

Research Article

Relationship between knowledge, attitude and practice of menstrual hygiene among female students in colleges of education in North-central geopolitical zone

L. M. Tsado^{a*} & M. I. Madugu^a

^a Department of Primary education, Faculty of Specilized Education, Federal University of Education, Kontagora, Nigeria.

Abstract

The study investigated the Relationship between knowledge, attitude and practice of menstrual hygiene among female students in Colleges of Education in North-Central geopolitical zone. Using correlation and descriptive survey research design method. Population of this study consists of 16,381 female NCE students' across all levels in COE in six states including FCT Abuja, North-Central Zone, Nigeria. Four state were used for the study. Eighty (80) participants were randomly selected from two Federal and two State COE (based on school type, State & Federal COEs). The instrument used for data collection from the respondents was self-designed questionnaire, this was rated on 4 points Likert scale. To determine the reliability of menstrual questionnaire, a pilot test was carried out on a 10 group of respondent that are drawn from Federal Capital Territory COE Zuba, Abuja. Ten copies of questionnaire were administered on COE students and were retrieved back for analysis using Crombach Alpha for pilot study analysis. The Reliability coefficient 0.75 was obtained. Results; there was no significant difference in influence of knowledge and attitude of menstrual hygiene among female students in COE North-Central Zone, Nigeria. Conversely, there was significant difference in influence of knowledge and practice of menstrual hygiene. Conclusion; There is relationship positive between knowledge and attitude towards menstrual hygiene among COE students in North-Central Nigeria. Recommendations; Health professionals, in collaboration with the school nurses, should foster menstrual hygiene, by organizing health talks for the COE female students, Also health counsellors of the schools should design periodic enlightenment programmes, for the COE female students.

Keywords: Menstrual hygiene, Knowledge, Attitude, Practices and School type

1. Introduction

Menstruation begins throughout the adolescent era, which is characterised by significant physiological and emotional changes (Thiyagarajan & Jeanmoned, 2020). Menstruation is a naturally occurring physiological phenomenon in adolescent girls and pre-menopausal women. Menstrual Hygiene (MH) is defined as 'Women and adolescent girls using a clean menstrual management material to absorb or collect blood 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 that will lead to menstrual hygiene (Korir., Okwara. & Okumbe, 2018). Menstrual Hygiene opined as women and adolescent girls using a clean menstrual management material to absorb or collect blood 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 (Abioye-Kuteyi, 2016).

A significant number of schoolgirls in low-income countries face challenges with menstrual hygiene management practice facilities, which are worsened by ignorance of their menstrual needs. The prevalence of poor management of menstrual hygiene is significantly different among adolescent schoolgirls in different settings (Mohammed, 2020). Accordingly, worldwide, 335 million females attended schools where there was no access to water or soap (Shallo., Willi & Abuokekar, 2019). In the Middle East and Asia, up to 95% of girls claim that their menstruation is the reason they are missing school (Korir., Okwara & Okumbe, 2018). Around 13% to 75% of girls do not have access to clean sanitary materials and use low-quality products in low- and middle income countries (Gultie, 2014). In Sub-Saharan Africa, Prior evidence shows that several factors are influencing the practice of menstrual hygiene management (Mo-

*Corresponding author: L. M. Tsado

Email: mamatsadleah@gmail.com (L. M. Tsado)

ORCID: <https://orcid.org/0009-0008-1370-2542>

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ammed, 2020). These include: family size, cultural beliefs and societal norms, being able to afford menstrual sanitary products, place of residence, prior awareness on sexuality and access to a sanitary napkin, lack of knowledge, socio-economic and environmental constraints, the presence of a private latrine, and living with relatives Kabiru, (2021).

Age of the females, maternal educational level, frequency of discussion with mothers about menstruation, information source about menstruation, having knowledge about menstruation, academic level of the students, wealth indexed of the family, earning permanent pocket money, absence of storage container in the school, occupation of the parents, having infection around their vagina during menarche, place of residence, living with parents, were also identified as risk factors in Nigeria (Gultie, 2014). Nigeria is a multicultural country that has many nations that follow different cultures and religions. The levels of menstrual hygiene practice significantly varied from region to region and place to place, as did its associated factors. Nowadays, there is some openness toward menstruation, but differences in knowledge, attitude and practices still persist between different populations. Menstrual hygiene management (MHM) refers to the specific hygiene and health requirement of girls and women during menstruation, such as knowledge, information, materials, and facilities needed to manage menstruation effectively and privately (Kural, Noor, Pandit, Joshi, & Patil 2015).

The aim of this research is to investigate the relationship between knowledge, attitude and practice of menstrual hygiene among female students in colleges of education in North-Central Geo-Political Zone. The specific objectives are to:

- (i) Examine relationship between knowledge, attitude and practices of menstrual hygiene among female students in Colleges of Education in North-Central Nigeria.
- (ii) Find out the mean of knowledge, attitude and practices of menstrual hygiene among female students in Colleges of Education base on school type (Federal or State) in North-Central Nigeria,

The following research questions were raised to guide the study:

1. What is the relationship between knowledge, attitude and practices of menstrual hygiene among female students in Colleges of Education in North-Central Nigeria?
2. What is the mean of knowledge, attitude and practices of menstrual hygiene among female students in Colleges of Education base on school type (Federal or State) in North-Central Nigeria?

The following null hypotheses were formulated and tested at 0.05 level of significance:

H_{01} : There is no significant relationship in influence of knowledge, attitude and practices of menstrual hygiene among female students in Colleges of Education North-Central Zone, Nigeria.

H_{02} : There is no significant difference in influence of knowledge and practice of menstrual hygiene among female students based of school type (state and federal) in Colleges of Education North-Central Zone, Nigeria.

2. Methodology

The research design adopted for this study was a correlation and descriptive survey research design method. The population of this study consists 16,381 female students' pursuing NCE programme across all levels in Colleges of Education in North-Central Zone Nigeria, four state were randomly sample for the study, based on school type (State and Federal Colleges of Education).

Stratified sampling technique was used to sample eighty (80) participants for the study, this was done from two Federal and two State Colleges of Education. Stratified sampling technique was considered in order to get proportion of sample from each population.

The instrument used for data collection was designed and validated by the two holders of PhD in Health Education and one holder of PhD in Educational Psychology. The questionnaire was sub-divided into four parts, with following variable in part A, B, C and D. Parts A is demographic variable, part B is knowledge of menstrual hygiene, Part C attitude of menstrual hygiene and Part D on practices of menstrual hygiene among female Students in Colleges of Education in North-Central Geo-Political Zone, Nigeria. This was rated on 4 points, Likert scale of Strongly Agree, Agree, Disagree and Strongly Disagree.

To determine the reliability of menstrual questionnaire, a pilot test was carried out on a group of respondent that are drawn from Federal Capital Territory College of Education Zuba, Abuja, that was parts of the population, but not parts sample for the main study. Ten copies of questionnaire was administered on colleges of education students and were retrieved back for analysis using Crombach Alpha. The reliability coefficient 0.75 was obtain. Mean and standard deviation were used to analyze research questions why Pearson Product Moment Correlation Coefficient and Mann-Whitney U-test was used to analyze the hypotheses.

3. Results

In this section, results of the analysed data are presented.

3.1. Answers to research questions

3.1.1 Research Question 1

Research Question 1: *What is the relationship between knowledge, attitude and practices of menstrual hygiene among female students in Colleges of Education in North-Central Nigeria?*

Table 1: Mean and standard deviation of relationship responses on relationship between knowledge, attitude and practices of menstrual hygiene among female students in Colleges of Education

	N	X	SD
Knowledge	80	16.53	2.01
Attitude	80	16.35	2.71
Practice	80	14.29	1.85

Table 1 shows the Mean and Standard Deviation of relationship responses on influence of knowledge, attitude and practices of menstrual hygiene among female students in Colleges of Education. The table reveals knowledge $\bar{X} = 16.53$, SD = 2.01, Attitude $\bar{X} = 16.35$, SD = 2.71 and practices $\bar{X} = 14.29$, SD = 1.85 respectively. To determine whether the mean scores have any relationship, a

corresponding null hypothesis was tested using PPMC in hypothesis 1.

3.1.2. Research Question 2

Research Question 2: *What is the mean of knowledge, attitude and practices of menstrual hygiene among female students in Colleges of Education base on school type (Federal or State) in North-Central Nigeria?*

Table 2: Mean and standard deviation of knowledge, attitude and practices of menstrual hygiene among female students in Colleges of Education base on school type (Federal or State) in North-Central Nigeria

School Type	N	Mean	Sd
State	120	14.74	2.45
Federal	120	15.21	2.29
Total	240	14.98	2.37

Table 2 shows the Mean and Standard Deviation of responses on knowledge, attitude and practices of menstrual hygiene among female students in Colleges of Education base on school type (Federal or State) in North-Central Nigeria. The table reveals State Colleges of Education $\bar{X} = 14.74$, SD = 2.45, and Federal Colleges of Education $\bar{X} = 15.21$, SD = 2.29 respectively. A corresponding null hypothesis was tested using Mann-Whitney U-test in hypothesis 2.

3.2. Test of research Hypotheses

3.2.1 Hypothesis 1

Hypothesis 1: *There is no significant relationship in influence of knowledge, attitude and practices of menstrual hygiene among female students in Colleges of Education North-Central Zone, Nigeria.*

Table 3: PPMC analysis of responses to show relationship in influence of knowledge, attitude of and practices of menstrual hygiene among female students in Colleges of Education

		Knowledge	Attitude	Practices
Knowledge	Pearson Correlation	1	.467**	.386**
	Sig. (2-tailed)		.000	.000
	N	80	80	80
Attitude	Pearson Correlation	.467**	1	.473**
	Sig. (2-tailed)	.000		.000
	N	80	80	80
Practices	Pearson Correlation	.386**	.473**	1
	Sig. (2-tailed)	.000	.000	
	N	80	80	80

Table 3 shows the Pearson product Moment Correlation analysis of responses to show relationship between in the influence of knowledge, attitude and practices of menstrual hygiene among female students in Colleges of Education. The table reveals that there was a positive correlation between knowledge and attitude of menstrual hygiene among female students in Colleges of Education which was statistically significant ($r = 0.467$, $N=80$, $p < 0.05$). In other words, there was a positive significant correlation between knowledge and attitude of menstrual hygiene among female students. Also correlation exist between attitude and practices of menstrual hygiene among female students in Colleges of Education. The table reveals that there was a positive correlation between knowledge and attitude of menstrual hygiene among female students in Colleges of

Education which was statistically significant ($r = 0.467$, $N=80$, $p < 0.05$). In other words, there was a positive significant correlation between attitude and students' practices. This implies that as long as there is good knowledge of menstrual hygiene, attitude and practices among female students in Colleges of Education North-Central Zone, Nigeria it will increased menstrual hygiene of students.

3.2.2. Hypothesis 2

Hypothesis 2: There is no significant difference in influence of knowledge and practice of menstrual hygiene among female students based on school type (federal and State) in Colleges of Education North-Central Zone, Nigeria.

Table 4: Shows Mann-Whitney U-test of significant difference in influence of knowledge and practice of menstrual hygiene among female students based on school type (federal and State) in Colleges of Education North-Central Zone, Nigeria.

Group	N	Mean	Mann-Whitney U	Wilcoxon W	Z	Sign
		Rank				
State	80	114.71	13765.00	6505.000	13965.000	-1.304 .192
Federal	80	126.29	15155.50			

Table 4 Shows Mann-Whitney U-test that of hypothesis two stated no significant difference in influence of knowledge and practice of menstrual hygiene among female students based on school type (federal and State) in Colleges of Education North-Central Zone, Nigeria. was tested. The table 7 show p -value = 0.00, since value of $p < 0.05$, H_{02} , was rejected. Therefore, there was no significant difference in influence of knowledge and practice of menstrual hygiene among female students based on school type (federal and State) in Colleges of Education North-Central Zone, Nigeria.

4. Discussion

There was positive significant relationship in influence of knowledge, attitude and practices of menstrual hygiene among female students in Colleges of Education North-Central Zone, Nigeria. This is in line with the study of Kabiru (2021) who carried study on knowledge, attitude and practices of menstrual hygiene among secondary school students in Kuta Town, Niger State. It was revealed that positive significant relationship in influence occurred on the knowledge, attitude and practices of menstrual hygiene

among secondary school students in Kuta Town, Niger State. The study concur with that of Luthan (2014), who carried out a study among adolescent girls through a cross-sectional survey in ShardaVidyalaya, Hyderabad and reported significant relationship between knowledge and practice of menstrual hygiene among the students.

There was no significant difference in influence of knowledge and practice of menstrual hygiene among female students based on school type (federal and State) in Colleges of Education North-Central Zone, Nigeria. This is in agreement with the findings of Ahmed (2017) who reported the difference in the attitude of female secondary school students towards menstruation in Niger and Kogi State. It was revealed that significant difference does not occur in the attitude of female secondary school students towards menstruation. This is in line with the findings of Dakar (2015) who found out that attitude of school girls towards menstrual hygiene was said to be positive. The positivity exhibited included the feeling that regular changing of under wears is necessary during menstrual and that such pad should be disposed along with the necessity to regularly changing of under wears used during such period.

*Corresponding author: L. M. Tsado

Email: mamatsadleah@gmail.com (L. M. Tsado)

ORCID: <https://orcid.org/0009-0008-1370-2542>

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5. Conclusion

There is relationship between knowledge and attitude towards menstrual hygiene among Colleges of Education students in North-Central Nigeria. Attitude Knowledge and practices of menstrual hygiene by the Colleges of Education students in North-Central Nigeria was not significant based of school type (State and Federal) Colleges of Education in North-Central Nigeria.

Recommendations:

- Health professionals, in collaboration with the school nurses, should foster menstrual hygiene, by organizing health talks for the Colleges of Education female students.
- Lecturers taking course titled GENS 124 family life and health issues as a general course at NCE level, should emphasis more on female menstrual hygiene so as to improve knowledge, attitude and practices of menstrual hygiene among female students in Colleges of Education North-Central Zone, Nigeria.
- School authorities should design periodic enlightenment programmes on menstrual hygiene, through the health counsellors of the schools, for the Colleges of Education female students.

Abbreviations

MH	Menstrual Hygiene
ST	School Type
NCGZ	North-Central Geo-political Zone

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Author Contributions

Leah Mama Tsado: Conceptualization, methodology, Writing- Original draft,

Muhammad Idris Madugu: Methodology, Analysis of result, Review and Editing.

Conflicts of Interest

The author(s) declare that they have no known competing financial interests, professional affiliations or personal relationships that could have appeared to influence the work reported in this paper,

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