

Menstruation Knowledge among In-school Female Adolescents in Agbani Education Zone, Enugu State

*Jacinta E. Ugbelu and Regina A. Onunze.

Department of Human Kinetics and Health Education, University of Nigeria, Nsukka.

*Correspondence: E-mail: jacinta.ugbelu@unn.edu.ng

Abstract

Menstruation knowledge is necessary to reduce the impacts of menstruation which affect the general well-being of in-school female adolescents negatively. The purpose of the study was to determine the menstruation knowledge of in-school adolescents in Agbani education zone. Three specific objectives, three corresponding research questions and two hypotheses guided the study. The descriptive cross-sectional survey research design was adopted for the study. The researcher designed instruments were used for data collection. The population for the study consisted of 17,487 in-school female adolescents in Agbani education zone. Multi-stage sampling technique was used to draw a sample of 504 female students. Frequencies and percentages were used to answer research questions while chi-square statistics was used to test the hypotheses. The result of the study showed that in-school female adolescents possessed adequate menstruation knowledge. There was a significant difference in the menstruation knowledge of in-school female adolescents based on age ($p < .05$) but there was no significant difference in the menstruation knowledge of in-school female adolescents based on place of residence ($p > .05$). It was therefore recommended that menstruation information should be provided as early as from primary four to ensure that the pupils acquired basic information about menstruation before entering into secondary schools. School authority in collaboration with the Ministry of health should endeavour to make the school environment conducive for female students by providing sanitary materials, water for cleanliness, toilet and disposing bins.

Keywords: Menstruation, knowledge, school, female, adolescents, and Enugu State

Introduction

Menstruation is normal physiological process peculiar among females of reproductive age. It is crucial aspect of life among female children which indicates that the female child has matured into childbearing age. Phili-howard et al. (2018) noted that menstruation is a crucial aspect of sexual and reproductive Health (SRH) and well-being of female children. United Nations International Fund-UNICEF (2019) stated that menstruation is a natural physiological process experienced by 1.8 billion girls and women globally. This menstruation is the period of shedding of the endometrium (inner lining of the uterus) associated with regular discharge of

blood which occurs in non-pregnant woman. It usually starts from puberty (10-11years) and continues to menopause. Sinha and Pau (2018) indicated that women and adolescent girls experience menstruation every month. Women and adolescents undergoing the monthly menstruation supposed to have adequate information of menstruation that can help to alleviate the menstrual symptoms. The information will prepare their mindset about menstruation, choice of menstrual absorbent materials, cleanliness and even diet during menstruation.

Necessary information that can assist the girls include meaning of menstruation, age it starts, the discharge of the blood, number of days of the flow of blood, choice of menstrual materials, sanitation during menstruation and dispose of the menstrual materials. Unfortunately, these adolescents lack the necessary information regarding menstruation due to myths and misconceptions associated with menstruation. Mothers are expected to provide the information to guide their female children before menarche. Unfortunately, mothers are ignorant of this essential duty. Schools as agent of socialization are supposed to provide the information under the sexual and reproductive health but most often shy away from this responsibility. Chandra-Mouli and Palel (2017) stated that even parents and teachers are ill-informed and uncomfortable discussing sexuality, reproduction and menstruation. Absar et al. (2012) noted that sources of information were as follows: mothers, teachers, media, friends, sisters and health personnel. Neupane et al. (2020) reported sources of information regarding menstruation as thus: self, mothers, relatives/friends and course book. Habtegiogris et al (2021) reported that only few respondents knew about menarche from their mothers. This is because mothers and teachers feel uncomfortable discussing menstruation with their daughters due to the misconceptions. Even adolescents' perceived menstruation as being sacred and embarrassing, and should not be discussed. However, some of the mothers may be ignorant of this essential role probably due the level of education and cultural setting. Lack of necessary information regarding menstruation may expose the girls to encounter unfavourable experiences that can affect their academics and general well-being in the school.

School is an institution of learning as well as agent of socialization. Ravert (2018) referred to school as a setting where interpersonal relations are promoted which are important for youngsters' personal and social development. School is able to gather different peer communities and to promote self-esteem and harmonious development between adolescents, which makes it a privileged space for meetings and interactions (Nelson & Patience, 2018). School as an agent of

socialization is responsible for inculcating positive behavioural standards and norms in the school. The school is expected to provide adequate information on menstruation to female students. In-school female adolescents are girl students still in secondary school in pursuit of academic career.

Adolescents are group of people in their stages of maturity. World Health Organization [WHO] (2010) referred to adolescents as young people within the age ranges of 10-19 years. In this study in-school female adolescents are essentially individuals within the age of 10-19 years who are currently enrolled in various school in Agbani education zone.. These age groups are undergoing through a critical period of physiological, physical, social and emotional development, Ramadugu, et al. (2012) defined in-school adolescents as individuals, in school aged 10-19 years of age. In-school adolescents in this study refer to female students within the age range of 10-19 years. Positive concept of menstruation among in-school female adolescents could be influenced by their knowledge.

Knowledge is essential in life because everything we do depends on knowledge. Agu et al. (2020) referred to knowledge as the familiarity and awareness of something such as facts, information, description or skill which is acquired through experience or education. Knowledge is the possession of information, skill and understanding gained through learning and experience (Oparah et al. 2019). Neupane et al. (2020) indicated that adolescent girls had adequate knowledge (66.8%) on menstruation. Boakye et al. (2018) reported that (68.3%) of the adolescent girls had adequate knowledge of menstruation. Belayneh and Mekuriaw (2019), and Fisseha et al. (2017) reported low knowledge of menstruation (31.7% and 34.3%) respectively. Neupane et al. (2020) further reported that almost all (91 to 94%) of the adolescent girls had very high knowledge on different aspects of menstruation such as menstruation as a physiological process, normal age of menarche, and causes of menstruation. Yardav et al. (2017) reported that (83.0%) of adolescent girls indicated menstruation as a physiological process whereas Puspa et al. (2016) noted that only (52.0%) of the adolescent girls knew that the cause of the menstruation is hormone. Neupane et al. (2020) noted that (54.3%) of the students were unaware of menstruation before the menarche. Gultie et al. (2014) noted that more than (50%) of the students reported their age of onset of menstruation or menarche were between 11-15 years. Knowledge of menstruation in this study implies ability of the in-school female adolescent to understand the concept of menstruation, menstrual cycle, nature of the flow, days of flow, onset

of menstruation, causes of menstruation and need to apply them for good menstrual hygiene practices.

Menstruation knowledge of in-school female adolescents could be influenced by certain-socio-demographic variables. The variables that seem to influence the menstruation knowledge among the in-school female adolescents are age, place of residence, and level of education, mothers' level of education and occupation of the mother. In this study, the variable of place of residence (urban/rural) and age were examined. Absar et al. (2021) reported that adolescent living in rural areas possessed high knowledge of menstruation (65.5%) while those in urban areas possessed moderate (54.7%) knowledge of menstruation. The findings of the same study showed that place of residence was statistically significant with knowledge of menstruation ($x = 11.79$, $p\text{-value} = 0.01$). Absar et al. (2021) indicated that age of the students can influence their knowledge of menstruation. The study indicated that female adolescents age <19years possessed high knowledge (61.4%) while those 20-22 years, and 23 years and above possessed moderate knowledge (54% and 55.5%) respectively. This study is set to find out if place of residence and age are associated with knowledge of menstruation among the adolescents in Agbani education zone.

The study was conducted among in-school female adolescents in Agbani Education Zone. Agbani Education zone is located in Enugu-East Senatorial Zone. It is made of three Local Government Areas-Nkanu-West, Nkanu-East and Enugu-South. Nkanu-East and Nkanu-West are located in rural area while Enugu-South is located in the urban area. Each of these LGAs has schools where children including the females are enrolled for academic activities, social relationship and other activities. Evidence suggests that menstruation knowledge was low among female adolescents. Belayneh and Mekuriaw (2019) and Fisseha et al. (2017) reported low knowledge of menstruation (31.7% and 34.3%) respectively. This may be attributed to the myths and misconceptions surrounding menstruation. The unavailability of the necessary information may be affecting the menstruation knowledge among the in-school female adolescents in Agbani Education Zone, hence the topic menstruation knowledge among in-school female adolescent, in Agbani Education Zone.

Purpose of the Study

The purpose of the study was to determine the menstruation knowledge among in-school female adolescents. Specifically, the study sought to determine the:

1. menstruation knowledge among in-school female adolescent in Agbani Education Zone.
2. menstruation knowledge among in-school female adolescent in Agbani Education Zone based on place of residence.
3. menstruation knowledge among in-school female adolescent in Agbani Education Zone based on age.

Research Questions

The following research questions were posed to guide the study:

1. What is the menstruation knowledge among in-school female adolescent in Agbani Education Zone?
2. What is the difference in the menstruation knowledge among in-school female adolescent in Agbani Education Zone based on place of residence?
3. What is the difference in the level of knowledge of menstruation among in-school female adolescent in Agbani Education Zone based on age?

Hypotheses

Two hypotheses were postulated to guide the study and were tested at .05 level of significance.

1. There is no significant difference in the menstruation knowledge among in-school female adolescents in Agbani Education Zone based on place of residence.
2. There is no significant difference in the menstruation knowledge among in-school female adolescent in Agbani Education Zone based on age.

Methods and Materials

Research Design

The descriptive cross-sectional survey research design was used for the study.

Area of the Study

The study was conducted in Agbani Education Zone in Enugu State. This zone comprised of three local government areas-Nkanu-West, Nkanu-East and Enugu-South. The zone has many schools scattered in urban and rural areas. These schools admit students of varying ages for academic, social and other activities. Among the students were female adolescents from different family and social background. The in-school female adolescents may not have adequate menstruation knowledge on entering secondary schools. Lack of menstruation knowledge among the in-school female adolescent can affect the academic and general well-being of the female

students. Thus, the reasons for the study among the in-school female adolescents in Agbani Education Zone.

Population for the Study

The population consisted of 17, 487 in-school female adolescence in 44 public secondary schools in Agbani Education Zone (Post Primary School Management Board 2021).

Sample and Sampling Techniques:

The sample size for the study comprised of 504 in-school female adolescents. This is in line with the suggestion of Cohen et al. (2018) that if the population for the study is 10,000 and above at 95 per cent confidence level and 5 per cent confidence interval, the sample size for the study should be 377 and above. Multi-stage sampling procedure was used to draw the sample for the study. Stage one involved the use of purposive sampling technique to select two Local Government Area (LGA) out of the three LGA in Agbani Education Zone. The two LGAs are Enugu South LGA (Urban) and Nkanu East LGA (Rural). Purpose sampling technique was deemed appropriate to select one urban and one rural Local Government Area. Stage two involved the use of proportionate sampling technique to select 14 schools from Nkanu East LGA and 10 schools from Enugu South LGA. Third stage involved the use of simple random sampling without replacement to select 21 in-school female adolescents from the schools selected making a total of 504 students, 294 from Nkanu East (Rural) and 210 from Enugu south (urban).

Instrument for Data Collection

The instrument for data collection was researcher designed questionnaire called menstruation knowledge questionnaire (MKQ) among in-school female adolescents in Agbani Education Zone. The instrument comprised of 11 multiple choice questions to determine the menstruation knowledge among in school female adolescents. The respondents were expected to choose from options A-D the one that correctly answers the question.

Validation of the Instrument

The instrument was validated by three experts from Department of Human Kinetics and Health Education, University of Nigeria, Nsukka. Each expert was given the copy of the instrument with the specific objectives, research questions and hypotheses of the study.

Reliability of the Instrument

Reliability index of the instrument was established using the split half method. The responses of the two groups were analyzed to establish the reliability coefficient of the instrument using Spearman Rank-Order Correlation. The reliability coefficient of 0.75 was obtained and the instrument was therefore deemed reliable for the study.

Data Collection Techniques

A total of 504 questionnaires were administered to the respondents by the researcher and one research assistant from each school. Out of the 504 questionnaires administered, four were discarded due to lack of completeness of information while 500 copies were used for data analysis.

Data Analysis Techniques

Frequencies and percentages were used to answer research questions. Okafor (1997) scale for measuring knowledge was used. Percentage score 0-19 was considered very low level of knowledge, 20-39 was interpreted as low, 40-59 was considered as moderate, 60-79 was considered as high while 80 and above was interpreted as very high. Chi-square statistics was used to test the hypotheses at 0.05 level of significance.

Results

Table 1: Socio-demographic Characteristics of the In-School Female Adolescents in Agbani Education Zone (n=500)

Demographics Variables	F	%
Place of residence	290	58
Rural	210	42
Urban		
Age		
10-14 years	270	54
15-19 years	230	46

Result in Table 1 shows the socio-demographic characteristics of the respondents. All the respondents were in-school female adolescents from Agbani education zone, Enugu State, Nigeria. A total of 500 in-school female adolescents responded to the questionnaire items. Majority of the respondents 290(58%) were residing and schooling in the rural area, while

210(42%) were residing and schooling in the urban area. About 270(54%) of them were between the age bracket 10-14 years while 230(46%) were within the age group 15-19 years.

Table 2: Level of Knowledge of Menstruation among In-school Female Adolescents. (n=500)

S/N	Knowledge Items	Correct responses	
		F	%
1	Menstruation is the flow of blood from the uterus.	205	41.0
2	Menstruation is a normal physiological process in women.	198	39.6
3	Menstruation signifies that a female child has matured to womanhood.	234	46.8
4	Heard about menstruation before the onset of first menses (menarche).	216	52.2
5	Menstruation is an abnormality in female hormones.	284	56.8
6	Duration of menstrual cycle is between 21-35days.	208	41.6
7	Average normal menstrual bleeding is between 2-7days.	202	40.4
8	Menstruation is an everlasting process in every woman.	285	57.0
9	Poor menstruation hygiene practices can result to infections.	222	44.4
10	Menstrual cycle is as a result of hormonal changes.	296	59.2
11	Pains and discomfort during menses can be relieved with doing physical exercises.	200	40.0
Overall %			47.1

Key: 0-19% = Very low, 20%-39% = Low, 40-59% = moderate 60-79% = high, 80% = very high

Data in Table 2 shows that in-school female adolescents possessed moderate level of knowledge (47. 1%) of menstruation. The table also shows that the respondents (41.0%) answered correctly that menstrual blood comes from uterus, (39.6%) that menstruation is a physiological process, (52.2%) heard about menstruation before the first menses and (59.2%) menstrual cycle is as a result of hormonal changes.

Table 3: Summary of Chi-square Analysis of No Significant Difference in the Level of Knowledge of Menstruation based on Place of Residence (n=500)

Variable	N	O(E)	O(E)	χ^2	df	P-value	Decision
Rural	290	160(55.1)	130(44.8)	.916	1	.417	Do not reject
Urban	210	110(52.3)	100(47.6)				

Table 3 shows that there is no significant difference in the level of knowledge of menstruation among in-school female adolescents based on place of residence ($\chi^2=.916$, $P=.417$) since p-value is greater than .05 level of significance. This implies that in-school female adolescents did not differ significantly in level of knowledge of menstruation.

Table 4**Summary of Chi-square Analysis of No Significant Difference in the Level of Knowledge of Menstruation of In-school Female Adolescents Based on Age (n=500).**

Variable	N	O(E)	O(E)	χ^2	df	p-value	Decision
10-14yrs	270	120(44.4)	150(55.5)	.916	1	0.001	Rejected
15-20yrs	230	160(69.5)	70(30.3)				

Table 4 shows that there is significant difference in the level of knowledge of menstruation among the in-school female adolescents base on age ($\chi^2 = .916$, $df = 1$, $p\text{-value} = 0.001$) This implies that in-school female adolescents in the different age group differed in their knowledge of menstruation.

Discussion

Table 1 reveals the socio-demographic variables of the in-school female adolescents in Agbani education zone. The data showed that majority (58%) of the in-school female adolescents live and attend schools in rural area. The table also indicated that majority (54%) of the students are within the age bracket 10-14 years while (46%) were within the age group 15-19 years. This is in contrast with the findings of Absar et al. (2021) which reported that majority (76.7%) of respondents lived in urban area. The findings of the current study is in disagreement with the

findings of Neupane et al. (2020) which indicated that majority (53.3%) of the adolescent girls were within age bracket 15-19 years.

Result in Table 2 showed that level of knowledge of menstruation among in-school female adolescents was moderate (47.1%). This may be due to the information from their mothers and elder sisters in the family. This is contrast with the findings of Aizachew (2021) who reported that overall level of knowledge of menstruation among in-school female adolescents was high (72.5%) and the findings of Kitesa, et al. (2016) who reported high level of knowledge (70.9%) among in-school female adolescents. The present study was in congruence with the study of Neupane et al. (2020) which indicated that adolescent girls had adequate knowledge (66.8%) and Boakye et al. (2018) who reported that (68.3%) of the adolescent girls had adequate knowledge of menstruation The current study higher percentage scores than the findings of Fisseha, et al. (2017) and Belayneh and Mekuriaw (2019) who identified low knowledge (34.3%, 31.7%) respectively among the female adolescents. The possible reason for this might be due to the difference in the study population and the area of study.

The table 2 also showed that the respondents had knowledge of different aspects of menstruation as follows: menstruation as a physiological process (39.6%), causes of menstruation as hormonal changes (59.2%) This may be due to knowledge gained about menstruation in the sexuality and reproductive health in school. This in disagreement with the findings of Neupane et al. (2020) who reported that almost all (91 to 94%) of the adolescent girls had very high knowledge on different aspects of menstruation such as menstruation as a physiological process, normal age of menarche, and causes of menstruation. This is also in contrast with the findings of Yardav et al. (2017) reported that (83.0%) of adolescent girls indicated menstruation as a physiological process whereas Puspa et al. (2016) noted that only (52.0%) of the adolescent girls knew that the cause of the menstruation is hormone. The table further showed that respondents had moderate knowledge on normal age of menarche (40.4%) and heard about menstruation before the first menses (52.2%). The present study was in line with the findings of Gultie et al. (2014) who noted that more than (50%) of the students reported their age of onset of menstruation or menarche were between 11-15 years but in disagreement with the findings of Neupane et al. (2020) which noted that (54.3%) of the students were unaware of menstruation before the menarche. The reasons for the similarities and differences may due differences in method of data collection and data analysis.

Table 3 showed that there is no significant difference in the level of knowledge of menstruation among in-school female adolescents based on place of residence ($\chi^2=.916$, $P=.417$) since p-value is greater than .05 level of significance. This implies that in-school female adolescents did not differ significantly in level of knowledge of menstruation based on place of residence. This might be that majority of the respondents were from rural areas where mothers devote time equip their daughters with adequate knowledge regarding menstruation unlike mothers in the urban residence who may be business, political or carrier women. This group of women may not have time to provide menstruation information to their daughters. This is at variance with the findings of Absar et al (2021) which showed that place of residence was statistically significant with knowledge of menstruation ($\chi^2=11.79$, p -value = 0.01). The difference might be that majority of the respondents in the current study were from rural areas while greater majority of the respondents in Absar et al (2021) study were from urban area.

Table 4 indicated that there is significant difference in the level of knowledge of menstruation among the in-school adolescents based on age ($\chi^2 = .916$, $df = 1$, p -value = 0.01). This implies that in-school female adolescents in the different age groups differ in their knowledge of menstruation. This can be attributed to fact that the older female adolescents may have learnt about menstruation through previous experiences. This is in support of the findings of Absar et al. (2021) and Neupane (2020) which noted that age was statistically significant with knowledge of menstruation. The similarity may be that the study was conducted among females of same age group.

Conclusion

Based on the findings, the study concluded that the in-school female adolescents in Agbani education zone possessed moderate knowledge of menstruation. Also, there is no significant difference in the level of knowledge of menstruation among in-school female adolescents based on place of residence but there is significant difference in the level of knowledge of menstruation among in-school female adolescents in Agbani education zone based on age. However, female children should be provided with necessary information at the age of 8-9 years by the mothers and other family relatives to enable them prepare their mindsets, and that menstruation information should be provided as early as from primary five to ensure that the

pupils have basic information about menstruation before entering into secondary schools. School authority in collaboration with the Ministry of health should endeavour to make the school environment conducive for female students during menstruation by providing sanitary materials, water for cleanliness, toilet and disposing bins. The school clinic should assist the students experiencing pains and discomfort to alleviate those symptoms.

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