

Menstrual hygiene practices among female adolescents seen in general outpatient clinic

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ABSTRACT

Introduction: Menstruation is a normal physiologic phenomenon which is indicative that a woman is ready for her reproductive roles. Adolescents are often uninformed and inexperienced on most health-related issues including menstruation. This study therefore hopes to determine the common menstrual hygiene practices among adolescent females.

Materials and Methods: This was a cross-sectional study involving women aged 14–18 years. A pretested questionnaire was administered by trained female clinical assistants to those who cannot read and write; however, literate respondents self-administered the questionnaires.

Results: Three hundred and ninety-six (95.4%) of the respondents were aware of menstruation before their first period. Four hundred and two (96.9%) respondents believed menstruation was caused by the age of maturity, while 13 (3.1%) reported failure of fertilization of the ovum resulted in menstruation. Close relations were common source of information on menstruation; however, the age of menarche ranged from 9 to 18 years, with a mean age of 13.4 ± 1.5 years. Sixty-one (14.7%) respondents used clean cloth for menses, 271 (65.3%) used sanitary pad, while 83 (20.0%) used tampon. However, 55 (13.3%) reused their sanitary wares. Most respondents changed their sanitary wares twice in a day; they mostly bath twice in a day even during their periods.

Conclusion: Most respondents were aware of menstruation before their menarche and their close relatives were their common source of information on menstruation, 13 years was the mean age of menarche; most respondents used sanitary pads; however, 20% of them still used tampons.

Key words: Female adolescents; menstrual hygiene; menstruation; sanitary wares.

Introduction

Menstruation is a normal physiologic phenomenon which is indicative that a woman is developed and ready for her reproductive roles.^[1-3] This involves menstrual bleeding at the end of the menstrual cycle. Adolescents are often uninformed and inexperienced on most health-related issues including menstruation. Knowledge of the menstrual process which is part of sex education is often clouded with secrecy in some cultures, and these are not often discussed in public, as such, topics relating to sexual development are,

therefore, avoided from school curriculum. Therefore, such knowledge is passed mostly from mothers, sisters, aunts, and grandmothers to daughters.

Menstrual hygiene is an important aspect of a female's personal hygiene which if not properly handled may predispose to reproductive tract infection with its attendant

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complications. Therefore appropriate knowledge of the menstrual process is essential for a good menstrual hygiene. This study therefore hopes to determine the perception of menstruation and common menstrual hygiene practices among adolescent females.

Materials and Methods

This was a cross-sectional study. A pretested questionnaire was administered by trained female medical doctors and female clinical assistants to those who could not read and write; however, literate respondents self-administered the questionnaires. It was pretested among 20 selected volunteers, and internal consistency was maintained with a Cronbach's alpha score of 0.80. Relevant questions including knowledge of menstrual hygiene and common menstrual hygiene practices were contained in the questionnaire. Ethical approval was obtained from the Research Ethics Committee of Aminu Kano Teaching Hospital, Kano.

Considering the usage of sanitary napkin as 64% from the previous study^[4] and relative precision of 5% at 95% confidence interval (CI) using the formula $n = Z^2 \times pq/d^2$, the sample size was calculated as 355; however, 415 respondents were recruited for this study. However, 415 female adolescents seen in the general outpatient clinic of Aminu Kano Teaching Hospital, Kano, were consecutively recruited over a 5-month period from September 2017 to January 2018.

Consent was obtained from the respondents.

Inclusion criteria

- All female adolescents between the ages of 14 and 18 years who had achieved menarche were included.

Exclusion criteria

- Respondents who declined consent
- Those in urgent need of care/acute illness.

Data analysis

The obtained data were cleaned and entered into Statistical Package for the Social Sciences (SPSS Inc. Chicago, IL, USA) version 16. The data were presented in tables as frequencies and percentages. Test of significance using the Chi-square test was deployed for comparing categorical variables, with $P < 0.05$ being set as statistically significant.

Results

Four hundred and fifteen respondents were recruited; among these, 36 of the respondents (8.7%) had completed primary school education, 108 (26.0%) had secondary

school certificate, 197 (47.7%) had tertiary school education or were in tertiary school, while 73 (17.6%) had no formal education.

One hundred and sixty-two (39.0%) lived within Kano city, 118 (28.4%) lived within the surrounding towns, while 135 (32.5%) of the respondents lived in the villages.

Most respondents were unemployed (50.4%) with majority not having monthly income (28.1%); however, majority had less than 1000 Naira as their monthly upkeep [Table 1].

Three hundred and ninety-six (95.4%) of the respondents were aware of menstruation before their first period while 19 (4.6%) were not. Four hundred and two (96.9%) respondents believed menstruation was caused by the age of maturity, while few 13 (3.1%) reported the failure of fertilization of the ovum resulted in menstruation.

Close relations such as mothers, sisters, and grandmothers were common source of information on menstruation; surprisingly, a respondent reported that her father was her source of information on menstruation; however, the age of menarche ranged from 9 to 18 years, with a mean age of 13.4 ± 1.5 years; 13 years was the most common age of menarche. Sixty-one (14.7%) respondents used clean cloth for menses, 271 (65.3%) used sanitary pad while 83 (20.0%) used tampon. However, 55 (13.3%) reused their sanitary wares, while 360 (86.7%) of them did not [Table 2].

Table 1: Sociodemographic characteristics of the respondents

	Frequency (%)
Place of work	
Civil servant	57 (13.7)
Private company	34 (8.2)
Domestic servant	26 (6.3)
Self-employed	89 (21.4)
Unemployed	209 (50.4)
Total	415 (100.0)
Monthly income	
<1000	65 (15.7)
1000-5000	83 (20.0)
6000-10,000	46 (11.1)
>10,000	63 (15.2)
None	158 (38.0)
Total	415 (100.0)
Monthly upkeep	
<1000	265 (63.9)
1000-5000	29 (7.0)
6000-10,000	16 (3.9)
>10,000	12 (2.9)
None	93 (22.3)
Total	415 (100.0)

Most respondents changed their sanitary wares twice in a day; they mostly bath twice in a day even during their periods [Table 3].

Irrespective of their monthly upkeeps, place of abode, and level of education, the sanitary pad was mostly used by the respondents; however, the use of clean cloth was mostly observed among those without monthly upkeep

Table 2: Source of information on menstruation and age of menarche of the respondents

	Frequency (%)
Taught menses	
Mother	201 (48.4)
Father	1 (0.2)
Sisters	76 (18.3)
G/mother	72 (17.3)
Teacher	21 (5.1)
Media	4 (1.0)
Friends	28 (6.7)
Neighbors	12 (3.0)
Total	415 (100.0)
Age at menses (years)	
9	5 (1.2)
10	6 (1.4)
11	19 (4.6)
12	89 (21.4)
13	109 (26.3)
14	90 (21.7)
15	62 (14.9)
16	25 (6.0)
17	7 (1.7)
18	3 (0.8)
Total	415 (100.0)

Table 3: Menstrual hygiene of the respondents

	Frequency (%)
Changing wares	
Once	31 (7.5)
Twice	215 (51.8)
Thrice	123 (29.6)
>Thrice	46 (11.1)
Total	415 (100.0)
Bathing	
Once	117 (28.2)
Twice	261 (62.9)
Thrice	30 (7.2)
>Thrice	7 (1.7)
Total	415 (100.0)
Bathing during menses	
Once	24 (5.8)
Twice	302 (72.8)
Thrice	77 (18.6)
>Thrice	12 (2.8)
Total	415 (100.0)

and those with >1000 Naira monthly upkeep, those who lived in the villages, and those without formal education. These observations were statistically significant (Fisher's exact test = 46.959, $P = 0.000$; Chi-square test = 90.798, $df = 4$, $P = 0.00$; Chi-square test = 58.813, $df = 6$, $P = 0.00$, respectively) [Table 4].

Table 4: The relationship between the demographic characteristics of the respondents and their choice of sanitary wares

	What do you use for menses?			Total
	Cloth	Pad	Tampon	
Monthly upkeep				
<1000	33	164	68	265
1000-5000	1	26	2	29
6000-10,000	0	15	1	16
> 10,000	0	12	0	12
None	27	54	12	93
Total	61	271	83	415
Abode				
City	7	130	25	162
Town	4	87	27	118
Village	50	54	31	135
Total	61	271	83	415
Education				
Primary	12	12	12	36
Secondary	15	66	27	108
Tertiary	10	157	31	198
None	24	36	13	73
Total	61	271	83	415

Fisher's exact test=46.959, $P=0.000$; Chi-square test=90.798, $df=4$, $P=0.00$;
Chi-square test=58.813, $df=6$, $P=0.00$

Table 5: The relationship of the demographic characteristics of the respondents with their menstrual hygiene practices

	Do you re-use?		Total
	Yes	No	
Monthly upkeep			
<1000	23	242	265
1000-5000	3	26	29
6000-10,000	1	15	16
> 10,000	1	11	12
None	27	66	93
Total	55	360	415
Abode			
City	18	144	162
Town	7	111	118
Village	30	105	135
Total	55	360	415
Education			
Primary	7	29	36
Secondary	11	97	108
Tertiary	15	183	198
None	22	51	73
Total	55	360	415

Fisher's exact test=21.889, $P=0.000$; Chi-square test=15.594, $df=2$, $P=0.00$;
Chi-square test=25.737, $df=3$, $P=0.00$

Similarly, irrespective of their monthly upkeeps, place of abode, and level of education, most respondents did not re-use their sanitary ware; however, among those who re-used their sanitary wares, majority had no monthly upkeep, while a few had >1000 Naira as monthly upkeep; majority lived in the villages and they were without formal education. These observations were statistically significant (Fisher's exact test = 21.889, $P = 0.000$; Chi-square test = 15.594, $df = 2$, $P = 0.00$; Chi-square test = 25.737, $df = 3$, $P = 0.00$, respectively) [Table 5].

Irrespective of their place of abode, most respondents bath twice in a day during and after menstruation; this observation were also statistically significant (Fisher's exact test = 16.718, $P = 0.01$; Chi-square test = 24.712, $df = 6$, $P = 0.00$) [Table 6].

Discussion

The mean age of menarche in our study was comparable to those observed by Ramachandra *et al.*,^[5] Khanna *et al.*,^[6] Tegegne and Sisay,^[7] and Lawan *et al.*^[8] but was lower than that reported by Parajuli *et al.*^[9] in Nepal. Majority of respondents in our study were aware of menstruation. This observation was also observed by Lawan *et al.*^[8] in an earlier study among adolescent secondary schooling girls in Kano. However, our figure was higher than their report of 87%, and 86.75% reported by Tegegne and Sisay^[7] in Ethiopia, but 34% was reported by Ramachandra *et al.*^[5] in India; this disparity may be attributed to differences in the educational qualification; we had 47% respondents who were already in tertiary school; therefore, they were better exposed with good knowledge of menstruation,

Contrary to the report by Lawan *et al.*,^[8] most respondents in our study were first informed on menstruation and menstrual hygiene by their mothers and other close

relations; this observation was similarly reported by Parajuli *et al.*,^[9] Ramachandra *et al.*,^[5] Drakshayani Devi and Ventaka Ramaiah^[10] and Abraham *et al.*^[11] Issues of sexuality and sexual development are often closely guided and may not be open for public discussion in some African society; teaching of sex education are strongly resisted by parents, with the perception that it may breed immorality.^[12] Therefore it was not surprising observing that only 27.95% of respondents in Tegegne and Sisay^[7] study was comfortable discussing about menstruation. However, Upashe *et al.*^[13] reported that most respondents got information on menstruation from friends, mass media and school. This further highlights cultural diversity, which in their case showed minimal communication between the family and the girl child on matters of sexual development; while girls discussed freely among themselves about menstruation.

Use of sanitary pad was most common among the respondents, irrespective of their educational status, their place of abode, and monthly upkeep; this may be attributable to their awareness, cheapness, and availability of sanitary wares; this observation differed from that of Upashe *et al.*,^[13] who stated that respondents who had permanent pocket money from their fathers were three times more likely to have good menstrual hygiene than those who did not have upkeeps. Furthermore, 20% of respondents in our study still used tampons; this is a cause for concern, considering the risk of toxic shock syndrome associated with its use.^[14] However, our finding was better than the only 33.3% respondents reported using sanitary pad in Parajuli *et al.*'s^[9] study; again, the use of cloth and re-use of sanitary napkins were mostly observed among those from the rural setting; this observation was similarly reported by Tegegne and Sisay,^[7] a poor financial standing may be responsible for this observation. All respondents in our study believed that menstruation was a physiologic process; while 96.9% attributed it to maturity of the girl child, only 3.1% related it to failure of fertilization of the ovum; their perception was better than that reported by Upashe *et al.*,^[13] who reported that 9.7% of their respondents believed menstruation was a curse from God; while Adhikari *et al.*^[15] reported only 6% of their respondent believed menstruation was physiologic. We observed increasing frequency of bathing during period of menstruation and most of them changed their sanitary wares at least twice in a day; this observation was also reported by Lawan *et al.*^[8]

Conclusion

This study showed that the respondents had an overall good menstrual hygiene; however, majority reported their mothers and close relations as source of information. The 20% of

Table 6: The relationship of the demographic characteristics of the respondents with their frequency of bathing during menses

	Bathing in menses?				Total
	Once	Twice	Thrice	>Thrice	
Abode					
City	41	101	15	5	162
Town	23	85	9	1	118
Village	53	75	6	1	135
Total	117	261	30	7	415
Abode					
City	6	110	36	10	162
Town	3	90	24	1	118
Village	15	102	17	1	135
Total	24	302	77	12	415

Fisher's exact test=16.718, $P=0.01$; Chi-square test=24.712, $df=6$, $P=0.00$

respondents that used tampon was worrisome, considering the associated risk of toxic shock syndrome following its use; therefore, sexual education should be readily discussed in the public domain. This will ensure the better information is made available and safer choices of menstrual wares are practiced.

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Conflicts of interest

There are no conflicts of interest.

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