

Determinants of Knowledge and Practice of Menstrual Hygiene Among Female Adolescents in Damaturu, Northeastern Nigeria

Usman Abba ^{1*}, Abubakar Musa ², Abdullahi Abba Habib ³, Peter Fannami ¹

¹Yobe State Specialist Hospital Damaturu, Nigeria.

²Abubakar Tafawa Balewa University/ Abubakar Tafawa Balewa university Teaching Hospital, Bauchi – Nigeria.

³Rasheed Shekoni Teaching Hospital, Dutse – Nigeria.

*Corresponding Author: Usman Abba., Yobe State Specialist Hospital Damaturu, Nigeria.

Received Date: February 26, 2025 | Accepted Date: March 07, 2025 | Published Date: March 31, 2025

Citation: Usman Abba, Abubakar Musa, Abdullahi A. Habib, Peter Fannami, (2025), Determinants of Knowledge and Practice of Menstrual Hygiene Among Female Adolescents in Damaturu, Northeastern Nigeria, *International Journal of Clinical Case Reports and Reviews*, 24(5); DOI:10.31579/2690-4861/724

Copyright: © 2025, Usman Abba. This is an open-access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.

Abstract:

Background: Menstruation is a biological process that begins in females in adolescent age. Poor menstrual hygiene can result in significant reproductive disorders. However, improving the knowledge about menstruation even before menarche can improve menstrual hygiene.

Objective: The aim of this study was to determine the determinants of knowledge and practice of adolescent girls towards menstrual hygiene in Damaturu, Northeastern-Nigeria.

Methods: A descriptive cross-sectional study was conducted among 300 adolescent girls in Damaturu. Data was collected using semi-structured; self-administered questionnaire and analyzed using SPSS version 24.0 and the level of significance was set at 0.05.

Result: Out of 300 participants, 32.7% were 14 years old, with a minimum age of 12 years and a maximum age of 16 years. 75.4% lived with both parents. 1.7% had mothers with secondary education or higher, while 77% had mothers with no formal education. 75.4% of the mothers were housewives, while 1.3% were civil servants. 32.7% of the respondents attained menarche at the age of 12 years. Duration of bleeding was four to six days for 47.7% of the girls, while 25.3% had bleeding for less than four days. 55.7% reported 21 to 35 days between their periods. 20% of the respondents experienced lower abdominal pain during menstruation, The mother's education status ($p = 0.022$), living with family members ($p = 0.007$), and prior knowledge on menstruation before menarche ($p = 0.006$), were significantly associated with the knowledge regarding menstruation.

Conclusion: There was poor knowledge and practice towards menstruation among adolescent girls in Damaturu, Northeast-Nigeria, this requires significant improvements. Sensitization campaigns about menstrual hygiene and its benefit at conventional and Islamic school, public lectures at women gathering and, electronic/broadcast media are recommended.

Key words: knowledge; practice; menstrual hygiene; adolescent girls; Damaturu

Introduction

To practice menstrual hygiene, girls and young women use sanitary products and require adequate knowledge about how to dispose of them properly, wash their genitalia, and then wash their hands. Limited knowledge of menstrual hygiene promotes unhygienic practices that negatively impact young girls' health, reproductive health, have

inadequate knowledge of hygienic practices surrounding their menstrual bleeding, indicating the need to promote menstrual hygiene awareness across the healthcare system.³ Furthermore, the low level of knowledge points to the need for policies to improve knowledge and safe, hygienic practices toward menstruation in institutions. Adolescent menstrual

hygiene and proper self-care play an essential role in adolescent health and wellbeing. The attitude and behavior toward menstruation and menstrual hygiene practice are affected by many factors, including the social, cultural, economic, and religious background. To develop effective interventions to improve menstrual hygiene practices, it is important to explore existing knowledge and practice towards menstrual hygiene. Unhygienic menstrual practices result in minor health issues like itchiness or rashes in the perineal area, a bad odor or major complications like pelvic inflammatory disease, cervical cancer, poor quality of life, and toxic shock syndrome.⁵ All these can result in a constant school absence rate, high drop-out rate, poor academic performance, and lower self-esteem among menstruating females.

Methods

Study area: The study was conducted in Yobe State Specialist Hospital Damaturu. It was established in 1973 as a Comprehensive health Centre following an increased population in the community, the hospital was expanded and upgraded to the status of general hospital in 1991 then to that of a specialist hospital in 1998. It has 360 bed space and 33 services points. Damaturu is the headquarters of Yobe State and cover a total area of 2,366km². It has an estimated population of 137,000 and a population density of 37/km², the residents are predominantly farmers

Study design: A descriptive, cross-sectional design was used.

Study population: The study population comprised of young girls between the age of 12 to 16 years who attended General Out Patients Clinic.

Sample size: The sample size was calculated using Fisher's formula of minimum sample size determination: $n = Z^2pq/d^2$ Where: n = minimum sample size, $Z = 1.96$, Standard normal deviate set at 95%, $p = 5\%$ (0.05), percentage of adolescence girls' attendee in general outpatient clinic. $q = 1-p$, d = Degree of accuracy After adding 10% non-response; the minimum sample size was = 300

Sampling technique: A systematic sampling method was used. Adolescent girls who made the criteria were selected during general outpatient clinic who came to see physician for other complaint not related to menstruation. All girls that consented were selected and administered with the questionnaire.

Data collection:

A registered nurse was trained on participants' recruitment, providing research information to participants, ethical considerations, and the questionnaire administration. The participants were met in the privacy of designated consulting room. They were given an adequate explanation of the study and consent was obtained, then interview was administered, each lasted for about 10-15 minutes.

Data analysis:

The Statistical Product and Service Solutions (SPSS) version 24.0 was used to analyze the data. Descriptive statistics, including frequency table and percentage and Chi-square test was used to test for association of independent and dependent variables.

Results

	Frequency (n=300)	Percentage
Age (years)		
12 - 14	133	44.4
15 -16	167	55.6
Living with family members		
With my mother and father	226	75.4
With my mother only	66	22.0
Other	8	2.6
Mother's educational level		
No formal education	231	77.0
Primary school	64	21.3
Secondary and above	5	1.7
Mother's Occupation		
Housewife	226	75.4
Petty trader	70	23.3
Civil servants	4	1.3

Table 1: Demographic characteristics of the participants.

Out of 300 participants, 98 (32.7%) were 14 years old, with a minimum age of 12 and a maximum age of 16. Additionally, 226 of the participants (75.4%) lived with both parents. As for the mothers' educational level,

1.7% had a secondary education or higher, while 77% had mothers with no formal education. Regarding the occupation of the mothers, 75.4% of the mothers were housewives, while 1.3% were Civil servants. [Table 1]

	Frequency (n=300)	Percentage
Age of menarche (Years)		
9.0	2	0.7
10.0	10	3.3
11.0	38	12.7
12.0	98	32.7
13.0	82	27.3

14.0	45	15.0
15.0	25	8.3
Knowing about menstruation before it started		
Yes, very clearly	128	42.7
Not at all	25	8.3
Had Some idea	147	49.0
Duration of blood flow		
<4 days	76	25.3
Four days to six days	143	47.7
Seven days and more	49	16.3
Don't know	32	10.7
Interval between periods		
Less than twenty-one days	64	21.3
Twenty-one days to thirty-five days	167	55.7
More than Thirty-five days	66	22.0
Don't know	3	1.0
Symptoms associated with menstruation		
Headache	58	19.3
Vomiting	10	23.4
Fatigue	76	25.3
Anorexia	48	16.0
Abdominal pain	60	20.0
Backache	48	16.0

Table 2: Characteristics of menstruation in the sample of the girls.

The Participants were asked about their characteristics of menstruation. Regarding the age of menarche, 98 (32.7%) respondents attained menarche at the age of 12 years. Duration of bleeding was four to six days for 47.7% of the girls, while 25.3% had bleeding for less than four days.

Responding to the question regarding interval between periods, 55.7% reported 21 to 35 days between their periods. A total of 60 (20%) respondents mentioned of having abdominal pain during menstruation [Table 2].

	Frequency (n=300)	Percentage
Normal Menstruation should start at the age of		
Less than ten years	25	8.3
Eleven to Fourteen years	170	56.7
More than Fourteen years	38	12.7
Don't know	67	22.3
Normal Menstruation lasts for		
Less than three days	12	4.0
Three to seven days	182	60.7
More than seven days	48	16.0
Don't know	58	19.3
Regular menstruation is repeated after an interval of		
Ten to twenty days	22	7.3
Twenty to thirty days	134	44.7
Thirty to forty days	50	16.7
Don't know	94	31.3
The cause of menstruation is		
Physiological (normal change)	174	58.0
Pathological (disease)	14	4.7
Don't know	76	25.3
Other	36	12.0
The organ menstrual blood comes from		
Uterus	197	65.7
Vagina	16	5.3
Bladder	6	2.0
Abdomen	7	2.3

Don't know	74	24.7
Absorbent sanitary pads ideal material for menstruations		
Yes	213	71.0
No	46	15.3
Don't know	41	13.7
The pads should be changed more than three times daily		
Yes	212	82.2
No	14	5.4
Don't know	32	12.4
The genitalia should be washed with water every time the pad is changed		
Yes	129	43.0
No	146	48.7
Don't know	25	8.3
Physical activity should be stopped during menstruation		
Yes	73	24.3
No	167	55.7
Don't know	60	20.0
It's harmful to take bath in on the first day of Manses		
Yes	104	34.7
No	132	44.0
Don't know	64	21.3

Table 3: Responses of girls to the questions for assessment of knowledge about menstruation.

To evaluate the level of knowledge of the respondents, they were asked a set of ten questions about their knowledge of menstruation. A total of 170 (56.7%) participants knew that normal menstruation should start at the age between 11 and 14 years. One hundred and eighty-two (60.7%) participants knew that normal menstruation lasts for three to seven days,

around half of them were aware that regular menstruation is repeated after 20 to 30 days (44.7%), and that the cause of menstruation is physiological (58%), and 65.7% knew that menstrual blood comes from the uterus. 71% of them answered correctly that absorbent sanitary pads are ideal for menstruation [Table 3].

Parameter	Category	Mean±SD Knowledge Score	*p
Age group (Years)	12-14	4.23±2.04	p=0.737
	15-16	4.32±1.93	
Mother's educational level	No formal education	4.27±1.99	p=0.022
	Primary education	3.90±2.09	
Living with family members	Secondary and above	5.20±2.48	p=0.007
	With mother	4.56±2.10	
Prior knowledge on menstruation before starting	With mother & father	4.33±2.02	p=0.006
	Yes, very clearly	4.52±1.78542	
	Not at all	3.08±2.44788	
	Had Some idea	4.18±2.08903	

Table 4: Association of demographic characteristics with mean knowledge score.

The mother's education status ($p = 0.022$), living with family members ($p = 0.007$), and prior knowledge on menstruation before menarche ($p = 0.006$), were significantly associated with the knowledge regarding menstruation.

Discussion

This study assessed the level of knowledge and practice of menstrual hygiene among adolescent girls attending outpatient clinic in specialist hospital Damaturu, Northeast Nigeria. The study's results revealed that the respondents were mostly in their teenage and young adulthood years. In this age bracket, girls and young women receive menstrual education from their mothers or sisters. They are expected to practice what they have learned as they grow and live independently.^{8,9} A previous report suggests that many girls in Nigeria receive menstrual hygiene education from their mothers, older siblings and peers.¹⁵ Although a study

conducted in Nigeria revealed that 17.8% of girls were exposed to menstrual hygiene knowledge from their teachers.⁴ Another study revealed that some teachers in Nigerian schools were uncomfortable discussing the subject.⁶ This highlights the need to train teachers on appropriate ways to communicate issues relating to menstrual hygiene to their girls. Respondents from this study had access to resources, making it easy for them to purchase sanitary pads and other cleaning materials. However, this might not be the case for many girls in Nigeria as evidence suggests that poverty has remained a significant issue in the country, where over 100 million people exist on less than one dollar per day, and the country is one of the nation's having the highest number of people living in extreme poverty. It is important to note that menstrual hygiene is now considered a basic human right; Scotland was reported as the first country to make period products available free of charge,⁸ and a state of Australia has also implemented this for public secondary school girls.^{2,3}

Efforts by governmental and non-governmental organizations to make period products available free of charge or at subsidized rates in low and middle-income countries like Nigeria are now warranted. In this study, most respondents had poor knowledge of menstrual hygiene. This was at variance with a study conducted in Nepal, which found adequate knowledge of menstrual hygiene among adolescent girls.¹⁰ However, this was in tandem with another study that found that over two-thirds of girls had poor knowledge of menstruation.¹¹ According to a study conducted in rural Gambia, 4 females learn about menstruation from their mothers, teachers, and siblings. This implies that the respondents' understanding of this study does not necessarily stem from their knowledge about the female reproductive system learned in school. The basic knowledge of this study's respondents could also have stimulated their awareness of how menstruation impacts their education, pain perception and the amount of bleeding experienced monthly.¹³ According to a study conducted in rural Gambia, the knowledge transferred from mothers or family members may also be filled with taboos and myths about menstruation, including the characteristics such as smell and the hygiene of menstrual blood.⁴ This could explain why about half of the respondents in this study demonstrated bad menstrual hygiene practices, suggesting that health practitioners can utilize various media to correct myths and misconceptions regarding menstrual hygiene. As nurses effectively deliver various educational interventions among females³ through various means like Health interventions, they can reach females in rural and underserved areas; they should design Health interventions focusing on menstrual health for females across Nigeria as a high level of mobile phone usage has been reported among females in Nigeria.¹

Conclusion

The level of knowledge and practices towards menstruation among adolescent girls in Damaturu, Northeastern Nigeria, requires significant improvements. This improvement of knowledge could reduce the risk of future reproductive disorders. We recommend that the decision-makers in the education sector include in educational courses for adolescent girls' lessons about their reproductive health and healthy hygienic measures during menstruation. This needs to be the primary source of information for girls about their menstruation rather than relying on their mothers' knowledge or obtaining information from untrusted resources, which might affect their health and wellbeing.

References

1. Aladeselu M. (2023). Menstrual hygiene day: 37 million Nigerian females are in period poverty. *The Cable* [Internet]. [cited 2023 July 25].
2. Kaur R, Kaur K, Kaur R. (2018). Menstrual hygiene, management, and waste disposal: practices and challenges faced by girls/women of developing countries. *J Env Public Health.*;1730964.
3. Mohammed S, Larsen-Reindorf RE, Awal I. (2020). Menstrual hygiene management and school absenteeism among adolescents in Ghana: results from a school-based cross-sectional study in a rural community. *Int J Report Med.*;6872491. 10.

4. Nabwera HM, Shah V, Neville R, Sosseh F, Saidykhan M, et al. (2021). Menstrual hygiene management practices and associated health outcomes among school-going adolescents in rural Gambia. *PLoS One.*;16(2): e02475544.
5. Neupane MS, Sharma K, Bista AP, Subedi S, Lamichhane S. (2020). Knowledge on menstruation and menstrual hygiene practices among adolescent girls of selected schools, Chitwan. *JCMC* [Internet]. [cited 2023 May 10];10(1):6973.
6. Mohammed S, Larsen-Reindorf RE, Awal I. (2020). Menstrual hygiene management and school absenteeism among adolescents in Ghana: Results from a school-based cross-sectional study in a rural community. *Int J Report Med*; 2020:6872491.
7. (2024). Yobe state subdivision: City population; www.citypopulation.de.
8. Fetohy EM. (2007). Impact of a health education program for secondary school Saudi girls about menstruation at Riyadh city. *J Egypt Public Health Assoc*; 82:105-26
9. UNICEF. Menstrual hygiene in schools in 2 countries of Francophone West Africa—Burkina Faso and Niger case studies in 2013.
10. Michael J, Iqbal Q, Haider S, Khalid A, Haque N, et al. (2020). Knowledge and practice of adolescent females about menstruation and menstruation hygiene visiting a public healthcare institute of Quetta, Pakistan. *BMC Women's Health*; 20:4.
11. Coast E, Lattof SR, Strong J. (2019). Puberty, and menstruation knowledge among young adolescents in low- and middle-income countries: A scoping review. *Int J Public Health*; 64:293-304.
12. Chandra-Mouli V, Patel SV. (2017). Mapping the knowledge and understanding of menarche, menstrual hygiene, and menstrual health among adolescent girls in low-and middle-income countries. *Reprod Health*; 14:30.
13. Kakani CR, Bhatt JK. (2017). Study of adaptability and efficacy of menstrual cup in managing menstrual health and hygiene. *Int J Reprod Contracept Obstet Gynecol.*;6(7):3045-53
14. Alam MU, Luby SP, Halder AK, Islam K, Opel A, et al. (2017). Menstrual hygiene management among Bangladeshi adolescent schoolgirls and risk factors affecting school absence: Results from a cross-sectional survey. *BMJ Open*;7: e015508.
15. SOMMER, Marni, et al. A comparison of the menstruation and education experiences of girls in Tanzania, Ghana, Cambodia and Ethiopia. *Compare: A Journal of Comparative and International Education*, 45.4: 589-609.
16. CR, Bhatt JK. (2017). Study of adaptability and efficacy of menstrual cup in managing menstrual health and hygiene. *Int J Reprod Contracept Obstet Gynecol.*;6(7):3045-3053
17. Esan DT, Muhammad F, Okocha SE, Ogunkorode A, Bamigboye TO, et al. (2022). Causes, enablers and perceived solutions to teenage pregnancy: a qualitative study in a South-Western State in Nigeria. *Pan Afr Med J.*; 43:120s



This work is licensed under Creative Commons Attribution 4.0 License

To Submit Your Article Click Here:

[Submit Manuscript](#)

DOI: [10.31579/2690-4861/724](https://doi.org/10.31579/2690-4861/724)

Ready to submit your research? Choose Auctores and benefit from:

- fast, convenient online submission
- rigorous peer review by experienced research in your field
- rapid publication on acceptance
- authors retain copyrights
- unique DOI for all articles
- immediate, unrestricted online access

At Auctores, research is always in progress.

Learn more <https://auctoresonline.org/journals/international-journal-of-clinical-case-reports-and-reviews>