Volume: 2, Issue: 7
Page: 20-30
YEAR: 2020

ISSN 2664-7354 (Online) & ISSN 2708-2687 (Print)

International Journal of Academic Research in Business, Arts and Science (IJARBAS.COM)

Nursing Intervention on Knowledge of Menstruation and Menstrual Hygiene Among Adolescents in Irepodun-Ifelodun Local Government of Ekiti State

AUTHOR(S): OGUNLEYE, OYINLOLA RUTH (RN, RM, RNE, B.NSc)
AND
PROF. (MRS.) KIO, JANET O. (RN, RM, RPHN, PhD)

Abstract

Reported evidence shows that many adolescent girls begin menstruation uninformed and unprepared. However, there is dearth of literature on how educational intervention can help to enhance adolescent girls' knowledge. Therefore, this study evaluated the effect of nursing intervention on knowledge of menstruation and menstrual hygiene among adolescents in Irepodun-Ifelodun local government of Ekiti State. The study utilized a two- group pre-test post-test quasi-experimental design. Simple random sampling technique was adopted for this study. A structured questionnaire was developed by the researcher and was used to collect pre-test and post-test data on participants' knowledge. Reliability of the instrument was ascertained using Cronbach Alpha which yielded a co-efficient alpha of 0.79. Data were analyzed using descriptive and inferential statistics. Findings showed that the pre and post intervention mean scores of intervention group were 12.66 and 25.70 respectively with a mean of 13.04 while the pre and post intervention mean scores of control group were 12.51 and 13.45 respectively with the mean gain of only 0.94. There was a significant difference between the pre-and post-test knowledge mean scores in the intervention group (p= 0.000) while there was no significant difference between the pre-and post-test knowledge mean scores in the control group (p= 0.2169). It was recommended among others

IJARBAS
Accepted 12 July 2020
Published 19 July 2020
DOI: 10.5281/zenodo.3953376

that similar nurse-led educational intervention should be replicated and implemented in all the secondary schools in Nigeria to systematically enhance adolescents' knowledge on menstruation and menstrual hygiene.

Keywords: Nursing Intervention, Knowledge, Menstruation, Menstrual Hygiene, Adolescents,

About Author

Author(s): **OGUNLEYE, OYINLOLA RUTH (RN, RM, RNE, B.NSc)**

DEPARTMENT OF COMMUNITY HEALTH NURSING,
SCHOOL OF NURSING
BABCOCK UNIVERSITY, ILISHAN-REMO,
OGUN STATE, NIGERIA.

And

PROF. (MRS.) KIO, JANET O. (RN, RM, RPHN, PhD)

SCHOOL OF NURSING
BABCOCK UNIVERSITY, ILLISAN-REMO,
OGUN STATE, NIGERIA.

Introduction

Menstruation is a physiological phenomenon which marks the beginning of a woman's reproductive years. It is saddled with a level of hygienic measures and when not properly handled, can result into adverse health outcomes. It is a period in the menstrual cycle lasting for about 2 to 7 days when there is spontaneous and regular discharge of blood and mucosa tissue from the inner lining of the uterus through the vagina. The first episode is referred to as menarche which occurs around early and mid-adolescent age groups. However, young girls, on attaining this period of their life, can be bordered with how they might cope with the demands associated with the maintenance of menstrual hygiene. Meanwhile this maintenance is actually a function of what is known about menstruation, as well as the availability of facilities required (Iswarya & Varshini, 2018)

Menstrual hygiene which focuses on the health care needs and requirements of women while menstruating is an important aspect because menstruation is a period during which women are at higher risk of developing various kind of reproductive tract infections, urinary tract infections as well as sexually transmitted infections (Barathalakshmi, Govindarajan, Ethirajan & Felix, 2014). Consequently, an increase in the level of knowledge on menstruation is pertinent in ensuring good and safe hygienic practices and thus reducing the risks. According to United Nations Children's Fund (2019), the Joint Monitoring Program defined Menstrual hygiene management as "women and adolescent girls are using clean menstrual management materials 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, having access to facilities to dispose of used materials.

Hygienic practices during menstruation is a crucial aspect in every woman as the physiology, pathology as well as the psychology of menstruation have been connected with the well -being of women (Bachloo, Kumar, Goyal, Singh, Yadav, Bhardwaj & Mittal, 2017). Studies conducted in the past traced the occurrence of reproductive tract infections, urinary tract infections, scabies in the vulva, abnormal abdominal pain, absence from schools to poor menstrual hygiene (Haque, Rahman, Itsuko, Mutahara & Sakisaka, 2014). A study conducted by Maniar and Mehta (2017) found a significant association between perceived reproductive morbidity and menstrual hygiene as 88.4% of the study population reported one of the reproductive morbidity in the following ways: 25.2% experienced discharge from the genitalia, 22.3% experienced itching from genitalia, 20.7% reported difficulty in micturition, 14% reported pustules over genitalia and 69.8% experienced lower abdominal pain. This was found to be more common among girls who were having unacceptable menstrual hygiene practices.

Inadequate self-care and poor menstrual hygiene are major determinants of morbidity and other complications among adolescents. To my knowledge no study had been conducted on nursing educational intervention on menstruation and menstrual hygiene among adolescents in Irepodun- Ifelodun Local government, Ekiti State. While some studies have explored knowledge of menstruation, very few studies have explored the effectiveness of a nurse-led intervention on this knowledge. Therefore, it will be right and of great benefit to teach adolescent girls about menstruation and menstrual hygiene practices. This interventional study is therefore designed to evaluate the outcome of school-based nursing intervention program on the knowledge of menstruation and menstrual hygiene among adolescent in Irepodun- Ifelodun Local government, Ekiti State

Based on the foregoing, the study investigated nursing intervention on knowledge of menstruation and menstrual hygiene among adolescents in Irepodun-Ifelodun Local Government of Ekiti State. The study specifically:

1. assessed the pre-intervention knowledge mean score on menstruation and menstrual hygiene among the experimental and control group;
2. determined the post-intervention knowledge mean score on menstruation and menstrual hygiene among the experimental and control group;
3. examined the difference between pre and post intervention knowledge scores of menstruation and menstrual hygiene among the experimental group;
4. examined the difference between pre and post intervention knowledge scores of menstruation and menstrual hygiene among the control group; and
5. examined the difference between pre and post intervention knowledge scores of menstruation and menstrual hygiene among the experimental and control group.

Research Questions

The following research questions were raised to guide the study:

1. What is the pre-intervention knowledge mean score on menstruation and menstrual hygiene among the experimental and control group?
2. What is the post-intervention knowledge mean score on menstruation and menstrual hygiene among the experimental and control group?

Research Hypotheses

The following hypotheses were generated for this study:

1. There is no significant difference between pre and post intervention knowledge scores of menstruation and menstrual hygiene among the experimental group
2. There is no significant difference between pre and post intervention knowledge scores of menstruation and menstrual hygiene among the control group
3. There is no significant difference between pre and post intervention knowledge scores of menstruation and menstrual hygiene among the experimental and control group

Methodology

The study utilized a two- group pre-test post-test quasi-experimental design to assess the outcome of nursing intervention on adolescents' knowledge of menstruation and menstrual hygiene in selected secondary schools under Irepodun-Ifelodun Local Government of Ekiti State. This design offers the researcher the opportunity to compare the level of improvement in knowledge levels among experimental and control groups before and after intervention in order to ascertain the effect of the intervention.

The target population for this study are adolescent girls between the age of 10 and 19 years in selected secondary schools under Irepodun-Ifelodun Local Government of Ekiti State. The sample size for experimental group was 80 and sample size for control group was 100. Total sample was 180 respondents while simple random sampling technique was used in selecting respondents for this study.

A structured questionnaire on menstruation and menstrual hygiene was developed by the researcher after review of literatures and research articles. This was administered to the respondents as pre-test and post-test items to assess the knowledge of the respondents on menstruation and menstrual hygiene. The questionnaire consisted of five sections. Section A sought for the socio-demographic data of the respondents. Section B consisted of 8 general questions on menstruation, section C consisted of 7 questions on process of menstruation,

section D consisted of 10 questions on problems with menstruation while section E consisted of 10 questions on menstrual hygiene.

The face and content validity was determined by experts in the field of Nursing Science and Tests & Measurement. The face validity was ensured by making sure that the build-up of the questionnaire followed a systematic process. The content validity was ensured by experts who made necessary corrections and modifications to ensure that the tool is appropriate for the study. Reliability of the instrument was ensured by administering the tool to 39 adolescent girls from Muslim High School, Ado –Ekiti which is a different setting from the target population. The reliability was done using Cronbach alpha which measures the coefficient of reliability. Cronbach's alpha result of 0.79 was obtained.

The experimental procedure was carried out in three phases namely pre-intervention phase, intervention phase and post-intervention phase. All data collected were coded and processed using Statistical Package for the Social Sciences (SPSS) version 23.0 and data was analyzed using descriptive statistic via tables, frequency, mean, standard deviation and percentage. The hypotheses were tested using inferential statistics of t-test at 0.05 level of significance.

Results

Research Question 1: What is the pre-intervention knowledge mean score on menstruation and menstrual hygiene among the experimental and control group?

Table 1: Pre-test knowledge categories in the experimental group

Table 1: Pre-intervention knowledge mean score among experimental and control groups

Pre-test knowledge levels	Category of scores	Experimental (n=80)		Control (n=100)	
		Frequency	Percent (%)	Frequency	Percent (%)
Low	1-12	49	61.2	60	60.0
Average	13-24	19	23.8	29	29.0
High	25-34	12	15.0	11	11.0
Total		80	100	100	100
Mean		12.66		12.51	
Percentage (%)		36.17		35.74	
Standard dev.		4.62		5.11	

The findings of the first research question on the pre intervention knowledge mean score of menstruation and menstrual hygiene among the experimental and control group as shown in Table 1 revealed the pre-intervention mean score of the knowledge level of the intervention group to be 12.66, which is equivalent to 36.17%. The table also revealed the pre-intervention mean score of the knowledge level of the control group to be 12.51, which is equivalent to 35.74%. From the findings, Majority 49 (61.2) of the participants in the intervention group had low knowledge level about menstruation and menstrual hygiene while majority 60 (60%) of the participants in the control group also had low knowledge level about menstruation and menstrual hygiene.

Research Question 2: What is the post-intervention knowledge mean score on menstruation and menstrual hygiene among the experimental and control group?

Table 2: Post-intervention knowledge mean score among experimental and control group

Post-test knowledge	Category of scores	Experimental (n=80)		Control (n=100)	
		Frequency	Percent (%)	Frequency	Percent (%)
Low	1-12	-	-	35	35.0
Average	13-24	19	23.8	51	51.0
High	25-34	61	76.2	14	14.0
Total		80	100	100	100
Mean		25.70		13.45	
Percentage (%)		73.40		38.43	
Standard dev.		3.62		5.61	

The findings of the second research question on the post-intervention knowledge mean score of menstruation and menstrual hygiene among the experimental and control group as shown in Table 2 revealed the post-intervention mean score of the knowledge level of the intervention group to be 25.70, which is equivalent to 73.4%. The table also revealed the post-intervention mean score of the knowledge level of the control group to be 13.45, which is equivalent to 38.43%. From the findings, majority 61 (76.2%) of the participants in the experimental group had high knowledge level about menstruation and menstrual hygiene while majority 51 (51%) of the participants in the control group had average knowledge level about menstruation and menstrual hygiene.

Testing of Hypotheses

Hypothesis 1: There is no significant difference between pre and post intervention knowledge scores of menstruation and menstrual hygiene among the experimental group

Table 3: Independent t-test showing the difference between pre and post intervention knowledge scores of experimental group

Group	N	Mean	Std. Deviation	Std. Error Mean	Df	t-cal	Mean gained	Sig
PRE	80	12.66	4.62	0.516	158	19.872	13.04	0.000
POST	80	25.70	3.62	0.408				

Results in Table 3 revealed a significant difference between pre and post intervention knowledge scores of participants on menstruation and menstrual hygiene (Knowledge gained = 13.04; t = 19.872; P = .000). Therefore, the null hypothesis that states that there is no significant difference between pre and post intervention knowledge scores of menstruation and menstrual hygiene among the experimental group was rejected while the alternate one was accepted. It could be concluded from this finding that the difference observed between pre and post intervention knowledge scores of participants' knowledge was not accidental but as a result of the nursing intervention the participants in the experimental group were given. With regards to the knowledge mean scores as shown in Table 3, one can conclude that there is an increase between pre-intervention knowledge mean score (12.66) and the post-intervention knowledge (25.70). Therefore, the nursing intervention had a positive incremental effect on knowledge of menstruation and menstrual hygiene among the experimental group

Hypothesis 2: There is no significant difference between pre and post intervention knowledge scores of menstruation and menstrual hygiene among the control group

Table 4: Independent t-test showing the difference between pre and post intervention knowledge scores of control group

Group	N	Mean	Std. Deviation	Std. Error Mean	Df	t-cal	Mean gained	Sig
PRE	100	12.51	5.11	0.511				
POST	100	13.45	5.61	0.561	198	1.239	0.94	0.2169

Results in Table 13 revealed a no significant difference between pre-test and post-test knowledge scores of control group participants on menstruation and menstrual hygiene Knowledge gained was just 0.94 (t = 1.239; P = .2169). Therefore, the null hypothesis that states that there is no significant difference between pre and post intervention knowledge scores of menstruation and menstrual hygiene among the control group was accepted while the alternate one was rejected. It could be concluded from these findings that the lack of difference observed between pre and post intervention knowledge scores of participants' knowledge was as a result of the lack nursing intervention in the control group. With regards to the knowledge mean scores as shown in Table 4, one can conclude that there was no significant increase between pre-intervention knowledge mean score (12.51) and the post-intervention knowledge (13.45). Therefore, there was no positive incremental effect on knowledge of menstruation and menstrual hygiene among the control group

Hypothesis 3: There is no significant difference between pre and post intervention knowledge scores of menstruation and menstrual hygiene among the experimental and control group

Table 5: Welch's t-test showing a two sample difference between pre and post intervention knowledge scores of experimental and control group

Test	Group	N	Mean	Std. Deviation	Std. Error Mean	df	t-cal	Mean diff.	Sig
Pre	**Experimental**	80	12.66	4.62	0.516	178	0.2041	0.15	0.8385
	Control	100	12.51	5.11	0.511				
Post	**Experimental**	80	25.70	3.62	0.408	178	16.911	12.25	0.0001
	Control	100	13.45	5.61	0.661				

Results in Table 5 revealed a significant difference between pre-test knowledge scores of both experimental and control groups participants on menstruation and menstrual hygiene. Mean difference was just 0.15 (t = 0.2041; P = .8385). In addition, as shown in table 5 above, findings revealed a significant difference between post-test knowledge scores of both experimental and control groups participants on menstruation and menstrual hygiene, mean difference was 12.25 (t = 16.911; P = .0001). Therefore, the null hypothesis that states that there is no significant difference between pre and post intervention knowledge scores of

menstruation and menstrual hygiene among the experimental and control group was rejected while the alternate one was accepted. It could be concluded from this finding that the difference observed between pre and post intervention knowledge scores in both the experimental and control group participants was as a result of the nursing intervention administered to the control group. Therefore, there was a significant positive incremental effect of the nursing intervention on knowledge of menstruation and menstrual hygiene among the intervention group.

Discussion

The findings on the pre intervention knowledge showed that majority of the participants in the intervention and control group had low knowledge level about menstruation and menstrual hygiene. This finding correlates with the findings of a similar study on knowledge and menstrual hygiene practice among adolescent school girls in southern Ethiopia by Belayneha and Mekuriaw (2019), which revealed that 68.3% of girls had poor knowledge of menstruation. This finding is in contrast with the findings of a study conducted by Akinwaare, Akindele and Oluwatosin (2016) on knowledge of menstruation and menstrual hygiene among adolescents in selected secondary schools which revealed that the level of knowledge on menstruation among the participants was quite high.

The findings of this study revealed that the experimental group participants had overall post-test mean knowledge score of 25.7 (± 3.62) and an overall mean percentage of 73.4% which showed a significant improvement in the knowledge levels. However, control group had low baseline knowledge and that their post-test knowledge did not change significantly after the intervention. This is in line with Absurshaid et al. (2017) who found that adolescent girls who were exposed to a planned educational program exhibited a significantly higher knowledge level than their pre-test knowledge level. Also, Goel et al., (2018) reported that a structured educational intervention improved the knowledge of adolescent students on menstruation and menstrual hygiene.

The report from Hennegan and Montgometry (2016) corroborates this finding that majority of participant in the control group had low baseline knowledge and that their knowledge did not change significantly after the intervention because they were not exposed to the structured nursing educational intervention. It can be deduced from the outcome of this study that when an educational intervention is delivered in a structured and planned manner, there are higher chances that participants in the intervention group will be highly knowledgeable about the phenomenon of interest, in this case, adolescent students in the intervention group displayed higher knowledge about menstruation and menstrual hygiene than their pre-test levels.

Findings from the study further revealed a significant difference between pre and post intervention knowledge scores of participants on menstruation and menstrual hygiene (Knowledge gained = 13.04; t = 19.872; P = .000). This implies that students who underwent the nursing intervention program had increased knowledge, therefore the nursing intervention was effective in enhancing participants' knowledge about menstruation and menstrual hygiene. This is in line with the study conducted by Arora, Mittal, Pathania, Singh, Mehta & Bunger (2013) on the impact of health education on knowledge and practices about menstruation among adolescent school girls of rural part of district Ambala,

The findings however revealed a no significant difference between pre-test and post-test knowledge scores of control group participants on menstruation and menstrual hygiene. Therefore, there was no positive incremental effect on knowledge of menstruation and

menstrual hygiene among the control group. It is apparent that without the nursing intervention program students may not acquire the required knowledge for them to effectively manage their menstrual issues. This finding is in consonant with the findings of Hennegan and Montgometry (2016) who found that without being exposed to a structured intervention, participants in the control group did not have a significant change in knowledge. This is also in tandem with the findings of Arora et al. (2013) on the impact of health education on knowledge and practices about menstruation where participants in the control group did not experience knowledge increase.

The findings also revealed a significant difference between pre-test knowledge scores of both experimental and control groups participants on menstruation and menstrual hygiene. In addition, findings revealed a significant difference between post-test knowledge scores of both experimental and control groups participants on menstruation and menstrual hygiene. Therefore, there was a significant positive incremental effect of the nursing intervention on knowledge of menstruation and menstrual hygiene among the intervention group. In a similar study, Hennegan and Montgometry (2016) also reported that health education produced an increase in the knowledge of participants on menstruation and menstrual hygiene. Also, Kokiwar and Nikitha (2020) found that there was an increase in knowledge of menstruation and menstrual hygiene in the intervention group while the knowledge level in the control group remained the same.

Conclusion

The study revealed that majority of the participants in both the experimental and control groups had low baseline knowledge levels. In fact, there was no significant difference in the pre-test knowledge scores between the experimental and control groups, which is in tandem with findings of previous studies. However, after the intervention, the participants in the experimental group had a significant rise in knowledge scores while no significant difference in post-test knowledge score was observed among those in the control group. It is hereby concluded that the nursing intervention exerted an incremental effect in the knowledge levels of adolescent girls on menstruation and menstrual hygiene.

Recommendations

Based on findings of this study, it is hereby recommended that:

1. Similar nurse-led educational intervention should be replicated and implemented in all the secondary schools in Nigeria to systematically enhance their knowledge on menstruation and menstrual hygiene.
2. Secondary school teachers should be equipped with the knowledge needed to educate the adolescent girls on how to handle menstrual issues and maintain menstrual hygiene.
3. The government should adopt the steps implemented in this research when designing health education programs on menstruation and menstrual hygiene.
4. Parents and guardians of adolescent girls should be given the right information and training required in order to ensure that they guide the adolescent girls properly during their menstrual periods and help them understand the mechanism of menstruation.

References

Abushaid, F.A.H., Ahmed, S.G., Ashmauey, A. A., and Mohammad., H.G. (2017). Effect of planned Health Education program on menstrual knowledge and practices among adolescent Saudi girls. *Journal of Nursing and Health Science*, 2(3), 1-8

Akinwaare, M. O., Akindele, O. M., Oluwatosin, O. (2016). Menstrual hygiene practices among adolescents in selected secondary schools around the university of Ibadan, Nigeria**.** *Journal of Biomedical Sciences,* (15) 1, 92-101.

Arora, A., Mittal, A., Pathania, D., Singh, J., Mehta, C. & Bunger, R. (2013). Impact of health education on knowledge and practices about menstruation among adolescent school girls of rural part of district Ambala, Haryana. *Indian Journal of Community Health,* 25(4); 492 - 497

Bachloo, T., Kumar, R., Goyal, A., Singh,P., Yadav, S.S., Bhardwaj, A. & Mittal, A. (2017). A study on perception and practice of menstruation among adolescent girls in district Ambala Haryana, India. *International journal of community medicine and public health,* 3 (4), 931-937. Retrieved from scholar.goggle.com

Barathalakshmi, J., Govindarajan, P.K., Ethirajan, N. & Felix, A. (2014). Knowledge and practice of menstrual hygiene among school going adolescent girls. *National journal of research in community medicine,* 3(2), 138-42

Belayneh, Z. & Mekuriaw, B. (2019). Knowledge and menstrual hygiene practice among adolescent school girls in southern Ethiopia: a cross-sectional study. *BMC Public Health,* 19,1595. Retrieved from https://doi.org/10.1186/s12889-019-7973-9

Goel, P., Kumar, R., Meena, G.S. & Garg, S. (2018). Association of socio-demographic characteristics with KAP regarding menstrual hygiene among women in an urban area in Delhi. *Tropical Journal of Obstetrics and Gynaecology*, 35, 158-164

Haque, S.E., Rahman, M., Itsuko, K., Mutahara, M., & Sakisaka, K. (2014). The effect of a school-based educational intervention on menstrual health: an intervention study among adolescent girls in Bangladesh. *BMJ Open access,* 4 (6).

Hennegan, J. & Montgomery, P. (2016) Do Menstrual Hygiene Management Interventions Improve Education and Psychosocial Outcomes for Women and Girls in Low and Middle Income Countries? A Systematic Review. *PLoS ONE* 11(2), e0146985.

Iswarya, S. & Varshini, A. (2018). Impact of health education on menstrual hygiene: an interventional study among adolescent girls*. International Journal of Medical Science and Public Health*. 7(6), 468-473.

Kokiwar, P.R & Nikitha P. (2020). Efficacy of Focused Group Discussion on Knowledge and Practices Related to Menstruation among Adolescent Girls of Rural Areas of Rhtc of a Medical College: An Interventional Study. *Indian J Community Med*. 45(1), 32-35

Maniar, A. and Mehta, D. (2017). Menstrual Hygiene Practices: Myths and Taboo. *International Journal of Research in Social Sciences,* 7 (12), 2249-2496. Retrieved from http://www.ijmra.u

United Nations Children's Fund, (2019). Guide to menstrual hygiene materials. Retrieved from www.unicef.org.

Cite this article:

Author(s), OGUNLEYE, OYINLOLA RUTH (RN, RM, RNE, B.NSc), PROF. (MRS.) KIO, JANET O. (RN, RM, RPHN, PhD), (2020). "Nursing Intervention on Knowledge of Menstruation and Menstrual Hygiene Among Adolescents in Irepodun-Ifelodun Local Government of Ekiti State". Name of the Journal: International Journal of Academic Research in Business, Arts and Science, (IJARBAS.COM), P, 20- 30. **DOI**: http://doi.org/10.5281/zenodo.3953376 , Issue: 7, Vol.: 2, Article: 3, Month: July, Year: 2020. Retrieved from https://www.ijarbas.com/all-issues/

Published by

AND

ThoughtWares Consulting & Multi Services International (TWCMSI)