Effect Of Peer Education On Menstrual Hygiene Knowledge And Practices Among Adolescent Girls In Secondary Schools In Ilorin, Kwara State

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Abstract

Menstrual hygiene deals with the special healthcare needs and requirements of women during monthly menstrual cycle. This study assessed the effect of peer education on the knowledge and practice of menstrual hygiene among adolescent girls in senior secondary schools in Ilorin Metropolis, Kwara State, Nigeria. The study was a quasi-experimental study. A pre-tested self-administered questionnaire was used to assess the knowledge and practice of 200 girls each in study and control schools. Multistage sampling technique was used to select respondents from both the study and control schools. Data were analyzed using SPSS software version 16.0. Chi-square test of significance and ordinal logistic regressions were used in statistical analysis; and level of significance was pre-determined at p-value < 0.05 at confidence level of 95%. Following peer education intervention, the proportion of girls in the study schools with good knowledge of menstrual hygiene increased from 33.5% to 51.0%, while that of the control increased from 32% to 38.0% at the end of the study. The intra group difference was found to be statistically significant with p value <0.001. Those who practiced good menstrual hygiene post intervention also increased from 43.5% to 67.5% in the study schools and from 41.0% to 48.0% in the control schools at the end of the study. This was also found to be statistically significant with p value <0.001. This study showed that peer education is an effective tool in improving knowledge and practice of menstrual hygiene among adolescent school girls in Ilorin metropolis.

Key words: Adolescent, menstrual hygiene, knowledge, practice, peer education

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Introduction

More than half of the world's population is below the age of 25 years, and one in every two young people in the world is an adolescent.[1] The universal definition of adolescence is best restricted to a 'period of transition', in which 'although no longer considered a child, the young person is not considered as an adult'.[2] United Nations defined an adolescent as anybody within the ages of 10-19 years.[1,2]

Menstruation is the periodic vaginal bleeding that occurs as a result of shedding of the uterine mucosa; it is one of the signs of puberty and occurs one or two years following appearance of secondary sexual characteristics.[3] Once established, every mature female menstruates on the average of 3-5 days (range 2-7days) each month until menopause except during pregnancy and the immediate postpartum period.[4] A woman's period can be light, moderate or heavy.[5] If poorly managed, menstrual period may be accompanied by discomfort, reproductive tract infection, odour and embarrassment among others.[6]

Menstrual hygiene deals with the special healthcare needs and requirements of women during monthly menstrual cycle.[7] Safe menstrual practices involve changing sanitary material at least three times a day or when soaked, changing underwear/panties frequently, washing hands before and after changing absorbents, bathing at least twice daily/ frequently during menstruation, etc.[6-9] Learning about hygiene during menstruation is a vital aspect of health education for adolescent girls as patterns developed during adolescence are likely to persist into adult life. Although menstrual hygiene is an issue that every girl and woman has to deal with in her life, there is lack of systematic provision of information on the process of menstruation, the physical and psychological changes associated with puberty and proper requirements for managing menstruation especially in the developing countries.[7] Many caregivers, especially mothers lack correct information and skills to communicate about menstrual hygiene to their adolescent girls leading to negative attitudes, belief and practices in this regard.[6] This may result in incorrect and unhealthy behaviour during their menstrual periods.[8]

Peer education and support involves the training and use of individuals from the target group to educate and support their peers.[10] Peer-led interventions are based on the assumption that behaviour is socially influenced and that behavioural

norms are developed through interaction.[10]

The study assessed the effect of peer education on menstrual hygiene knowledge and practices among adolescent girls in senior secondary schools in Ilorin, Kwara State, Nigeria.

Materials And Methods

Description of Study Area

Ilorin, the capital of Kwara State is strategically located within the North Central geopolitical zone of Nigeria. Ilorin metropolis is made up of three Local Government Areas namely Ilorin East, Ilorin West and Ilorin South LGAs with their headquarters at Oke-Oyi, Aleniboro area and Fufu respectively. The indigenes are predominantly Muslims and the major ethnic groups are Yoruba, Fulani, Hausa and Nupe. Majority of the people are civil servants, traders and artisans.[11]

Study Design

The study was a quasi-experimental study in three phases. (Baseline pre-intervention, intervention and 3 months post-intervention). The study population included adolescent girls within the ages of 10 – 19 years attending day public senior secondary schools in Ilorin Metropolis. 200 respondents each were recruited for the study and control group. Boarding and Night schools were excluded from the study to allow for uniformity.

Sample Size Determination

The minimum sample size required was estimated using the formula:[12]

$n = (Z + Z)^2 (p_1q_1 + p_2q_2) / (p_2 - p_1)^2$

Where, n = Minimum sample size required per group

Z = the standard normal deviate corresponding to 5% level of significance. The value obtained from the normal distribution table is 1.96

Z = the standard normal deviate corresponding to the power of the test to detect differences, 95% power was used for this study. The value obtained from the normal distribution table is 1.64

P1= Proportion of adolescent girls with good menstrual hygiene 33.7% (study done in south west Nigeria) [13]

P2= Proportion of adolescent girls with good menstrual hygiene after peer education= 53.7% (Effect of peer education intervention on secondary school adolescents' reproductive health knowledge in Saki, Nigeria) [14]

Sampling Technique

A multistage sampling method was used for the selection of respondents.

Data Collection

The data were collected using: Pre-tested, self-administered questionnaire was used to collect information from 200 eligible respondents selected from each of the study and control schools to generate baseline data. Questionnaire used was adapted from previous studies[7,9,13]. Ten percent questionnaire was pre-tested before commencement of the study. The study period was for a total of six months, three months pre and post intervention respectively. A total of 30 peer educators were used for this study. The peer educators trained their peers twice a week; Mondays and Thursdays immediately after school for duration of about 30 minutes (formal sessions) and during break time (informal sessions) and for two months. Participants in control schools were not exposed to peer education interventions. Parents were grouped into five socio-ecomomic classes using classification by Olusanya et al.[15]

Data Management

The data obtained at baseline and after the intervention were entered into a personal computer. Analysis was done using SPSS software version 16.0. Data collected was presented in prose, frequency tables, charts and graphs. A confidence limit of 95% was used in this study and a p- value of < 0.05 was considered significant.

Ethical Consideration

Ethical clearance was obtained from the ethical review committee of the University of Ilorin Teaching Hospital. Group informed consent was obtained from the parents during the Parents Teacher Association meetings, while written informed assent was obtained from respondents.

Results

Table 1 revealed that the ages of respondents ranged from 10 to 19 years. The mean ages of students in the study and control schools were 15.3 ±1.60 and 15.4 ± 1.77 years respectively. Respondents in the age group 14-16 years had the largest representation in both study, 107 (53.5%) and control, 93(46.5%) schools. Almost an equal proportion of the respondents in the study (45.5%, 43.0%) and control (42.0%, 43.5%) schools were in SS2 and SS3 classes. Over half of the respondents were Muslims in both the study, 111 (55.5%) and in the control schools, 124 (62.0%). No statistically significant difference in the socio-economic status of respondents in both study and control schools. A large proportion of the respondents were of the Yoruba tribe in both study, 166 (83.0%) and control schools, 177 (88.5%). Age at menarche of respondents ranged from 10-17years, mean age at menarche for respondents in the study schools was 12.7± 1.5 while that of control was 13.0 ±1.67.

Table 1: Distribution of respondents according to socio-demographic characteristics

	Study Group	Control Group	χ^2/ t	*p* value
Variables	**N = 200 (%)**	**N = 200 (%)**		
Age group(years)				
10 – 13	20 (10.0)	16 (8.0)		
14 - 16	107(53.5)	93 (46.5)		
17 – 19	73 (36.5)	91 (45.5)	5.734	0.125
Mean age ± SD (years)	15.3 ± 1.6	15.4 ± 1.7	1.890[t]	0.100
Class				
SS 1	23 (11.5)	29 (14.5)		
SS 2	91 (45.5)	84 (42.0)		
SS 3	86 (43.0)	87 (43.5)	0.978	
Religion				
Islam	111 (55.5)	124 (62.0)		
Christianity	88 (44.0)	76 (38.0)	1.351	0.508[Y]
Ethnicity				
Yoruba	166 (83.0)	177 (88.5)		
Hausa	15 (7.5)	8 (4.0)		
Igbo	9 (4.5)	10 (5.0)		
Others	10 (5.0)	5 (2.5)	4.203	0.240
Age at Menarche (years)				
10 – 12	94 (47.0)	79 (39.5)		
13 – 15	95 (47.5)	111 (55.5)		
= 16	11 (5.5)	10 (5.0)	4.203	0.240
Mean age ± SD (years)	12.7 ± 1.5	13.0 ± 1.67	1.087[t]	0.414
Range (years)	10 - 16	10 – 17		
Marital status				
Single	193 (96.5)	195 (97.5)		
Married	7 (3.5)	5 (2.5)	0.094	0.954
Socio-economic class of parents[15]				
Class 1	19 (9.5)	11 (5.5)		
Class 2	33 (16.5)	38 (19.0)		
Class 3	101 (50.5)	107 (53.5)		
Class 4	32 (16.0)	23 (11.5)		
Class 5	15 (7.5)	21 (10.5)	5.131	0.274

χ^2: Chi square; t: Independent Samples T test; Y: Yates corrected p value

Majority of the respondents in both control and study schools were single, 193 (96.5%) and 195 (97.5%) respectively. About half of the parents of the respondents in both the study and control schools fell within the class 3 socioeconomic group, 101 (50.5%) and 107(53.5%) respectively. The study and control groups were similar and comparable.

In table 2, majority of girls in both the study and control schools described the components of menstrual hygiene as the use of toilet rolls and reused cloth during menses, (97.0% versus 81%) and (90.0% versus 81.0 %) respectively. Only few respondents in the study schools (31.0%) and in the control (30.0%) described component of menstrual hygiene practices as the use of sanitary pads. Almost an equal proportion of girls in both study and control groups described the components of menstrual hygiene practices as bathing at least twice per day (37.0% versus 42.5%), regular cleaning of private parts (48.0 %versus 49.5%), and regular washing of under wears (66.0% versus 73.0%). There was no statistical significant different in both groups at baseline.

Table 3 revealed that only 28.0% of girls in the study school changed their absorbents at least thrice in a day, this was also similar with that of the control schools, 21.0%. About half of the girls in both study and control schools do not increase the number of times they bath during menses (52.0% versus 52. 5%). Almost an equal proportion of girls in both the study and control schools washed their hands before and after changing absorbents (51.0% versus 51.5%). A high proportion of girls in both study and control school clean their private parts before changing absorbents, 77.5% and 83.0% respectively.

Table 2: knowledge of menstrual hygiene at pre- intervention stage

	Control Frequency	χ^2	*p* value
Components of menstrual hygiene practices	**N = 200 (%)**		
Bathing at least twice per day	85 (42.5)	0.761	0.383
Regular cleaning of private parts	97 (48.5)	0.005	0.943
Use of toilet rolls	162 (81.0)	2.876	0.089
Re -use of cloths	162 (81.0)	0.947	0.330
Use of sanitary pads	60 (30.0)	0.033	0.855
Regular washing of under wear	146 (73.0)	0.705	0.401
Changing of absorbents at least three times per day	90 (45.0)	0.429	0.512
Proper disposal of used absorbents	69 (34.5)	0.551	0.457
Others	0 (0.0)	2.000	0.157

χ^2: Chi square; *: Statistically significant (i.e. *p* value < 0.05)

Table 3: Practice of menstrual hygiene at pre- intervention stage

	Study	Control	χ^2	*p* value
Practice of Menstrual hygiene	**N = 200 (%)**	**N = 200 (%)**		
Used sanitary pads during last menses				
Yes	87 (43.5)	63 (31.5)		
No	113 (56.5)	137 (68.5)	6.144	**0.013***
Changes absorbent at least three times daily				
Yes	56 (28.0)	42 (21.0)		
No	144 (72.0)	158 (79.0)	2.649	0.104
Use cloth as absorbent				
Yes	124 (62.0)	146 (73.0)		
No	76 (38.0)	54 (27.0)	5.516	**0.018***
Bath at least twice daily during menses				
Yes	96 (48.0)	95 (47.5)		
No	104 (52.0)	105 (52.5)	0.010	0.920
Washes hand before and after changing absorbents				
Yes	102 (51.0)	97 (48.5)		
No	98 (49.0)	103 (51.5)	0.250	0.617
Cleaning of private parts before changing absorbents				
Yes	155 (77.5)	166 (83.0)		
No	45 (22.5)	34 (17.0)	1.909	0.167
Wash and reuse cloth	**n=124**	**n=146**		
Yes	84 (68.0)	87 (59.6)		
No	40 (32.0)	59 (40.4)	1.920	0.166

χ^2: Chi square; *: Statistically significant (i.e. *p* value < 0.05)

Table 4 revealed that only 67 (33.5 %) of girls in the study schools and 64 (32.0%) in control schools had good knowledge of menstruation and menstrual hygiene at pre- intervention stage. The difference was not statistically significant (p>0.05). At baseline, 87(43.5%) of girls in the study school practiced good menstrual hygiene, while 82(41.0%) of girls in control schools practiced good menstrual hygiene. There was no statistical significant different in both groups at baseline (p>0.05).

Table 5 revealed that post intervention, proportion of girls with good knowledge score of

Table 4: Aggregate Knowledge and Practise Scores pre- intervention

	Study	Control	t/ χ^2	*p* value
Knowledge score	**N=200 (%)**	**N=200 (%)**		
Good (10-14)	67 (33.5)	64 (32.0)		
Fair (5-9)	77 (38.5)	69 (34.5)		
Poor (0-4)	56 (28.0)	67(33.5)	1.491	0.474
Mean± SD	7.25 ± 3.92	6.93 ± 4.06	-0.802	0.423
Practice Score				
Good(6-10)	87 (43.5)	82 (41.0)		
Poor(0-5)	113 (56.5)	118 (59.0)	0.260	0.613
Mean ±SD	4.89 ± 2.73	2.48 ± 1.24	2.367	0.341

χ^2: Chi square; t: Independent Samples T test

Table 5: Inter group comparison of the knowledge and practise scores post intervention

	STUDY GROUP	CONTROL GROUP	χ^2	*p* value
Knowledge score	**Post intervention (n = 200)**	**End of study (n=200)**		
Good (10-14)	102 (51.0)	76 (38.0)		
Fair(5-9)	70 (35.0)	56 (28.0)		
Poor(0-4)	28 (14.0)	68 (34.0)	22.020	**< 0.001***
Mean ± SD	8.85 ± 3.59	7.20 ± 4.25	-4.194	**<0.001***
Practise Score				
Good (6 10)	135(67.5)	96(48.0)		
Poor(0-5)	65(32.5)	104(52.0)	15.584	**< 0.001***
Mean ± SD	6.21 ± 2.58	5.14 ± 2.76	-4.005	**< 0.001***

χ^2: Chi square; *: Statistically significant (i.e. *p* value < 0.05)

menstruation and menstrual hygiene among respondents in the study schools was 51.1% compared with 38.0% of that of the control schools at the end of the study, this inter-group difference was found to be statistically significant, $p < 0.05$. Post intervention, 67.5% of girls in the study schools practiced good menstrual hygiene compared to 48% of girls in the control schools at the end of the study. This inter group difference was statistically significant, $p< 0.05$

Discussion

Adolescent menstrual hygiene and self-care is a critical issue that determines the health status of the adolescent and the eventual practices that are inculcated into adult life. Poor hygiene and inadequate self-care practices are major determinants of morbidity and other complications among this age group.[13] This study assessed the effect of peer education on menstrual hygiene knowledge and practice among adolescent girls in secondary schools in Ilorin. Menarche is an important life event, marking the transition from childhood to early womanhood. It marks the onset of menstruation, a process perceived to be a sign of feminity, fertility, youth or purification of the body.[16] In this study, 98% of the participants in study and 95% in the control schools attained menarche before the age of 15years. This is consistent with what was obtained in literature that by 15 years of age, 98% of females will have attained menarche[6]. The mean ages at menarche for respondents in the study and control schools were 12.7 ± 1.5 and 13.0 ± 1.6 years respectively. The finding here is also congruent with what was obtained in a study conducted in Turkey were the mean age at menarche was found to be 12.8 years.[17] This is also in keeping with studies carried out in other African countries like Ethiopia- 13.6 years, Morocco- 12.8 years and Mozambique- 12.7 years[18]. In addition, this finding here is also consistent with what was

obtained in studies conducted by Ijaiya *et al* in Ilorin, lawan *et al* in Kano, and Odutan *et al* in Lagos where the mean ages of menarche of participants were 13.3 ,12.7 and 12.6 years respectively.[19-21]

However, this finding is different from what was obtained by Moronkola *et al* in Ibadan and Esimai *et al* in Ile-Ife, where the mean ages of menarche were 14.8 and 14.18 years respectively.[22,23] Previous studies have established a relationship between the onset of menarche and various characteristics of the population including nutritional status, geographical location, environmental conditions and magnitude of socioeconomic inequalities in the society.[19] These may be responsible for these disparities.

Only 33.5% of girls in the study schools and 33.0% of girls in the control had good knowledge of menstrual hygiene respectively and many lacked detailed information about specific aspects of menstrual hygiene. This finding is also similar to Dongre *et al* study in India on effect of community-based health education intervention on management of menstrual hygiene among rural Indian adolescent girls where 35% of the girls had good knowledge of menstruation and menstrual hygiene at baseline.[7] A study in Ile-Ife on menstrual knowledge and practices amongst secondary schools girls however revealed as high as 60% of the girls with adequate knowledge of menstruation.[23] This large disparity maybe as a result of high educational status and high literary level of the mothers of respondents found in Ife study.[23]

Post intervention, proportion of girls with good knowledge score of menstruation and menstrual hygiene among respondents in the study schools was 51.1% compared with 38.0% of that of the control schools at the end of the study, this inter-group difference was found to be statistically significant.

Peer education intervention has been noted to improve health behaviours.[14] This is also comparable with the study by Dongre *et al* on the effect of community-based health education intervention on management of menstrual hygiene among rural Indian adolescent girls, where post intervention, 58% of respondents in the study group had good knowledge score of menstrual hygiene compared to 32% in the control group.[24] The finding here is also congruent with what was found in a study by Ajuwon *et al* in Ibadan, south west, Nigeria on effects of peer education on knowledge of AIDs and condom use among female apprentice tailor in Ibadan where peer education was found to significantly increase the knowledge of female apprentice about AIDS and condom use.[25]

Poor menstrual hygiene and self-care practices are synonymous to poor health outcome and health status of the adolescent female.[7] The practice scores of both groups at baseline were, 43.5% and 41.0 respectively. About 43.5% of the respondents in study schools used sanitary pads during their last menstrual period at baseline compared to the control schools, 31.5%. This is also similar to the observation of Abioye-Kuteyi who reported the use of unsanitary methods of menstrual absorbencies in 66.3% of girls studied in South-western Nigeria.[13] In contrast, Lawan *et al* study in Kano North West Nigeria reported use of sanitary pads in as high as 93.8% of the respondents.[20] This may be due to the fact that Kano study was conducted among adolescents' school girls attending private secondary schools, whose parents were likely to be more enlightened and more financially stable as compared to this study which was conducted among girls attending public senior secondary schools with majority of their parents in class 3 socioeconomic status. This study also noted that most respondents not using sanitary pads did so because they could not afford it, thereby prefer other absorbents like clothes and toilet rolls. The implication of using clothes is the tendency towards their being re-cycled, a situation which may highly predispose them to pelvic infection.[13]

In this study, 67.5% of girls in the study schools practiced good menstrual hygiene post peer education intervention compared with 43.5% pre-intervention, percentage increase of 24.0%. This intra group difference was found to be statistically significant with $p < 0.05$.

Peer education intervention however resulted in a significant improvement in both knowledge and practice of menstrual hygiene among girls in the study schools, compared with that of the control schools that were not exposed to peer education intervention. This study showed that peer education is an effective tool in improving knowledge and practice of menstrual hygiene among adolescents' school girls in Ilorin Metropolis.

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