

Menstrual hygiene among adolescent school girls in Kano

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ABSTRACT

Background: Adolescent girls often lack knowledge regarding reproductive health including menstruation that could be due to sociocultural barriers in which they grow up.

Materials and Methods: The study was a cross-sectional survey conducted among adolescent girls in three secondary schools at Kano, from 1st January to 31st December, 2016. Ethical approval was obtained from Aminu Kano Teaching Hospital Ethics Committee and Kano State Ministry of Health. Consent/assent was obtained from all the participants/guardians. Data obtained were recorded on questionnaires and analyzed using SPSS version 18 Statistical Software. Fishers' exact test was used in this study and *P* value of ≤ 0.05 was considered significant.

Result: During the study period (from January to December, 2016), 219 adolescent secondary school girls participated in the survey. The mean age (\pm SD) was 16.1 ± 1.34 years. There was no statistically significant association between the mean age at menarche and the socioeconomic status of their parents (*P* [Fishers'] = 0.817). Up to 202 (92.2%) adolescent girls had premenarcheal counseling. Most of the information on premenarcheal counseling was provided by the parents/guardians 139 (62.9%) followed by the school teachers 42 (19.0%). Sanitary pads were the most used menstrual absorbent among the adolescents 202 (92.2%). Other menstrual absorbent used by the adolescents were toilet roll 11 (5.0%) and cloth 5 (2.3%). Among the methods of disposal of menstrual absorbent, dustbin 161 (73.9%) was the most used followed by disposal in the toilet 32 (14.7%), and burning 21 (9.6%). Other methods of disposal used by the adolescents were by washing it or road side/farm/over the fence disposal 4 (1.8%).

Conclusion: There was good menstrual hygiene among the adolescent school girls. Sanitary pads were the most used menstrual absorbent.

Key words: Adolescents; Kano; menstrual hygiene.

Introduction

Adolescence is a transitional phase of growth and development between childhood and adulthood that is manifest among girls and boys between the age of 10 and 19 years.^[1]

It encompasses the pubertal period that is a portion of time of becoming first capable of reproducing sexually that is brought on by the production of sex hormones and the maturing of the reproductive organs, development of secondary sexual characteristics, and the occurrence of menstruation in human females.^[2]

Menstruation is commonly defined as the periodic shedding of the inner lining of the uterus under the control of the hormones of the hypothalamo-pituitary axis.^[3] Adolescent period is of monumental importance in the life of a woman. Adolescent girls often lack knowledge regarding reproductive health including menstruation that can be due to sociocultural barriers in which they grow up.^[4] Although the anatomy of

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the female genital tract and the physiology of menstruation are taught in Nigerian schools, the practical management of menstruation has often been considered inappropriate for public discussion.^[5]

Menstrual hygiene defined as the “practice of using clean materials to absorb menstrual blood that can be changed privately, safely, hygienically, and as often as needed throughout the duration of the menstrual cycle.”^[6] It impacts multiple areas across the sustainable development goal agenda including health, education, gender equality, and water and sanitation.

Several studies have demonstrated inaccurate and incomplete information about the menstrual physiology and hygiene among adolescents.^[7-9] A study conducted in southeastern Nigeria revealed up to 44.8% of the adolescent girls had no premenarcheal training, which resulted in inappropriate menstrual experiences and poorer menstrual hygiene practice.^[3] A preliminary results from the Performance Monitoring and Accountability (PMA2020) survey conducted in Kaduna, northwestern Nigeria showed that only 37% of women age 15–49 have everything they need such as clean materials, a facility, pain medication, and places to dispose of used products for proper menstrual hygiene.^[6] This study was aimed at revealing the knowledge of menstrual hygiene and the methods of menstrual disposal among adolescents in Kano.

Materials and Methods

The study was a cross-sectional survey conducted among adolescent girls in three secondary schools (Government Girls Secondary School [GGSS] Shekara, GGSS Dala, and St Louis Secondary School [SS], Kano) at Kano, northwestern geopolitical zone of Nigeria. These three secondary schools were in Kano Municipal, Dala, and Nassarawa Local Governments areas, all situated within Kano metropolis. A multi stage sampling method was employed. Three local government areas were selected from the metropolis. One secondary school was selected from a list of all the girls secondary schools in each selected local government by a random number generator. The survey was carried out from 1st January to 31 December, 2016. Ethical approval was obtained from Aminu Kano Teaching Hospital Ethics Committee and Kano State Ministry of Health. It was a voluntary survey. Consent/assent was obtained from all the participants/guardians. All consecutive adolescent girls from the selected secondary schools were recruited for the survey. Adolescent girls/guardians who denied assent/consent were excluded from the survey. Girls who had not attained menarche and those above 19 years

were also excluded. Information on sociodemographic characteristics of their parents and knowledge of menstrual hygiene was recorded on structured closed and open-ended questionnaires by trained research assistants. The data obtained were analyzed using IBM Statistical Package for Social Science (SPSS) Version 19, Statistics (SPSS Inc., IL, Chicago, USA). Fishers’ exact test was used and *P* value of ≤ 0.05 was considered significant. The socioeconomic classification of Oyedepi^[10] was adopted in this survey.

Results

The survey was conducted in three girl’s secondary school from January to December, 2016. Two hundred and nineteen female adolescents participated in the survey. The mean age \pm SD at menarche was 12.8 ± 1.31 . The median and modal ages at menarche were both 13 years.

The mean age (\pm SD) of the respondents was 16.1 ± 1.34 years. The median age was 16 years. Tertiary institutions 158 (73.1%) were attended by majority of their parents, followed by secondary school 22 (10.2%) and Quranic/Islamiyya 20 (9.3%), respectively [Table 1].

A larger proportion of their parent was businessmen 84 (38.5%); the professional/executive, and teachers constituted 73 (33.5%) and 28 (12.8%), respectively. There was no statistically significant association between the median age at menarche and parent’ occupation (*P* [Fishers’] = 0.292). Similarly, there was no statistically significant association between the median age at menarche and the educational status of their parent *P* [Fishers’] = 0.237). Also, there was no statistically significant association between the mean

Table 1: Parents’ educational status and occupation

Variable	Frequency	Percentage
Educational status		
None	5	2.3
Primary	4	1.9
Secondary	22	10.2
Tertiary	158	73.1
Quranic/Islamiyya	20	9.3
Others	7	3.2
Total	216	100.0
Occupation		
Business	84	38.5
Professional/executive	73	33.5
Artisan	5	2.3
Farming	14	6.4
Teaching	28	12.8
Others	14	6.4
Total	218	100.0

age at menarche and the socioeconomic status of their parents (P [Fishers'] =0.817)) [Table 2].

Among the 219 adolescent school girls, 202 (92.2%) had premenarcheal counseling. Most of the information on premenarcheal counseling was provided by the parents/guardians 139 (62.9%) followed by the school teachers 42 (19.0%) and peers 17 (7.7%). Other sources of information on premenarcheal counseling were books/magazines/newspapers 7 (3.2%), friends 12 (5.4%), and TV/radio 4 (1.8%) [Figure 1].

The average number of bath taking by the adolescent during the menstrual period was 1.0 ± 1.12 . All the adolescents changed their menstrual absorbent used in the toilets within the school premises and washed their body with soap and water. Sanitary pads were the most used menstrual absorbent among the adolescents 202 (92.2%). Other menstrual absorbent used by the adolescents were toilet roll 11 (5.0%) and cloth 5 (2.3%) [Figure 2].

Among the methods of disposal of menstrual absorbent, dustbin 161 (73.9%) was the most used followed by disposal in the toilet 32 (14.7%) and burning 21 (9.6%). Other methods of disposal used by the adolescents were by washing it or road side/farm/over the fence disposal 4 (1.8%) [Figure 3].

Discussion

Menstrual hygiene management among adolescents is defined as: adolescent girls using a clean menstrual management material to absorb or collect menstrum that can be changed in privacy as often as necessary for the duration of the menstruation period, using soap and water for washing the body as required, and having access to facilities to dispose of used menstrual management materials.^[11]

In this survey, we found no statistically significant association between the median age at menarche and parents' occupation or their educational status ($P = 0.292$ and 0.237 , respectively). Also, no statistically significant association between the mean age at menarche and socioeconomic status of their parents (P [Fishers'] =0.817). This is contrary to the findings of Elshiekh *et al.*^[12] in northern Sudan where age at menarche had statistically significant difference

between girls whose parents had a higher educational level and those with lower educational level. James-Todd *et al.*^[13] also found an association between early age at menarche and lower socioeconomic status at 7 years and reduction in socioeconomic status in early childhood among racially diverse population of girls in New York. Lower mean age at menarche (12.8 ± 1.31) in our study when compared with

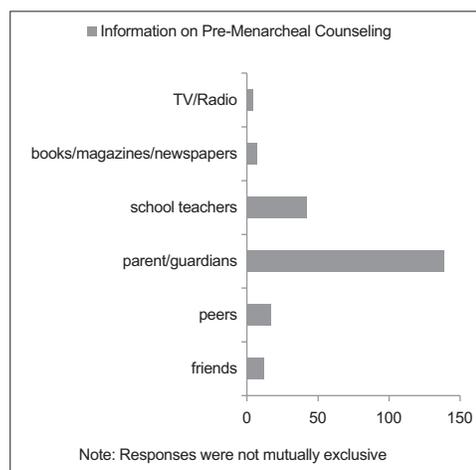


Figure 1: Sources of information on premenarcheal counseling

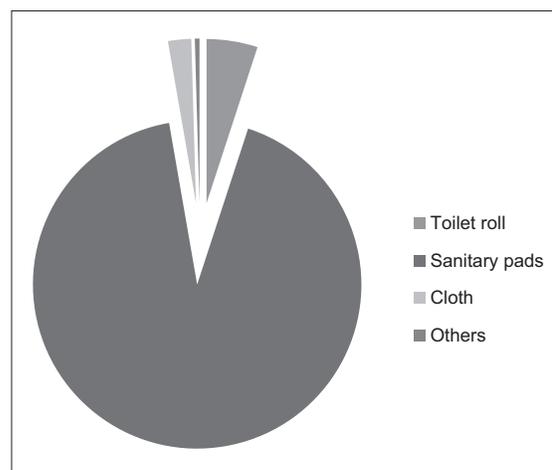


Figure 2: Menstrual absorbent used by the adolescents

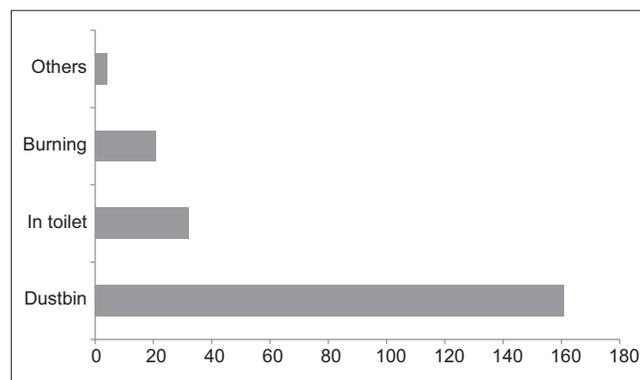


Figure 3: Methods of disposal of menstrual absorbent

Table 2: Cross-tabulation of mean age at menarche with socioeconomic class

Age at menarche	Socioeconomic status			Fishers' exact test
	High	Middle	Low	
Menarche \leq 13 years	95	39	15	0.817
Menarche $>$ 13 years	40	19	8	
Total	135	58	23	

the mean age (13.93 ± 1.29) of adolescent girls in Sudan might be responsible for the findings. In addition, our study was exclusively among black race that could have been the cause of the difference between our findings and that of James-Todd *et al.*^[13]

Premenarcheal counseling and education on care for their menses, including methods of disposal was received by 202 (92.2%) adolescent school girls. This figure is higher than the 80.2% ($n = 378$) reported by Gumanga *et al.*^[14] in Accra, Ghana. Parent/guardians 139 (62.0%) and school teachers 42 (19.0%) were the main source of information about premenarcheal counseling. Gumanga *et al.*^[14] reported that only 10.8% of the adolescent girls had their counseling and education about menses from their teachers in Ghana and Adefuye *et al.*^[15] reported that up to 52.4% received premenarcheal information and the sources of information were from guardians 88 (8.3%) and school teachers 17 (1.6%). Sociocultural differences could be the main reason for the higher figures in our study.

Our study showed sanitary pads were the most used menstrual absorbent among the adolescents 202 (92.2%). Other menstrual absorbent used by the adolescents were toilet roll 11 (5.0%) and cloth 5 (2.3%). A study conducted among female undergraduate students in Ghana revealed (at the time of menarche) majority, 229 (78.2%) used sanitary pad, but some others used toilet tissue, 30 (10.2%), and re-useable cloth, 27 (9.2%).^[16] Higher percentage of sanitary pad usage (92.2% vs 78.2%) in our study could be as a result of sociocultural differences. The largest ethnic group in Kano are Hausas and of Islamic faith.^[17] Ghanaian populations in the study area are largely Christians. A survey conducted among 150 school going adolescent girls in Thiruporur, India, showed that only 18.67% of adolescent girls had knowledge about menstruation before menarche and as high as 67% of them did not know the cause of menstruation to the extent that 23.33% of the girls believed that menstrual bleed comes from the same pathway from which urine comes. However, nearly all girls (96.67%) reported sanitary pad usage during the duration of menstruation.^[18] Different sociocultural background between the adolescent girls in our survey and that of school going adolescent girls in India could be responsible for the findings.

This high usage of sanitary pad (92.2%) in our study could not be unconnected to the fact that these secondary schools were within the Kano metropolis with significant number of students belonging to the families that could afford to buy the menstrual pads for their adolescent girls. The study also showed that the average number of bath taking by the

adolescent during the menstrual period was 1.0 ± 1.12 per day. A study conducted among adolescent in the two private and public schools of Samakhushi, Kathmandu, Nepal revealed that most of the adolescent girls bath daily during menstruation period but few also bath in the 3rd days of menstruation.^[19]

All the adolescents changed their menstrual absorbent used in the toilets within the school premises and washed their body with soap and water. Dasgupta and Sarkar^[9] in a study conducted among the adolescent school girls in the field practice area of rural health unit and training center, Singur, Hooghly district, West Bengal, India, reported that 156 (97.5%) girls used both soap and water to wash their body after disposing menstrual absorbent. Our findings are similar. This high level of menarcheal training could only be obtained from either the parent or the school teachers. Contrary to our findings, a study conducted in southeastern Nigeria revealed up to 44.8% of the adolescent girls had no premenarcheal training, which resulted in inappropriate menstrual experiences and poorer menstrual hygiene practice.^[3] Our findings revealed good menstrual hygiene among the respondents with high rate of premenarcheal counseling (92.2%).

Among the methods of disposal of menstrual absorbent, dustbin 161 (73.9%) was the most used followed by disposal in the toilet 32 (14.7%). Upashe *et al.*^[20] in Ethiopia reported that 167 (20.2%) of the respondents were disposing their used sanitary pads in dustbin whereas 274 (33.3%) of girls used paper to dispose the pads by wrapping. Higher socioeconomic status of the parent/guardians of adolescent girls in our survey coupled with the location of these three secondary schools in a major city of northwestern geopolitical zone of Nigeria could have attributed to the higher rate of disposal in the dustbin and minimal use of papers in our study when compared to that of Ethiopia. The disposal method in our study was better and more hygienic.

Conclusion

There was good menstrual hygiene among the adolescent school girls, and sanitary pads were the most used menstrual absorbent. Only few adolescents recycled the menstrual absorbent or disposed it over the fence/by the road side.

Recommendation

There is a need to maintain the menstrual hygiene among the school girls adolescent not only among the adolescent girls within the metropolis but also among the rural school girls. Government should provide sanitary pads especially to the adolescent school girls that cannot afford the cost.

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Conflicts of interest

There are no conflicts of interest.

References

1. Csikszentmihalyi M. Adolescence. Encyclopaedia Britannica. Available from <https://www.britannica.com/science/adolescence>. [Last accessed on 2018 May 29].
2. Merriam-Webster: Puberty; definition of puberty. Available from: <https://www.merriam-webster.com/dictionary/puberty>. [Last accessed on 2017 Sep 24].
3. Aniebue UU, Aniebue PN, Nwankwo TO. The impact of pre-menarchial training on menstrual practices and hygiene of Nigerian school girls. *Pan Afr Med J* 2009;2:9.
4. Ramachandra K, Gilyaru S, Eregowda A, Yathiraja S. A study on knowledge and practices regarding menstrual hygiene among urban adolescent girls. *Int J Contemp Padiatr* 2016;3:142-5.
5. Marianne E, Mc Pherson ME, Korfine L. Menstruation across time: Menarche, menstrual attitudes, experiences and behaviors. *Women's Health Issues*. 2004;14:193-200.
6. Nigeria. Healthwatch: Informed commentary, intelligence and insights on the Nigerian Health Sector. New data from PMA2020 shed light on menstrual hygiene management in Kaduna, Nigeria. Available form: <http://nigeriahealthwatch.com/new-data-from-pma2020-shed-light-on-menstrual-hygiene-management-in-kaduna-nigeria/>. [Last accessed on 24/09/2017].
7. Mudey AB, Keshwani N, Mudey GA, Goyal RC. A cross-sectional study on the awareness regarding safe and hygienic practices amongst school going adolescent girls in the rural areas of Wardha district. *Glob J Health Sci* 2010;2:225-31.
8. Ghattargi CH, Deo DS. Preparation and practices regarding menstruation: A comparative study in rural and urban adolescent girls. *Indian J Community Med* 2005;30:10-4.
9. Dasgupta A, Sarkar M. Menstrual hygiene: How hygienic is the adolescent girl?. *Indian J Community Med* 2008; 33/2: 77- 80.
10. Oyediji GA. Socio-economic and cultural background of hospitalized children in Ilesha. *Nig J Paediat* 1985;12:111-7.
11. Sommer, M, Cherenack E, Blake S, Sahin M, Burgers L. WASH in schools empowers girls' education: Proceedings of the menstrual hygiene management in Schools Virtual Conference 2014, United Nations Children's Fund and Columbia University, New York, 2015. Available at: https://www.unicef.org/wash/schools/files/MHM_vConf_2014.pdf. [Last accessed on 12/24/17].
12. Elshiekh M, Mohammed AM. Influence of socio-economic status in the age at the menarche and duration of menstrual bleeding. *Mater Sociomed* 2011;23:195-9.
13. James-Todd T, Tehranifar P, Rich-Edwards J, Titievsky L, Terry MB. The impact of socio-economic status across early life on age at menarche among a racially diverse population of girls. *Ann Epidemiol* 2010;20:836-42.
14. Gumanga SK, Kwame-Aryee RA. Menstrual characteristics in some adolescent girls in Accra, Ghana. *Ghana Med J* 2012;46:3-7.
15. Adefuye PO, Odusoga OL, Adefuye BO, Akindele RA. Age at menarche and menstrual patterns in secondary school girls in Sagamu. *Nig J Clin Pract* 2010;13:109-13.
16. Ameade EPK, Majeed SF. Improving girl child education and menstrual hygiene through free sanitary pad provision to secondary school girls-opinion of Female University Students in Ghana. *J Health Edu Res Dev* 2015;3:143.
17. Yakasai IA, Ayyuba R, Abubakar IS, Ibrahim SA. Sero-prevalence of Hepatitis B virus infection and its risk factors among pregnant women attending antenatal clinic at Aminu Kano Teaching Hospital, Kano, Nigeria. *J Basic Clin Reprod Sci* 2012;1:49-55.
18. Zaidi SHN, Sivakami A, Ramasamy DJ. Menstrual hygiene and sanitation practices among adolescent school going girls: A study from a South Indian town. *Int J Comm Med Public Health* 2015;2:189-94.
19. Pandey A. Challenges experienced by adolescent girls while menstruation in Kathmandu, Valley: A qualitative study. *J Community Med Health Educ* 2014;4:1-4.
20. Upashe SP, Tekelab T, Mekonnen J. Assessment of knowledge and practice of menstrual hygiene among high school girls in Western Ethiopia. *BMC Womens Health* 2015;15:84.