Original Article

Demystifying Misconceptions and Myths Surrounding Menstruation among Secondary School Girls in Kano State, Nigeria

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Abstract

Background: Understanding menstrual health and hygiene is essential for the well-being of adolescent girls, yet misconceptions persist among secondary school students.

Methods: A cross-sectional survey was conducted with 408 participants from four schools in Kano State, using random sampling to assess menstrual misconceptions. Data were analysed using descriptive and inferential statistics, including ANOVA.

Results: The overall mean score of 2.35 indicates a high prevalence of myths and misconceptions about menstruation among participants. However, differences in misconceptions across schools were not significant ($F = 2.460706$, F critical $= 2.866266$, $p = 0.078353$).

Conclusion: Educating students through awareness campaigns is crucial to dispel these myths, reduce stigma, and foster a better understanding of menstruation. Implementing comprehensive educational programs can empower young girls to manage their menstrual health confidently.

Key Words: Menstruation, Myths, Schoolgirls, Nigeria

Introduction

Menstruation is essential for the reproductive health of young girls, yet it remains a taboo subject in many cultures[1]. Over 26% of the world's population are menstruating females, with cycles lasting from two to seven days[2]. In Africa, the significance of menstruation varies among communities, shaped by diverse cultural traditions and taboos[3]

In Nigeria, 46 million women of reproductive age menstruate[4], with 21.4 million being female adolescents[5]. Discussions about menstruation are often avoided due to cultural taboos and misconceptions. This creates challenges for menstrual hygiene, which is crucial for gender equality, human rights, and development. Myths and societal beliefs surrounding Menstrual Hygiene Management (MHM) negatively affect hygiene practices during menstruation[6].

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In parts of Africa, particularly Ethiopia and Nigeria, menstruation is surrounded by myths. Some communities view menstrual blood as impure, leading to practices such as isolating women. In rural Nigeria, burning menstrual cloths is avoided due to beliefs that it can cause skin issues, infertility, and even cancer[7]. Additionally, women are advised against handling charms during menstruation, as it is thought to render them ineffective[8].

Nigerian traditional society, particularly in north-western regions like Kano, holds deep-rooted myths and superstitions about health and menstruation. Harmful practices such as child marriage and female genital mutilation continue despite Nigeria's international commitments[9]. Beliefs that menstruating women should stay away from farms to prevent crop damage and that menstruating girls are ready for marriage contribute to a poor understanding of menstrual health and hygiene among women and girls[6].

In Kano state, the prevalence of child marriage reaches up to 76%, allowing girls to be married off as early as age 9[10]. This practice severely inhibits the human rights of women and girls and perpetuates gender inequality. Myths surrounding child marriage include the belief that marrying a girl before puberty brings blessings or protects her from sexual violence and unwanted pregnancy[11]. Additionally, some interpretations of Islam suggest that once a girl begins menstruating, she is eligible for marriage, regardless of age.

Understanding menstruation myths and beliefs among secondary school girls in Nigeria is crucial for clarity on the subject. This study is influenced by local culture, Islamic traditions, and societal views that affect behavior and lifestyle. Many individuals lack knowledge about menstruation[12], contributing to challenges in menstrual hygiene due to myths and taboos[13]. The objective of this study is to evaluate these beliefs among secondary school girls in Kano state, Nigeria

Methods

Research Design

This paper presents a study of girls from four secondary schools in Kano state, Nigeria, exploring socio-cultural misconceptions that influence their behavior, beliefs, and development. It examines their educational performance, social interactions, and personal growth, aiming to highlight diverse perspectives. The first author conducted the fieldwork in Nigeria, while the second author contributed from Thailand, with both collaborating virtually to analyze and refine the data

Research Population

This study focuses on girls aged 12-19 from public senior secondary schools in Kano State, Nigeria, as they are significantly affected by menstruation myths and misconceptions. This age group often experiences menstruation for the first time, which can negatively impact their sexual health and social life. The populations of the selected schools are detailed in Table 1.

Table 1: Population of selected schools

S/No	Name of School	Population
1	GGSS RANGAZA	1300
2	GGSS ZANGON GABAS	1505
3	GGSS ZAURA DANBABA	1220
4	GGSS SABUWAR RANGAZA	1250
	Total	5275

C. Sample Size Calculation

To determine the sample size of the respondents, [14] formula was adopted:

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

Where,

n = sample size
N = population size
= level of significance
Applying the formula
N = 5175
e = 0.05

$$n = \frac{5275}{1+5275(0.05)^2}$$

n =399 Approximately 400

This sample is distributed among the selected secondary schools using [15] formula as follows:

$$nh = \frac{nNh}{N}$$

Where,

nh = sample of respondents in each school

n = the total sample size

Nh = total number students in each school

N = the population size

Applying the formula, we have

For GGSS Rangaza, $nh = \frac{400\,x\,1300}{5275} = 99$

For GGSS Zangon Gabas, $nh = \frac{400\,x\,1505}{5275} = 114$

For GGSS ZauraDanbaba $\frac{400\,x\,1220}{5275} = 93$

For GGSS SabuwaRangaza,

$$nh = \frac{400\,x\,1250}{5275} = 94$$

The sample size for the study was 408 participants, including a buffer of 8 for potential missing questionnaires. This consisted of 101 students from GGSS Rangaza, 116 from GGSS Zangon Gabas, 95 from GGSS Zaura Danbaba, and 96 from GGSS Sabuwa Rangaza, selected using a random sampling procedure from the four schools in Kano state.

Sampling Techniques

A simple random sampling technique was used to select respondents for the study, ensuring each person in the target population had an equal chance of being chosen. This method minimized selection bias and enhanced sample representativeness, leading to more reliable and generalizable results. Participants were selected randomly by assigning them numbers and choosing individuals purely by chance.

Instruments

The data was collected using a modified self-report questionnaire based on two previous studies on menstrual hygiene management (MHM)[6, 13]. The first study[6] provided a framework for assessing menstrual hygiene practices among adolescent girls, considering social and cultural contexts. The second study focused on the relationship between knowledge, attitude, and practices regarding menstrual health[13]. By combining elements from these studies, the questionnaire was tailored to research objectives, covering hygiene practices, access to sanitary materials, socio-cultural beliefs, and awareness of menstruation. This adaptation ensured the tool's reliability and validity for assessing MHM practices in selected schools. The data collection instrument consisted of two parts, each utilizing a 4-point Likert scale

i. Strongly Agree = 1
ii. Agree = 2
iii. Disagree = 3
iv. Strongly Disagree = 4

The corresponding measurement scale for interpreting the responses is as follows:

i. 0.1 - 1.5 = Strongly Agree
ii. 1.6 - 2.5 = Agree
iii. 2.6 - 3.5 = Disagree
iv. 3.6 - 4.0 = Strongly Disagree

Validity of the Tools

The questionnaire was validated for content by three experts at the development stage. They reviewed each question and assigned an Index of Item-Objective Congruence (IOC) score based nthe degree to which each item aligned with the intended objectives of the questionnaire[16]. The IOC scores range from -1 to +1: Incongruent = -1, Questionable = 0, and Congruent = +1. Items with an IOC value of ≥0.5 were considered satisfactory

Reliability of the Tools

Pilot study was conducted in order to test the internal consistency of each tool using Cronbach's Alpha coefficient, with a threshold of 0.7 and above indicating good consistency. SPSS version 22 was used in testing reliability for internal consistency.

Data Collection Procedure

Data was randomly collected by a trained research assistants (RAs) in each school. Each group of students was supervised by 2 Ras, completed a questionnaire in 30 – 50 minutes, while ensuring no interactions occurred among them.

Method of Data Analysis

The data collected from participants was analysed using SPSS version 20, employing both descriptive and inferential statistics. The study utilized Analysis of Variance (ANOVA) as adopted in [17] to compare socio-cultural factors influencing MHM practices among the students. ANOVA helped identify significant differences in MHM-related behaviors based on socio-cultural variables like tradition, taboos, education, and parental influence.

Results

Socio-demographic characteristics

The socio-demographic characteristics of secondary school girls in the area were presented considering the following specific variables such as age, marital status, class, ethnic group, religion and the person who provides sanitary pads during menstruation.

Table 2: Socio-demographic characteristics of respondents

Items	Variable	Frequency n = 400	Percentage (%)
Age			
	13	22	5.5
	14	55	13.8
	15	86	21.5
	16	85	21.3
	17	98	24.5
	18	44	11.0
	19	8	2.0
	20	2	.5
Marital Status			
	Married	15	3.8
	Single	385	96.3
Class			
	SS3	18	4.5
	SS2	195	48.8
	SS1	82	20.5
	JS3	101	25.3
	JS2	4	1.0
Ethnic Group			
	Tiv	2	.5
	Igbo	43	10.8
	Hausa/Fulani	347	86.8
	Yoruba	2	.5
	Others	6	1.5
Religion			
	Christian	39	9.8
	Moslem	345	86.3
	Traditionalist	14	3.5
	Others	2	.5

Living with			
	Parents	278	69.5
	Mother only	93	23.3
	Father only	20	5.0
	Husband	9	2.3
The person who provides sanitary pads during menses			
	Father	51	12.8
	Mother	327	81.8
	Yourself	22	5.5

The socio-demographic characteristics of the 400 respondents, shown in Table 2, reveal significant variability in age, education, and other factors. Most respondents (24.5%) are 17 years old, with 21.5% aged 15 and 21.3% aged 16, indicating a focus on adolescents in secondary school. A small percentage are younger (5.5% aged 13) or older (0.5% aged 20). Marital status shows that 96.3% are single, aligning with their age group. In terms of class, 48.8% are in SS2, 25.3% in JS3, and 20.5% in SS1. Ethnically, 86.8% are Hausa/Fulani, while 10.8% are Igbo, and others like Tiv and Yoruba make up 0.5%. Religiously, 86.3% identify as Muslim, and 9.8% as Christians. Most (69.5%) live with both parents; 23.3% with their mother, and 5.0% with their father. Support for menstrual hygiene is primarily from mothers (81.8%), followed by fathers (12.8%) and 5.5% who rely on themselves.

Myths and Misconceptions about Menstruation

Table 3 presents myths, beliefs, and misconceptions about menstruation, showing means scores and standard deviations that reflect participants' agreement levels. The overall mean score of 2.35 indicates that most cultural views are accepted by the population, highlighting prevalent misconceptions about menstruation in the area.

Table 3: Mean and Standard Deviation of Myths, Beliefs and Misconceptions/Fallacies about menstruation

Items	Mean (n=400)	Std. Deviation	Decision
girls are restricted from eating certain foods during menses	1.99	.886	Agreed
girls are restricted from interacting with men during menses	2.07	1.038	Agreed
Menses signifies a girl is ready for marriage	2.33	1.029	Agreed
girls should have sex to avoid stomach pain and possible death	2.61	1.020	Disagreed
Dysmenorrhea occurs in menstruating girls who are virgin	2.52	.981	Disagreed
Girls who discuss menses freely are viewed as wayward	2.18	1.085	Agreed
Drinking hot water, alcohol or spicy drinks during menses makes menstrual flow to end fasters and stops abdominal pain	2.48	.873	Agreed
Menstrual cloths or sanitary towels should not be seen in the open to avoid bad luck	2.39	.892	Agreed
Scanty flow shows the girl is not normal (Abnormal)	2.52	.928	Disagreed
Girls should not go to farm during menses to avoid withering of crops	2.41	.967	Agreed
Grand mean	2.35		Agreed

Table 3 indicates that beliefs restricting girls' behaviors during menstruation are common, with high mean values for items such as restricting certain foods (mean = 1.99, SD = .886) and interactions

with men (mean = 2.07, SD = 1.038). These practices suggest a cultural belief in social restrictions tied to menstruation, likely rooted in notions of impurity. Such restrictions can lead to isolation, affecting girls' mental and emotional well-being. Another concern is the belief that menstruation signifies marriage readiness (mean = 2.33, SD = 1.029), which may contribute to harmful practices like early marriage, adversely impacting educational and health outcomes for young girls. While many respondents agreed with certain myths, some beliefs were rejected. Notably, the idea that girls should engage in sex to ease menstrual pain (mean = 2.61, SD = 1.020) and that virgins are more prone to dysmenorrhea (mean = 2.52, SD = .981) faced disagreement. Cultural practices such as hiding menstrual cloths to prevent bad luck (mean = 2.39, SD = .892) and avoiding farming during menstruation to prevent crop damage (mean = 2.41, SD = .967) blend superstition with stigma, as supported by research on menstrual shame and privacy.

Menstruation Fallacies Among Secondary School Girls

The hypothesis that there is no significant difference in menstruation fallacies and beliefs scores of menstruation fallacies among secondary school girls in Kano state, Nigeria was tested using Analysis of variance (ANOVA) and the result is presented in Table 4.

Table 4: ANOVA: Menstruation Fallacies Among Secondary School Girls

Source of Variation	SS	df	MS	F	P-value	F crit
Between Groups	1.02926	3	0.343087	2.460706	0.078353	2.86626
Within Groups	5.01934	36	0.139426			
Total	6.0486	39				

The results in Table 4 indicate that the within-group variance of 5.01934 is greater than the between-group variance of 1.02926, suggesting no significant differences in menstruation fallacies among secondary school girls across the selected schools. The analysis shows (F = 2.460706, F critical = 2.866266, p = 0.078353), with the P-value exceeding the significance level of 0.05 and the F calculated being less than the F critical. Thus, the null hypothesis is accepted, indicating no differences in menstruation fallacies scores among secondary school girls in Kano state, Nigeria.

Discussion

Menstrual practices reflect the belief that menstruation requires specific social and cultural restrictions, possibly rooted in notions of impurity or taboos associated with menses in various cultures. Such restrictions may reinforce isolation and exclusion, potentially impacting girls' mental and emotional well-being. The findings align with existing research that highlights the widespread prevalence of restrictive beliefs about menstruation across different cultures. For instance, the restriction on girls from consuming certain foods during menstruation (mean = 1.99) corroborates the study by[18], which identifies dietary restrictions as a common manifestation of menstrual stigma. Such restrictions can negatively affect girls' nutritional intake and overall health, further perpetuating the stigma surrounding menstruation. Similarly, the prohibition against interacting with men during menstruation supports the findings of [19], who document how menstrual taboos often result in isolation and reinforce gender-based segregation.

The deep-rooted misconception/fallacy that associates menstruation with a girl's physical and social transition into adulthood, often placing undue pressure on her autonomy and rights, corroborates the findings of other scholars. This observation aligns with the work of [20], which discusses how menarche, in many traditional societies, is viewed as a marker of fertility and is often tied to early marriage practices. Such beliefs contribute to the marginalization of girls and limit their opportunities for personal and educational development. Interestingly, disagreement with some of these restrictive beliefs suggests that harmful practices may be gradually losing their influence, possibly due to increased awareness and education about menstruation. However, while these beliefs may not be universally accepted, their persistence indicates

that misconceptions surrounding menstruation still exist and continue to impact individual behaviours and health-related decisions.

The study also highlights how menstruation is often perceived through a mystical or superstitious lens, which aligns with the research by[21]. This perception perpetuates restrictive behaviours that lack scientific validity but hold strong cultural significance. Addressing these misconceptions through targeted education and awareness campaigns is crucial for shifting societal perspectives, reducing stigma, and fostering a more informed understanding of menstruation. By challenging these fallacies, efforts can be made to improve menstrual health management, reduce discrimination, and create a more inclusive and supportive environment for menstruating individuals.

Conclusion

In conclusion, addressing menstruation fallacies and beliefs among secondary school girls in Kano State is crucial for improving their overall well-being and educational outcomes. This could be achieved through implementing comprehensive educational programmes, providing accurate information, and dispelling myths surrounding menstruation, which can empower young girls to manage their menstrual hygiene effectively and confidently. This approach not only enhances their personal hygiene practices but also contributes to breaking the stigma associated with menstruation in the community.

LIMITATIONS OF THE STUDY

The findings are context-specific and not generalizable. Self-reported data can introduce bias due to ethical sensitivities. Variations in participants' ages and understanding of scientific terms affect response accuracy. Consent requirements limited sample size, and time constraints hindered long-term observation.

FUTURE RESEARCH RECOMMENDATIONS

Despite the valuable insights gained through this study, further research is essential to dismantle myths about menstruation among secondary school girls. Future studies should aim to drive meaningful change in education, policy, and practice.

- Assess menstrual misconceptions among secondary students from various cultural, geographical, and socioeconomic backgrounds.
- Examine longitudinal studies on the long-term effects of menstrual health education for girls and women in rural areas. –
- Investigate how stakeholders and media influence menstrual myths and misconceptions.

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Ethical Approvals: Ethical approval (reference number SHREC/2023/4346) was granted on 08/011/2023 by the Kano State Ministry of Health Research Ethics Committee, along with a letter from the Senior School Management Board. School head teachers were informed about the study's objectives, and consent was obtained. The study's purpose was explained to students, and written informed consent was secured from all participants. The questionnaire excluded any personal identifiers

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