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Original Research Article

A study to assess the effectiveness of buddy approach on knowledge regarding menstrual hygiene among adolescent girls in selected schools, Bengaluru

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ABSTRACT

Background: Adolescence is a vital transition phase in human life, with menstruation being one of the most distinctive features. In India, menstruation in females can lead to the introduction of new vulnerabilities due to socio-cultural barriers. The sociocultural barriers often label periods as impure and have added stigma leading to ignorance of hygienic health practices.
Methods: A pre-experimental research study was conducted among 60 adolescent girls who were divided into a researcher group and a buddy group studying in Adarsh Vidya Dhama, Bengaluru. The researcher group (30 older adolescent girls) was given planned teaching by the student researcher. Based on the post-test scores, five buddies were trained by the student researcher to disseminate information to the buddy group. Confidentiality was maintained throughout the study.
Results: The findings of the study depict that, in the researcher group the mean post-test knowledge score is 16.23 which is higher than the mean pre-test scores of 11.87. The obtained 't' value is -11.25 and the calculated p=0.000 (at p<0.05). Similarly, the mean post-test knowledge score after the buddy approach is 16.33 which is higher than the mean pre-test score before the buddy approach which is 11.40. The obtained 't' value is -10.850 and the calculated p=0.000 (at p<0.05).
Conclusions: Imparting knowledge of menstruation and menstrual hygiene using the buddy approach is cost-effective and impactful way to convey information. It promotes open communication often reaching more effectively than the professional health team.

Keywords: Adolescence, Menstruation, Menstrual hygiene, Knowledge, Buddy approach

INTRODUCTION

There are approximately 1.3 billion adolescents in the world, which represents about 16 percent of the world's total population.[1] In India, the adolescent population is 242 million comprising 18% of the total population out of which 116 million are girls.[2] Adolescence is a vital transition phase which is defined as any person between ages 10 and 19 years.[3] It is a stressful time and leads to the distinctive stage of human development where a child experiences rapid physical, cognitive, and psychological growth which will affect how they feel, think, make decisions, and interact with the world around them.[4] Many life events take place during this time and menstruation being one of them. Menstruation is claimed as the starting phase of women's reproductive life, with approximately 1.8 billion women across the world menstruating monthly.[5,6] Menstruation is the periodic release of endometrial cells within the uterine lining from the female genital area and usually occurs between the ages of 11 to 15 years.[7] The menstrual requirements of adolescent girls have been ignored in many parts of developing countries

due to socio-cultural barriers like taboos, myths, and social norms.[8] In India, various myths, taboos, norms, and socio-cultural restrictions add up to perceive periods as impure and continue to add stigma resulting in a lack of awareness about essential scientific facts and hygienic health practices.[9]

Due to menstruation being considered something repulsive or dirty, 64% of the girls have at least one menstrual-related issue.[10,15] Breaking the socio-cultural barriers is not easy as these norms are deep-rooted and seem to have social sanction.[12] The way an adolescent girl manages her period monthly depends on her awareness and knowledge regarding menstruation and the use of a hygienic method of menstrual management is imperative for her health and is vital to her empowerment and dignity.[13] Gaining the right information and attitudes about the menstruation is important for creating desired behaviours in protecting and improving health.

METHODS

The study design used was a pre-experimental one-group pre-test post-test only and was conducted in Adarsh Vidya Dhama, Bengaluru in January and February 2024. Formal permission was obtained from the headmistress and 60 adolescent girls between the age group of 13-16 years were selected using a non-probability convenience sampling technique. Written consent and assent were obtained from parents and the students who are participating in the study respectively. The 60 adolescent girls were divided into two groups that is 30 adolescent girls in the researcher group and the buddy group respectively. In the first week, adolescent girls of the first group that is researcher group underwent a pre-test followed by a student researcher giving a planned teaching using a PowerPoint presentation (PPT) and a pamphlet on menstrual hygiene by NRHM for 45 minutes to the researcher group. After completion of the planned teaching, a post-test was conducted for the researcher group on the 7th day. 5 buddies in the researcher group who had scored highest were selected and given training for two days for 45 minutes on the second week. In the 3rd week, the 30 adolescent girls of the second group that is buddy group had undergone a pre-test. The buddy group was divided into 5 groups which contained six members each and one trained buddy was assigned to them and dissemination of information was done by the buddies using the buddy approach. At the end of 4th week, a post-test was conducted for the buddy group to evaluate the effectiveness of the buddy approach to assess the knowledge regarding menstrual hygiene.

Data were obtained by using a structured knowledge questionnaire and the level of knowledge was interpreted as inadequate knowledge, moderately adequate knowledge, and adequate knowledge. The structured knowledge questionnaire contained two sections: section A (socio-demographic data) and section B (Knowledge questionnaire on menstrual hygiene). Descriptive statistics were used to describe socio-demographic data and the level of knowledge regarding menstrual hygiene among adolescent girls. A paired t test was used to evaluate the effectiveness of the buddy approach to assess knowledge regarding menstrual hygiene and Fisher's exact test and chi-square test in SPSS software (version 2.0) were used to find the association between level of knowledge and selected socio-demographic variables.

RESULTS

Frequency and percentage distribution of selected socio-demographic variables.

Table 1 shows that in the research group, 56.67% of the subjects belong to the age of 15 years and 43.33% belong to 16 years of age. In the buddy group, 60% of the subjects belong to 14 years age group and 40% belong to the 13 years of age. 100% of the subjects are studying in class X among the researcher group whereas 53.3% of the subjects study in IX standard and 46.67% of the studies in VIII standards. Among the researcher group, 56.67% of the subject's mother's age is between 31-35 years, 33.33% of them belong to age 33.33% and 10% of them belong to age group 41-45 years. In the buddy group 36.67%% of the subject's mother's age is between 36-40 years, 30% of them in the age group of 31-35 years, and 16.67% of them in the age group of 25-30 years and 41-45 years.

Table 1: Frequency and percentage distribution of selected socio-demographic variables, (n=30+30).

Variables	Researcher group		Buddy group	
	N	%	N	%
Age (in years)				
13	0	0	12	40
14	0	0	18	60
15	17	56.67	0	0
16	13	43.33	0	0
Class				
VIII standard	0	0	14	46.47
IX standard	0	0	16	53.3
X standard	30	100	0	0
Age of mother (in years)				
25-30	0	0	5	16.67
31-35	17	56.67	9	30
36-40	10	33.33	11	36.67
41-45	3	10	5	16.67

Frequency and percentage distribution on level of knowledge regarding menstrual hygiene among researcher group and buddy group in pre-test. The study shows that more than half, that is, 70% of the subjects in the researcher group had moderately adequate knowledge and 30% had inadequate knowledge whereas, in the buddy group 63.33% of the subjects had moderately adequate knowledge, 33.33% had Inadequate knowledge and 3.33% had adequate knowledge regarding menstrual hygiene in the pre-test.

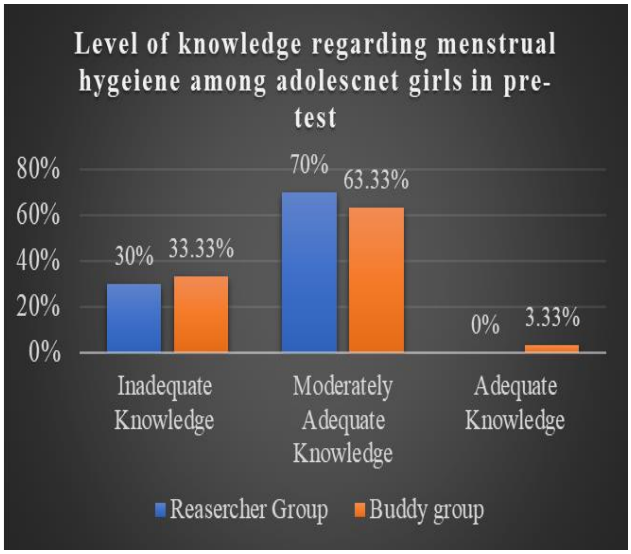

Figure 1: Frequency and percentage distribution of level of knowledge regarding menstrual hygiene among researcher group and buddy group in pre-test.

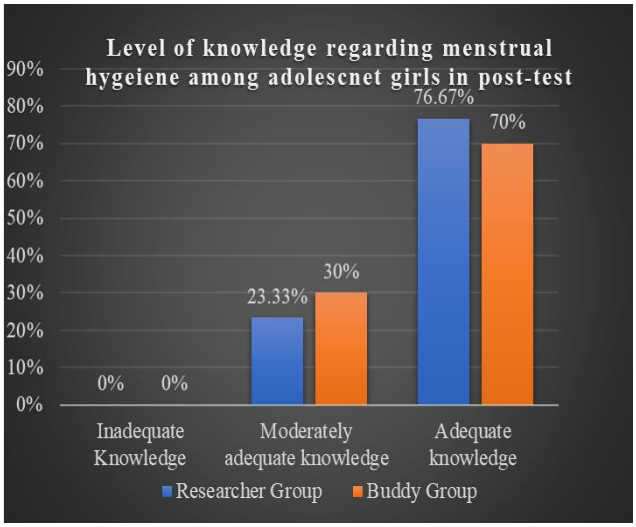

Figure 2: Frequency and percentage distribution of level of knowledge regarding menstrual hygiene among researcher group and buddy group in post-test.

Frequency and percentage distribution on level of knowledge regarding menstrual hygiene among researcher group and buddy group in post-test.

The study shows that more than half, that is, 76.67% of the subjects in the researcher group had adequate knowledge and 23.33% had moderately adequate knowledge whereas, in the buddy group 70% of the subjects had adequate knowledge and 30% had moderately adequate knowledge regarding menstrual hygiene in post-test.

Mean and standard deviation before and after planned teaching by using paired t test.

The study shows that the mean post-test knowledge score is 16.23 which is higher than the mean pre-test score of 11.87. The obtained 't' value is -10.850, and the calculated p=0.000 at p<0.05 levels. In the buddy group, the mean post-test knowledge score is 16.23 which is higher than the mean pre-test scores of 11.87. The obtained 't' value is -11.25, and the calculated p=0.000 at p<0.05 levels.

Table 2: Mean and standard deviation before and after planned teaching by using paired t test, (n=30+30).

Paired t test					
Level of knowledge	**Mean**	**SD**	**SD error mean**	**T value**	**P value**
Researcher group					
Pre-test score	11.40	±2.143	0.391	-10.850 df=29	0.000
Post-test score	16.33	±1.470	0.268		
Buddy group					
Pre-test score	11.87	±1.833	0.335	-11.255 df=29	0.000
Post-test score	16.23	±1.194	0.218		

df=degree of freedom

Association between level of knowledge regarding menstrual hygiene with selected socio-demographic variable.

The study shows that in the researcher group, there is a significant association between age (p=0.049), age of the mother (p=0.034), and type of family (p=0.029) at p<0.05 with the pre-test level of knowledge and in buddy group, there is a significant association between reaction on seeing blood for the first time from the genitalia (p=0.05) at p<0.05. There was no significant association between socio-demographic variables like age at menarche, educational status of the mother, occupation of mother, occupation of father, monthly family income, religion, place of residence, ever received education on menstrual hygiene, reaction on seeing blood from your genital for the first time, menstrual cycle, certain restriction in your activities during menstruation at home and pre-test level of knowledge regarding menstrual hygiene in the researcher group and in the buddy group there was no significant association between socio-demographic variables like age, age at menarche, educational status of the mother, occupation of mother, occupation of father, monthly family income, religion, place of residence, ever received education on menstrual hygiene, menstrual cycle, certain restriction in your activities during menstruation at home

Table 3: Association between level of knowledge regarding menstrual hygiene with selected socio-demographic variables, (n=30+30).

Socio-demographic variables	Knowledge		Statistical method used	P value
	Moderately adequate knowledge	Inadequate knowledge		
Researcher group				
Age (in years)			Fisher's exact test	0.049 df=1S
15	14	2		
16	8	6		
Age of mother (in years)			Fisher's exact test	0.034 df=1S
<35	16	2		
>35	6	6		
Type of family			Fisher's exact test	0.029 df=1S
Nucler family	20	4		
Joint, extended family	2	4		
Buddy group				
Confusion, fear, surprise	11	3	Fisher's exact test	0.05 df=1S
Discomfort, panic, happiness	9	7		

*S=Significant, NS=Not significant, at p<0.05, df=degree of freedom.

DISCUSSION

The findings of the study showed that out of 30 adolescent girls in the researcher group 70% of the subjects had moderately adequate knowledge and 30% of the subjects had inadequate knowledge regarding menstrual hygiene in the pre-test and the buddy group of adolescent girls 63.33% of the subjects had moderately adequate knowledge, 33.33% of the subjects had inadequate knowledge and 3.33% of the subjects had adequate knowledge regarding menstrual hygiene in the pre-test. The findings are supported by a study conducted in 2012 in Mana Madurai (Tamil Nadu) on the effectiveness of the child-to-child approach on menstrual hygiene among 60 school children that showed 93.3% older children had moderately adequate knowledge, 3.3% had adequate knowledge and 3.3% had inadequate knowledge of menstrual hygiene in the pre-test.[14] Similarly, among younger children, 73.3% had inadequate knowledge, and 26.7% had moderately adequate knowledge in the pre-test.

The study findings show that among the buddy group of adolescent girls, 76.67% had adequate knowledge and 23.33% had moderately adequate knowledge in the post-test. The mean and standard deviation before the buddy approach were 11.40 and ±2.143 respectively, which has been increased to a mean of 16.33 and a standard deviation of ±1.470 with p=0.000 (p>0.05). A study was conducted in Malaysia regarding the effectiveness of a buddy program training module to enhance the daily living function, social participation, and emotional status of older adults in residential aged care homes.[15] The training module involved 30 buddies and 30 older adults who needed help in their daily lives. There was a significant difference in mean and standard deviation of 83.43 and ±11.95 respectively, before the buddy training module.

The mean and standard deviation were 85.87 and ±10.45 after the buddy training module respectively

The study findings show that for the researcher group, pre-test knowledge scores regarding menstrual hygiene were found to be significantly associated with age in years p=0.049 (p<0.05), age of mother p=0.034 (p<0.05), type of family where p=0.029 (p<0.05) for the researcher group of adolescent girls. For the buddy group of adolescent girls, pre-test knowledge scores regarding menstrual hygiene were significantly associated with the reaction on seeing blood flow from the genitals for the first time where p=0.052 (p<0.05). There was no association between the post-test knowledge scores and selected socio-demographic variables. The findings are consistent with the study conducted in Tamil Nadu where there is no association between the post-test knowledge scores and their selected variables.[14] Therefore, using buddy approach to impart knowledge on menstruation and menstrual hygiene facilitates open communication to enhance practices which can be inculcated to overcome issues related to menstrual hygiene. It is cost-effective and fosters communication in ways that professional health team members may not be able to achieve.

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