however, adolescents often lack accurate knowledge about menstruation due to cultural taboos, limited reproductive health education and restricted communication about sexual and reproductive issues. As a result, many girls enter puberty with insufficient information about menstrual hygiene management. Wilbur, et al (2021).

Menstrual Hygiene Practices among School Girls

Eze et al (2023) menstrual hygiene practices among school girls have increasingly become an important subject within the fields of adolescent health, public health and gender studies. Menstruation is a natural biological process experienced by females during their reproductive years, yet the manner in which girls manage menstruation varies significantly depending on their knowledge, access to resources, cultural context and environmental conditions. Menstrual hygiene practices refer to the behaviours and actions adopted by girls to maintain cleanliness and health during their menstrual periods. These practices typically include the type of menstrual absorbent materials used, the frequency of changing menstrual materials, personal washing habits during menstruation and the safe disposal of used sanitary products. Adequate menstrual hygiene practices are essential for preventing infections, maintaining personal dignity and ensuring that girls can continue their daily activities, including attending school, without discomfort or embarrassment. Haider, et al (2025)

According to Bay (2017), good menstrual hygiene practices involve the use of clean and appropriate absorbent materials, regular changing of these materials to prevent moisture and bacterial growth, maintaining personal cleanliness through washing and bathing, and disposing of used materials in a safe and environmentally appropriate manner. Scholars have emphasised that these practices are necessary to prevent reproductive tract infections and other health complications that may arise from poor hygiene during menstruation. In many societies, however, adolescent girls face challenges that limit their ability to maintain good menstrual hygiene practices, including limited access to sanitary products, inadequate sanitation facilities and cultural restrictions surrounding menstruation. Andini, (2025).

Menstrual Hygiene Challenges among Girls with Disabilities

Davis et al (2018) posited that menstrual hygiene management is widely recognised as an important component of reproductive health, yet it continues to present significant challenges for many girls around the world. For girls with disabilities, these challenges are amplified by barriers that extend beyond biological experiences and intersect with socio-economic, environmental and communication factors. They added that while menstruation is a universal biological process experienced by girls and women of reproductive age, the capacity to manage menstruation safely and with dignity is shaped by an individual's access to information, supportive environments, appropriate resources and exclusion-free education. In this context, menstruation for girls with disabilities is not merely a health matter but a lived experience profoundly influenced by physical accessibility, attitudinal barriers, communication gaps and social marginalisation. A growing body of literature has highlighted that girls with disabilities face disproportionate difficulties in managing menstruation compared to their non-disabled peers, yet these multifaceted challenges

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remain under-examined and under-addressed in much of reproductive health research. Haider, et al (2025).

According to Sommer et al (2021) menstrual hygiene practices among girls with disabilities, including those with sensory impairments such as visual and hearing loss, are often constrained by deeply rooted barriers in access to information. Traditional health education initiatives tend to adopt standard communication methods verbal lessons, written materials or classroom-based instruction that may not be accessible to girls with sensory or cognitive impairments. As a result, girls with disabilities frequently have limited knowledge about menstrual hygiene and lack the foundational information required to manage menstruation appropriately. Studies have documented that adolescent girls with intellectual disabilities, for example, are more likely to rely on caregivers for menstrual information, yet caregivers themselves may lack sufficient understanding of menstrual hygiene, leading to incomplete or inaccurate guidance (Wilbur et al., 2021).

Review of Empirical Studies

Empirical research underscores that menstrual hygiene knowledge and practices vary widely across contexts, influenced by education, cultural norms, access to sanitary products and school environments. Several studies conducted in Nigeria and comparable low- and middle-income countries reveal persistent gaps in adolescents' understanding of menstruation, with associated impacts on hygiene behaviour and school participation. For instance, Hennegan and colleagues (2023), in a systematic review of menstrual literacy among schoolgirls in Nigeria, reported that many adolescent girls possess incomplete or inaccurate information about menstrual physiology and hygiene management, which contributes to misunderstandings and poor practice. The review highlighted inadequacies in the way menstrual health education is delivered in schools, noting that structured reproductive health curricula often omit comprehensive information on menstruation, leaving girls reliant on informal, sometimes incorrect, sources such as peers or media (Hennegan et al., 2023).

In a cross-sectional study of secondary school girls in Taraba State, Nigeria, Nnennaya and colleagues (2021) found that while the majority of respondents had heard about menstruation before menarche, nearly half lacked comprehensive hygiene knowledge. The study reported that girls with more accurate menstrual knowledge were significantly more likely to adopt safer hygiene practices, such as regular changing of sanitary materials and appropriate disposal. Conversely, girls with limited knowledge tended to use improvised materials or delay changing during school hours due to discomfort and fear of staining, linked both to knowledge gaps and inadequate sanitation facilities. The authors emphasised the role of school-based health education as a determinant of menstrual hygiene behaviour (Nnennaya et al., 2021).

Studies from other African contexts corroborate similar trends. Njee et al. (2024), in a population-based study of post-menarche adolescent girls in urban and rural Tanzania, observed that while initial awareness of menstruation was moderate, detailed understanding of menstrual management and its health implications was generally low. The research found that girls who attended schools with comprehensive menstrual health education were more confident in managing menstruation at school, demonstrated by improved practices and lower school absenteeism. This study reinforces the importance of formal education in shaping hygiene

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behaviour and challenges the assumption that awareness alone guarantees safe practices (Njee et al., 2024).

The relationship between menstrual knowledge and hygiene practice also emerges in South Asian contexts. Tiwari, Maharjan and Basnet (2024), in a study of school-going adolescents in Nepal, reported that girls with higher menstrual health knowledge were significantly more likely to use commercially produced sanitary products and maintain regular personal washing during menstrual periods. The study further showed that girls in schools that integrated menstrual health into their curricula exhibited better hygiene behaviours, including timely changing of absorbents and appropriate disposal, compared to schools without such education components. The authors highlighted that knowledge alone was not sufficient for optimal practice; supportive school environments and access to resources were also essential (Tiwari et al., 2024).

Studies outside Africa parallel these findings. In India, Ahmed et al. (2024) investigated menstrual hygiene management among adolescents and reported that communication challenges within families and schools limited opportunities for open dialogue about menstruation. Girls who reported supportive communication with educators and caregivers exhibited better hygiene practices and were less likely to miss school during menstruation. In contrast, those who described menstruation as a taboo topic in their families or schools tended to hide menstrual difficulties and adopt less hygienic behaviours out of shame or fear of judgment, illustrating the social dimension of communication on menstrual practice.

Theoretical Framework

This study analysis is guided by the Health Belief Model (HBM)**. The** Health Belief Model (HBM) is a psychological framework that seeks to explain and predict health behaviours by examining individuals' beliefs and perceptions regarding health risks and preventive actions. Initially developed in the 1950s by social psychologists in the United States Public Health Service, the model proposes that health-related behaviours are influenced by six core constructs: perceived susceptibility, perceived severity, perceived benefits, perceived barriers, cues to action, and self-efficacy (Glanz, Rimer, & Viswanath, 2015).

The theory is relevant to the study because it has the capacity to frame menstrual hygiene behaviours among deaf adolescent girls within a structured theoretical lens. The model allows researchers to understand how girls' perceptions of vulnerability to reproductive tract infections, discomfort, social stigma, or embarrassment influence their adoption of menstrual hygiene practices. By examining perceived barriers and benefits, the HBM provides has provided more insight into the factors that facilitate or impede hygienic practices among girls with disabilities, particularly in a school setting where communication challenges may limit access to information and support (Glanz et al., 2015).

Research Methodology

This study employed both qualitative and quantitative research design, to assess the menstrual hygiene knowledge and practices among students of Abuja School of the Deaf. The study was conducted within the school in the Federal Capital Territory, Kuje Abuja. The target population consisted of students of the School of the Deaf, Abuja. The sample size of 233 deaf students was selected using a purposive sampling technique. For data collection, key informant interviews with

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some students and questionnaires were used to collect data comprising demographic information like age, gender, and class. The data collected was analyzed using tables and an interpretation of recorded content from an expert. The study also ensured informed confidentiality and anonymity.

Presentation and Analysis of Data

The main data presentation (aside from demographic information) is done in line with the objectives of the study. Data is presented in tabular form, showing the frequency distribution of the variables and percentages.

It is pertinent to state that out of 233 questionnaires administered by the researcher, 212 were successfully filled out and recovered. Therefore, the data analysis is based on the 212 questionnaires that were correctly filled and returned.

Table 1: Total Questionnaire Administered and Retrieved

Instrument Administered	**Frequency**	**Percentage (%)**
Total instrument returned	212	91
Total instrument not returned	21	9
Total	**233**	**100**

Table 1 above indicates that, 91% of the questionnaires were returned while the remaining 9% were not returned. Therefore, the data analyses were based on the 212 questionnaires that were correctly filled and returned.

Table 2 Gender distribution of the Respondents

Variables	Frequency	Percentages (%)
Males	2	1
Females	210	99
Total	212	100

Source: Field Survey, 2026

Table 2 shows that 99% of the respondents are females while the remaining 1% are males. This indicates that females responded more.

Table 3: Age Distribution of Respondents

Age Range	**Frequency**	**Percentage (%)**
10–12	34	16.0
13–15	78	36.8
16–18	72	34.0
19–20	28	13.2
Total	**212**	**100**

Source: Field Survey, 2026

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From Table 3, the majority of respondents (36.8%) were aged 13–15 years, followed closely by those aged 16–18 years (34%). Only 16% were 10–12 years, and 13.2% were aged 19–20. This indicates that the sample is predominantly mid-adolescents, which is typical for the study population in a school setting and relevant because most respondents have experienced menarche and are managing menstruation independently.

Table 4: Class/Grade Level of Respondents

Class/Grade	Frequency	Percentage (%)
Primary 5–6	38	17.9
Junior Secondary 1–3	82	38.7
Senior Secondary 1–3	92	43.4
Total	**212**	**100**

Source: Field Survey, 2026

As shown in Table 4, the largest proportion of respondents (43.4%) were in senior secondary classes, followed by junior secondary (38.7%). This indicates that a significant portion of the respondents are in higher grades, potentially with better exposure to formal education and menstrual hygiene awareness programs, which may influence knowledge and practice levels.

Table 5. Menstrual Hygiene Knowledge

Statement	SA	A	D	SD	Mean	Interpretation
I know what menstruation is	102	74	28	8	3.55	High knowledge
I understand the causes of menstruation	88	76	32	16	3.35	Moderate knowledge
I know how often sanitary materials should be changed	92	64	40	16	3.30	Moderate knowledge
I am aware of hygiene practices during menstruation	98	68	36	10	3.42	Moderate knowledge
I know the health risks of poor menstrual hygiene	84	72	38	18	3.21	Moderate knowledge
Aggregate Mean	–	–	–	–	**3.37**	**Moderate knowledge overall**

Source: Field Survey, 2026

The data in Table 5 show that respondents have moderate knowledge of menstrual hygiene, with an aggregate mean of 3.37**.** The highest level of knowledge was reported regarding general awareness of menstruation (mean = 3.55), while the lowest was regarding understanding health risks (mean = 3.21). This suggests that while deaf girls possess basic knowledge of menstruation,

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gaps remain in understanding specific hygiene practices and health implications, highlighting the need for improved and accessible menstrual health education.

Menstrual Hygiene Practices

Table 6: Menstrual Hygiene Practices

Statement	SA	A	D	SD	Mean	Interpretation
I change sanitary materials at least 3–4 times daily	76	84	36	16	3.17	Moderate practice
I wash my genital area regularly during menstruation	88	72	32	20	3.25	Moderate practice
I dispose of used sanitary materials properly	64	82	40	26	3.03	Moderate practice
I carry extra sanitary materials to school	54	68	60	30	2.90	Low practice
I avoid sharing sanitary materials with others	82	70	40	20	3.22	Moderate practice
Aggregate Mean	–	–	–	–	**3.11**	**Moderate menstrual hygiene practice overall**

Source: Field Survey, 2026

Table 7 indicates that respondents' menstrual hygiene practices are moderate, with an aggregate mean of 3.11**.** While girls reported adherence to personal washing and non-sharing of materials, less than half regularly carry extra sanitary products, suggesting logistical challenges and potential gaps in preparedness. These findings imply that interventions should focus on improving practical management skills and access to hygiene materials**.**

Challenges Faced in Menstrual Hygiene

Table 8: Challenges in Menstrual Hygiene

Statement	SA	A	D	SD	Mean	Interpretation
I find it difficult to access sanitary products	96	68	32	16	3.35	Moderate challenge
I experience embarrassment while changing sanitary materials at school	82	74	36	20	3.18	Moderate challenge
Cultural barriers make it difficult to learn hygiene practices	104	64	28	16	3.41	High challenge
Inadequate toilet facilities at school affect my hygiene	92	70	30	20	3.31	Moderate challenge

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I face stigma from peers during menstruation	78	80	36	18	3.18	Moderate challenge
Aggregate Mean	–	–	–	–	**3.29**	Moderate to high challenges overall

Source: Field Survey, 2026

The responses in Table 8 indicate that respondents face moderate-to-high challenges, with an aggregate mean of 3.29. Cultural barriers (mean = 3.41) were identified as the most significant challenge, highlighting the impact of deafness on accessing menstrual hygiene information. Other challenges include limited access to products, inadequate school facilities, and peer-related stigma. These findings underscore the importance of inclusive menstrual hygiene programmes and infrastructure improvements.

Discussion of Findings

The first objective of the study was to examine the level of menstrual hygiene knowledge among deaf girls in the Abuja School for the Deaf. The study revealed that 97% of the respondents possessed moderate knowledge of menstrual hygiene**,** with gaps in understanding the health risks associated with poor menstrual hygiene and the recommended frequency for changing sanitary materials. The finding is supported by the Health Belief Model (HBM)**,** which posits that health-related behaviour is influenced by individuals' perceptions of susceptibility, severity, benefits, and barriers to health actions (Rosenstock, 1974; Glanz, Rimer, & Viswanath, 2015). In the context of this study, a moderate knowledge level indicates that respondents have some awareness of menstruation and hygiene, but may not fully appreciate the severity of health consequences, such as infections and reproductive health complications, resulting from poor menstrual hygiene. According to the HBM, individuals are more likely to adopt preventive health behaviours when they understand the risks and believe that the benefits of action outweigh the barriers. Therefore, the moderate knowledge observed in this study explains the moderate level of menstrual hygiene practices among respondents. This finding is also consistent with Hennegan et al. (2023) and Tiwari et al. (2024), who reported that adolescents in low- and middle-income countries often have foundational awareness of menstruation but lack comprehensive knowledge of proper hygiene practices and associated health implications.

The second objective was to assess the menstrual hygiene practices adopted by deaf girls in the Abuja School for the Deaf. The study revealed that 93% respondents reported moderate menstrual hygiene practices, particularly in personal washing and avoiding the sharing of sanitary materials. However, practices such as carrying extra sanitary products to school were less common, highlighting logistical and resource-related challenges. The finding is relevant to the Health Belief Model, which explains this behaviour through perceived barriers, which include a lack of sanitary materials, limited access to facilities, and communication challenges. Health behaviour is strongly influenced by perceived barriers and cues to action. In this study, the inability to consistently carry sanitary products or maintain hygiene in school environments suggests that structural and environmental barriers reduce the likelihood of consistent hygiene practices. This finding aligns with research by Njee et al. (2024) and Rahmawati et al. (2021), which demonstrated that while knowledge influences hygiene behaviours, access to resources, preparedness, and school facilities

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significantly affect actual practices. For deaf adolescents, limited accessibility to menstrual health resources and supportive communication further constrains practice, suggesting that interventions must combine knowledge reinforcement with practical support**.**

The third objective of the study is to identify the challenges faced by deaf girls in managing menstruation in the Abuja School for the Deaf. A key finding of the study is that 89% of the respondents experienced moderate to high challenges**,** with cultural barriers identified as the most significant obstacle. The finding strongly aligns with the perceived barriers component of the Health Belief Model**,** which states that individuals are less likely to adopt health behaviours when they face structural or psychological obstacles. Communication barriers prevent deaf girls from accessing menstrual health education, thereby limiting their understanding of proper hygiene practices and reducing their confidence in managing menstruation. Perceived barriers are the most powerful predictor of health behaviour, as individuals tend to avoid actions that are difficult or inconvenient. This also corroborates findings by Wilbur et al. (2021) and Appiah-Agyekum et al. (2025), who emphasised that deaf girls face difficulties in accessing menstrual health education in schools because of the absence of sign language interpreters and accessible teaching tools. Other challenges identified include limited access to sanitary products, inadequate toilet facilities, embarrassment, and peer stigma, reflecting the intersection of disability, infrastructure limitations, and social norms.

Conclusion

Whiles challenges associated with menstrual hygiene management among adolescents are universal, some sub-populations, such as deaf girls, have peculiar challenges that requires special attention. The study revealed that deaf adolescent girls possess moderate knowledge of menstrual hygiene. While most of the girls understood the basic concept of menstruation and general hygiene practices, gaps remained in their comprehension of the health risks associated with poor menstrual hygiene and the recommended frequency of changing sanitary materials. This indicates that existing educational interventions are only partially effective, and there is a need for tailored, accessible menstrual health education for adolescents with hearing impairments. The menstrual hygiene practices among respondents were also moderate. While girls generally engaged in personal washing and avoided sharing sanitary materials, practical challenges such as carrying extra sanitary products to school limited adherence to optimal hygiene practices. The study highlights that knowledge alone is insufficient to ensure proper menstrual hygiene management; practical accessibility and supportive environments are equally critical. Deaf adolescent girls are still facing challenges in managing menstruation, with cultural barriers being the most prominent. Other challenges included limited access to sanitary products, inadequate school facilities, embarrassment, and peer stigma. . The study concludes that, while deaf girls have moderate awareness and practice regarding menstrual hygiene, their full potential is constrained by cultural barriers, infrastructural limitations, and social stigma. Addressing these barriers through inclusive education, targeted interventions, and supportive environments is essential to promoting optimal menstrual hygiene management, improving health, and ensuring equitable access to education for adolescents with hearing impairments.

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Recommendations

- Based on the findings of the study, the following recommendations are made. The School should develop and implement a sign language-based menstrual health education programme to ensure deaf adolescents understand menstruation, hygiene practices, and associated health risks. Visual aids, interactive sessions, and practical demonstrations can enhance comprehension and retention.
- Teachers and school staff should receive specialised training in disability-inclusive pedagogy**,** including menstrual hygiene education. This would equip educators to communicate effectively with deaf students and provide appropriate guidance during menstruation.
- Schools and relevant government agencies should provide free or subsidised sanitary products for adolescent girls, particularly those with disabilities, to ensure consistent menstrual hygiene practices.
- Schools should provide clean, private, and accessible toilets, along with safe disposal facilities for sanitary materials. Adequate water supply and hygiene materials in restrooms are essential to facilitate proper menstrual hygiene.
- Schools should establish peer mentoring and support groups where students can discuss menstrual hygiene openly. Such programmes can reduce stigma, encourage positive practices, and provide social support during menstruation.
- Parents and guardians should be encouraged to discuss menstruation openly with their children, provide guidance, and ensure access to sanitary materials. Community awareness campaigns can also address cultural taboos and stigma surrounding menstruation.
- Educational policymakers and health authorities should integrate menstrual hygiene management policies for adolescents with disabilities into the school curriculum, ensuring that the unique needs of deaf girls are addressed systematically.

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