



Research Paper

## Knowledge and Practice of Menstrual Hygiene among Adolescent School Girls in Secondary Schools, Ijebu -Ode Local Government, Ogun –State, Nigeria

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**ABSTRACT:** Adolescent stage is a very important and delicate stage of life where lifelong attitude and values are developed and menstrual hygiene is essentially important at this stage to ensure good health of the adolescent girls. However, effective management of menstrual hygiene requires access to information and safe practices. Therefore, the objective of this study was to assess the knowledge and practice of menstrual hygiene among adolescent school girls in secondary schools, Ijebu- Ode, Ogun State. Cross-sectional design was adopted using systematic sampling technique. The sample size was 402 adolescent school girls from two public and two private secondary schools. A self-developed structured questionnaire was used for data collection. Data collected were analysed using descriptive statistics of frequency counts, percentages, mean and standard deviation and hypotheses were tested using inferential statistics of chi-square and T-test. The result shows that 230 (57.2%) of the participants had high knowledge of menstrual hygiene with the means score  $13 \pm 1.25$ , 86.8% had poor practice of menstrual hygiene with the mean score  $7 \pm 1.36$ . There was no statistically significant relationship between knowledge of the respondents and the practice of menstrual hygiene ( $X^2(2) = 0.26, p = 0.879$ ) but there was statistically significant relationship between age and practice of menstrual hygiene among adolescent school girls ( $X^2(168) = 352.71, p = 0.000$ ). In conclusion. Majority of participants had good knowledge and poor practice of menstrual hygiene. Although, knowledge was better than practice, girls should be educated more about the process, use of proper absorbents, proper disposal of used absorbents and menstrual hygiene management in general.

**KEYWORDS:** Adolescent school girls, Knowledge, Menstrual Hygiene, Menstrual hygiene practices

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### I. INTRODUCTION

Adolescence is a period of transition between childhood and adulthood which is often characterized with many physical, sexual, cognitive, social and emotional changes that brings anticipation and anxiety for both children and their families. Menstruation is both a public health concern that requires hygienic management and a human rights issue that demands dignity and health. According to water supply and sanitation collaborative council (WSSCC), every day, 300 million women including school girls experience menstrual flow [1]. The manner in which a girl learns about menstruation and its associated changes may have an impact on her response to the event of menarche and menstrual practices developed during adolescent period may persist throughout life. However, many adolescent girls are unprepared for puberty and menstruation in terms of knowledge, practice and attitudes towards managing the menstrual period and hygienic care, rather apprehends and exacerbate anxieties [2]

Puberty and especially the onset of menstruation as a natural aspect of a woman's life is a critical point of a girls' transition into womanhood. The occurrence of regular menstruation is an evidence of a female's excellent reproductive health. However, the lack of adequate guidance and social support, male-dominated decision making, on-going gender inequality and taboos around menstruation leave girls in numerous low and middle income countries (LMIC) experiencing shame, fear, confusion and discomfort when trying to cope with their monthly period. Menstrual hygiene is an issue that every girl or woman has to deal with in her life, but there is lack of awareness on the process of menstruation and proper requirements for managing menstruation among adolescent girls [3]. Even after the attainment of menarche, very little information is given to young girls

about the physiological processes involved and the hygienic practices to be followed which eventually result into adverse health outcomes like reproductive tract and Urinary tract infections. [4].

However, in low-middle income countries, many women and girls use ineffective and unhygienic menstrual materials such as cloth, toilet paper, or old underwear to absorb menstrual blood [5]. Many school girls do not engage in good practice in terms of frequency of changing of used sanitary materials and the use of materials as many of them are using toilet tissue, old cloth, paper, old underwear and foam to absorb their menstrual blood of which is not far from accessibility and affordability of menstrual hygiene materials. Therefore, this calls for the need for uptake of reusable sanitary pads by many girls. Reusable sanitary pads are not readily available due to very few available producers and supply chain limitations but are both cost-effective and environmentally friendly [1].

Menstrual Hygiene Management is influenced by women's rights, their role in society, their guidance, knowledge, water, sanitation and hygiene (WASH) infrastructure and materials. The achievement of good menstrual health has an impact on general health and wellbeing, education, socioeconomic outcomes, dignity and gender equality [6]. Societal restriction and scarcity of menstrual-related information may result in social dishonor which can affect girls' physical and emotional states. Therefore, adequate menstrual hygiene knowledge and practices are essential throughout menstruation time so as to improve the self-assurance of females in several ways [7]. Good menstrual hygienic practices such as use of sanitary pads and adequate washing of the genital areas are essential during menstrual period. Having a good menstrual hygienic practice will enhance the confidence of females in many aspects. On the other hand, Poor menstrual hygienic practices will increase susceptibility to reproductive health related problems [7].

Materials for menstrual hygiene management do not only have to be accessible and affordable but also culturally acceptable. Effective management of menstrual hygiene requires access to information and education on the safe practices. There is a growing body of evidence that girls' inability to manage their menstrual hygiene results in school absenteeism, poor academic performance and episodes of anxiety and depression during or near the menstrual period which incidentally has severe societal, economic and healthcare costs implications [8]. The level of awareness and knowledge on menstrual hygiene management of adolescent girls has a significant effect on their practice of menstrual hygiene. Therefore, it is on this basis that the researcher becomes interested in investigating menstrual hygiene practices and uptake of reusable sanitary pads among adolescent secondary school girls in Ijebu-ode local government area of Ogun State. The study was guided by the following questions

- i. What is the knowledge level of menstrual hygiene among adolescent school girls in Ijebu-Ode local government area of Ogun State?
- ii. What is the level of practice of menstrual hygiene among adolescent school girls in Ijebu-Ode local government area of Ogun State?

## II. MATERIALS AND METHODS

**Design:** This is cross-sectional descriptive research design, which was conducted from March to June 2021. Multistage sampling technique was used to select sample size of 402. The sample size was calculated according to Cochran Formula,  $n = \text{sample size}$ ,  $z = 1.96$  which corresponds to 95% confidence level,  $P = \text{prevalence rate}$  47% [9],  $d = 0.05$  margin of error.

**Settings:** The study was conducted among adolescent girls in four (4) selected secondary schools (two Government secondary schools: Adeola Odutola secondary school and Muslim College, Ijebu Ode; and two private secondary schools: Tai Solarin University of Education secondary school and Our Lady of Apostles secondary school Ogun State, Nigeria).

**Instrument:** A self-developed structured questionnaire was used to elicit information from the participants. The data gathering tools were; demographic variables such as age, class and religion; knowledge of adolescents on menstrual hygiene consisting of eleven (11) items on the scale of Yes or No questions to elicit information about respondent's knowledge on menstrual hygiene. Yes response = 1 point while No = 0 point. Knowledge of respondents was graded into low, average and high based on score of 0-5 points, 6-10 points and 11 and above points respectively; practice of menstrual hygiene consisting of fourteen items (14) on the scale of Regularly, Sometimes and Never questions to elicit information on respondent's practice of menstrual hygiene. Regularly = 1 point, Sometimes = 0.5 point and Never = 0 point. Practice of respondents was graded into poor and good practice based on score of 0-7 points and 8 and above points respectively.

For the validity of the instrument, the psychometric properties of the questionnaire was subjected to face and content validity by presenting the supervisor and then to experts in the test and measurement in nursing field for review, correction and appraisal after which necessary corrections were made. For the face validity, experts validated that the items and the build-up of the instrument have facial relevance and acceptability to what it claims to measure. That is, the instrument is good enough to investigate menstrual hygiene practices and uptake of reusable sanitary pads among adolescent school girls. To reduce response error a pilot study was conducted among 40 Adolescents.

The reliability of the instrument for this study was established through test-retest reliability of measuring instrument. The corrected and validated version of the instrument was administered twice on 30 students who are also adolescent schools girls in Molusi College, Ijebu-Igbo of Ijebu North local government area of Ogun state within a time frame of two weeks in order to obtain the consistency of the internal stability of the instrument. The two sets of scores from the two administrations were correlated and evaluated to establish the coefficient of stability which measured 0.81 using Pearson's product moment correlation test. These results showed that the instrument has good test-retest reliability.

**Statistical Analysis:** Data obtained were coded and analysed using statistical package for social sciences (IBM SPSS) version 23.0; variables were analyzed using descriptive statistics of table, frequency count, percentages, percentages, mean and standard deviation while hypothesis were tested using chi-square and T-test.

**Ethical Consideration:** Ethical approval for the study was obtained from Babcock University Health Research Ethical Committee (BUHREC) with reference number 210/21. Also, the researcher had obligation to the subjects by getting their informed consent consistent with the principle of individual autonomy. Ethical principles of voluntary participation, anonymity, justice, non-maleficence, beneficence, privacy and confidentiality when collecting the data were also guaranteed. Their right to participate and not to participate was duly respected and any respondents that want to opt out during the study were allowed.

### III. RESULTS

**Table 1: Socio-Demographic Characteristics of Respondents (n=402)**

Variable	Freq	Percentage (100)
<b>Age (at last birthday)</b>		
13 – 15	145	36.1
16 – 18	253	62.9
19 and above	4	1
<b>Class</b>		
SS1	138	34.3
SS2	134	33.3
SS3	130	32.4
<b>Type of School</b>		
Public	224	55.7
Private	178	44.3
<b>Religion</b>		
Christianity	290	72.2
Islam	112	27.8
<b>Education Background of Mother</b>		
No Formal Education	7	1.7
Primary	30	7.5
Secondary	178	44.3
Tertiary	187	46.5
<b>Education Background of Father</b>		
No Formal Education	10	2.4
Primary	7	1.8
Secondary	154	38.3
Tertiary	231	57.5
<b>Family Structure</b>		
Nuclear	328	81.6
Extended	74	18.4
<b>Person living with</b>		
Parents	350	87.1
Relatives	48	11.8
Hostel	4	0.1
<b>Age at menarche</b>		
10 – 12	115	28.5
13 – 15	281	69.9
16 and above	6	1.5
<b>Duration of Menstruation</b>		
3 – 5	373	92.8
6 – 8	29	7.2

Sixty-two point nine percent of the respondents were aged 16 – 18 years and 36.1% were aged, 55.7% were from public schools. The prominent religion practiced was Christianity (72.2%), 46.3% of the respondent's mothers had a tertiary education, 57.5% of the respondent's fathers had tertiary education, and 81.6% are from a Nuclear family structure. A total of 350 (87.1%) of the respondents lived with their parents. Sixty-nine point nine percent had their menarche age falling within 13 – 15 years. A total of 373 (92.8%) had their menstruation for about 3 to 5 days while 7.2% had theirs for about 6 to 8 days as presented in Table 1.

**Table 2: Knowledge level of menstrual hygiene among adolescent school girls (n=402)**

Variable	Category of Scores	Frequency (402)	Percentage (100)	Mean ± S.D.
High Knowledge	11 and above	230	57.2	12.61 ± 1.25
Moderate Knowledge	6– 10	171	42.5	
Low Knowledge	0 – 5	1	.2	
<b>Minimum Score: 5 Maximum Score: 15</b>				

Fifty-seven point two percent of the respondents had high knowledge on menstrual hygiene, 42.5% had average knowledge while 0.2% had low knowledge on menstrual hygiene as presented in Table 4.

**Table 3: Practice of menstrual hygiene among school girls (n=402)**

Variable	Category of Scores	Frequency (402)	Percentage (100)	Mean ± S.D.
Good Practice	8 and above	53	13.2	7 ± 1.36
Poor Practice	0 – 7	349	86.8	
<b>Minimum Score: 3 Maximum Score: 11.5</b>				

Eighty-six point eight percent of the respondents had poor practice of menstrual hygiene while 13.2% had good menstrual hygiene practice. The minimum practice score was 3, the maximum score was 11.5 and the mean score was  $7 \pm 1.36$ . Overall, the menstrual hygiene practice among respondents is poor. The level of practice of menstrual hygiene among adolescent is presented in Table 3.

**Table 4: Relationship between age and practice of menstrual hygiene (n=402)**

	Value	df	Asymp. Sig. (2-sided)
<b>Pearson Chi-Square</b>	352.713 <sup>a</sup>	168	.000
<b>Likelihood Ratio</b>	158.583	168	.687
<b>Linear by-Linear Association</b>	.102	1	.750
<b>N of Valid Cases</b>	402		

There was a statistically significant relationship between age of respondents and practice of menstrual hygiene ( $X^2(168) = 352.71, p = 0.000$ ). The null hypothesis is hereby rejected. Therefore, the alternative hypothesis is accepted as presented in Table 4.

**Table 5: Relationship between knowledge and practice of menstrual hygiene (n=402)**

Description	Poor Practice	Good Practice	Total	X <sup>2</sup>	df	P-value
<b>Knowledge</b>	Low Knowledge	1(0.3%)	0(0%)	0.327	2	0.849
	Moderate Knowledge	147(86%)	24(14%)			
	High Knowledge	201(87.4%)	29(12.6%)			
			230			

#### IV. DISCUSSION

The findings from the study revealed that the average age of the respondents was 16 years with the least age being 13 years and the highest age being 19 years, average age at menarche was 13 years with the earliest starters starting at of 10 years and the late starters starting at the age of 16 years and the average number of menstruation days was 4 days with the least number of menstruation days being 3 days and the highest number of days being 7 days. The finding corroborates the report of [10] that Adolescent is an essential period and the ideal time that girls often join different environments including high schools and tried to plan for their next adulthood life. In line with the findings from this study, U.S National Library of Medicine [1] stated that menstruation, or period, is normal vaginal bleeding that occurs as part of a woman's monthly cycle and usually start between age 11 and 14 and continue until menopause at about age 51 usually last from three to five days. Menstrual cycle can have a frequency of 21 to 35 days, with an average of 28 and duration could vary between two and seven days of menstruation and the amount tends to be between 20 and 80 ml, with an average of 35 cc [11].

The findings from the study revealed that respondents' knowledge level of menstrual hygiene was good (57.2%) with the means score of  $13 \pm 1.25$  which can be categorized as high knowledge. This implies that majority of the adolescent school girls had good knowledge towards menstrual hygiene. This result is in tandem with the report of [7] that adequate menstrual hygiene knowledge and practices are essential throughout menstruation time as it improve the self-assurance of females in several ways. Moreso, [9] on the Assessment of knowledge, attitude and practice about menstruation and menstrual hygiene among secondary high school girls in Ogbomosho, Oyo state stated that majority (96.4%) of the adolescents have heard about menstruation before menarche and 55.9% had good knowledge of menstruation and menstrual hygiene. The findings of this study also goes in line with the study of [12] who found that 51.6% had good menstruation knowledge, but regarding causation, only 46.4% knew that it was a physiologic process, and 26.6% thought it was a curse. [13] also

reported that girls lacked knowledge about puberty and menstruation: most the girls stated that they had no prior knowledge about menstruation before menarche. Even after onset of menstruation, information on menstruation was from mothers, older siblings and peers. Finding from the study also corroborates the result of [14] that 296 (74%) of their respondents had good knowledge of menstruation and menstrual hygiene management (MMHM) and many respondents, 334 (85.6%), were aware that poor menstrual hygiene can predispose them to gynaecological and urinary infections. This study is unlike the study conducted by [15] which revealed that 68.3% had poor knowledge of menstruation.

Furthermore, the result from the study showed that 13.2% of the respondents had good practice while others (86.8%) had poor practice of menstrual hygiene. The minimum practice score was 3, the maximum score was 11.5 and the mean score was  $7 \pm 1.36$ . Overall, the menstrual hygiene practice among respondents is poor. This findings collaborates the result of [16] that 40–45% of adolescent school girls have poor knowledge and unsafe hygienic practice of their menstrual bleeding. This might have a clinical implication to integrate the promotion of menstrual hygienic practice in the health care system and comprehensive efforts including policy implication are needed to improve girls' knowledge and safe hygienic practices towards menstruation right from her adolescent period. Also, the findings of this study is just like the outcome of the study carried out by [17] which identified that there is restriction of bathing during periods to avoid aggravating the bleeding as mentioned by 54.94% of responding girls in Northeast Ethiopia and few girls changed their menstrual absorbents twice a day or more, while 85.49% avoided changing at school due to lack of convening infrastructure (to change, wash and dispose) or lack of new material.

Also, women and girls often find menstrual hygiene difficult due to a lack of access to appropriate sanitary protection products or facilities for instance a private space with a safe disposal method for used cloths or pads and a water supply for washing hands and sanitary materials [18]. Adequate menstrual hygiene knowledge and practices are essential throughout menstruation time as it improve the self-assurance of females in several ways [7]. However, adequate frequency in managing menstruation depends on the quality of menstrual hygiene materials, flow and perception of comfort and reliability. None of the respondents in this study uses tampon and menstrual cup as absorbent. This corresponds with the fact that material for MHM does not only have to be accessible and affordable but also culturally acceptable and SDG target 6.2 puts a focus on ensuring sanitation and hygiene for everyone, everywhere, all of the time [7]. There is prevalence of unsafe menstrual hygiene management practice which was affected by factors including age of the females, frequency of discussing menses, and source of information about menses [19].

Furthermore, the result from the study is in line with [12] that majority, (85.9%) used disposable absorbents, mainly sanitary towels (80.6%), which were obtained from school in 57.5% cases. There was poor MHM practice by girls and some kept the matter secret. At least 40.3% girls delayed changing by >6 hours, and this emanated from inadequate absorbents (68%) and long distance to private changing areas, most (81.2%) disposed used pads in pit latrines, while some in dust bins. The magnitude of unsafe MHM practice among females was 60% in Nekemte, Oromia regional state, 75.5% in Bahardar, Amhara regional state, 49.8% in Addis Ababa, Ethiopia.[20]. Just like in a study, majority (68.07%) used sanitary pad as absorbent material [21]. Poor MHM practices were documented in 28.8% girls. Most (80.6%) used sanitary towels that were provided by the school (57.5%) but supplies were inconsistent [12]

The result from the study revealed that there was a statistically significant relationship between age of respondents and practice of menstrual hygiene practices among adolescent school girls which is in line with the finding goes in line with the finding of [22] that older girls had better hygienic practices than the younger ones. This finding is also supported with the finding of [23] that subjects were deficient in knowledge about menstruation, menstrual knowledge was higher in post-menarche girls and girls' menstrual knowledge was positively associated with age and parental education. This also goes in line with [24] that age less than 15 years, longer days of menstrual flow and poor knowledge of menses had a significantly associated with poor menstrual hygiene practice. This finding is in contrast with the findings of [25] that girls practice menstrual hygiene regardless of their age.

There was also no statistically significant relationship between knowledge of respondents and practice of menstrual hygiene. This implies that an adolescent may possess good knowledge of menstrual hygiene and still have bad practice regarding menstrual hygiene. This finding collaborates with the study of [9] the respondents in their study had good knowledge of menstrual hygiene but poor practice. Also, the study of [24] revealed the fact that majority (68.3%) of adolescent school girls in their study had poor knowledge regarding menstruation and their hygienic practices are incorrect. Just like in a study, 58.3% of the participant girls had good knowledge about menstruation which showed a positively significant association with good menstrual hygiene management practices [26].

## V. CONCLUSION

Menstrual Hygiene practice has been identified as an important health issue with respect to reproductive and sexual health. The findings of this study revealed that the adolescent school girls possessed good knowledge of menstrual hygiene but their level of practice regarding menstrual hygiene is poor. There is also a statistically significant relationship between age, knowledge and practice of menstrual hygiene among secondary school adolescents. Therefore, awareness regarding the need for information about good practice is very important as well as availability of support system that will enhance good practice. Moreover, it is important to design interventions such as health education programs to create more awareness on good practice of menstrual hygiene.

**Limitation of the study:** The study focused on secondary school Adolescent girls in the study area. The result cannot be generalized to other adolescent girls that are not privilege to be in school. Therefore, this study will provide a foundation for further study that will include all the categories of the adolescents.

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