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A study to assess the effectiveness of behavioral change communication on pubertal changes and menarche among the preadolescent girls in erayamangalam

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Abstract

The present aim was to assess the effectiveness of behavioural change communication on pubertal changes and menarche among preadolescent girls. A quantitative approach with one group pre testpost test design was used for the present study. 60 preadolescent girls were selected by using convenient sampling technique. Self-structured questionnaire method was used to collect both the demographic data and the level of knowledge on pubertal changes and menarche among pre-adolescent girls. Among 60 study participants, mean score of existing level of knowledge among preadolescent girls was that the post-test mean (16.2) was higher than pre-test mean (5.2). The standard deviation for pre-test is 2.8 and for post-test is 1.4. The study concluded that there is significant difference in mean post-test knowledge score and mean pre-test knowledge score regarding menarche ($t=25.974$). This study proves that effectiveness of behavioural change communication on pubertal changes and menarche among the preadolescent girls is effective method. And also it helps the preadolescent girls to improve to the knowledge and to provide the better quality of life.

Keywords: *Effectiveness, behavioural change, preadolescent girls, pubertal change*

Introduction

In humans, menarche is the process of physical changes by which a child's body becomes an adult body which is capable of reproduction. Menarche is initiated by hormone signals from the brain to the gonads (the ovaries and testes). In response, the gonads produce a variety of hormones that stimulate the growth, function, or transformation of brain, bones, muscle, skin, breasts, and reproductive organs. Growth accelerates in the first half of menarche and stops at the completion of menarche. Before puberty, body differences between boys and girls are almost entirely restricted to the genitalia. During puberty, major differences of size, shape, composition, and function develop in many body structures and systems. The most obvious of these are referred as secondary sex characteristics. Puberty is basically the organic phenomenon of adolescence it is the period of rapid physical changes and personality growth when individuals achieve nearly their adult body structure. Herman giddens (1997), reports that a substantial portion of girls have pubertal changes at age 7 years, the changes occur earlier in black than in white girls. The average age of puberty is 12.5. much earlier than the normal is called early puberty. The time of onset of puberty among Indian girls is 8-10 years. According to Howkins, the onset of menarche can depend up on various factors like heredity, environment, nutrition, stress, childhood, illness, exercises, dieting and socio economic factors. The end of adolescence and the beginning of adulthood varies by country and by function, and furthermore even within a single nation-state or culture there can be different ages at which an individual is considered to be (chronologically and legally) mature enough to be entrusted by society with certain tasks. Dasgupta (2017) ^[8] suggested that menstrual hygiene, a very important risk factor for reproductive tract infections, is a vital aspect of health education for adolescent girls. Educational television programmes, trained school nurses/health personnel, motivated school teachers and knowledgeable parents can play a very important role in transmitting the vital message of correct menstrual hygiene to the adolescent girl's of today. Jams (2012) ^[9] in a study on menstrual hygiene, reported that adolescent schoolgirls generally not have adequate knowledge of menstrual hygiene.

Thus the present study was undertaken to identify the learning needs of pre-adolescent girls with a view to develop and evaluate a planned teaching programme on menstrual hygiene. It will help them to improve their self-care ability and follow healthy and menstrual hygiene. Rakesh (2015) [10] reported that parents, especially the mothers do not educate their daughters about various aspects of menstruation such as age of its onset, its duration and healthy practices during menstruation. The girls are not motivated to take the event lightly. So, the inadequate knowledge, misconception and wrong ideas lead to undue fear, anxiety and undesirable attitudes in the minds of adolescent girls. The studies recommend a planned educational programme to enlighten young adolescent girls for healthy practices on attaining menarche.

Methods and Materials

Quantitative research approach was used in this study. The research design used for this study was One group pretest, posttest design. The study was conducted in Government girls hr. sec. school, Erarayamangalam, thiruvallur. The target population selected was pre-adolescent girls in Government girls hr. sec. school, Erarayamangalam, Tiruvallur. Preadolescent girls those who fulfill the inclusion criteria of the study were the samples for this study. The samples consisted of 60 of pre-adolescent girls. Convenience sampling technique was used for the present study.

Results and Discussion

• Characteristics of the pre-adolescent girls

The majority of pre-adolescent girls 41.7% (25) were in the age group 11 years. 41.7% (25) were 12 years and 16.6% (10) were 13 years. Regarding the standards the majority of pre-adolescent girls 60% (36) were VI standards, and 40% (24) were VII standards. Majority of the students 60% (36) were Christians and 40% (24) were Hindus. Regarding the mother's education the majority of the mothers 50% (30) were graduated, 15% (9) had secondary education and 35% (21) had high school education. Majority of the students 71.6% (43) belongs to Joint family and 28.3% (17) belongs to nuclear family. Regarding total family income, most of the students total family income was 68.3% (19) above Rs. \geq 10,000, and 31.6% (41) was < 10,000.

Table 1: Assessing the level of knowledge regarding menarche among pre-adolescent girls

Level Of Knowledge	Pre-Test		Post-Test	
	(N)	(%)	(N)	(%)
Adequate knowledge (61-100%)	0	0	60	100
Moderate knowledge (41-60%)	3	5.0	0	0
Inadequate knowledge (0-40%)	57	95.0	0	0

In the pretest 95% of the preadolescent girls had inadequate knowledge and 5% had moderately adequate knowledge whereas in posttest 100% of the student had adequate knowledge. The result shows that there is marked difference in the pretest and posttest knowledge scores of pre-adolescent girls regarding menarche.

The present study was supported by P.R.G. Paul Reji 2011 [11] a study to assess the effectiveness of structured teaching programme on menarche among the pre-adolescent girls in selected schools at Nagercoil, k. k. dist with a view to develop a pamphlet. In pre-test 57(97%) of the pre-adolescent girls had inadequate knowledge and only 3 (5%)

had moderate knowledge whereas in post-test 60(100%) of the pre-adolescent girls had adequate knowledge. The result shows that there was a marked difference in the pretest and post-test level of knowledge of pre-adolescent girls.

Table 2: Comparison mean, standard deviation of pre -test and post-test knowledge scores of pre-adolescent girls regarding menarche

S.NO	Knowledge	Mean	Standard deviation
1	Pre-test	5.2	2.8
2	Post-test	16.2	1.4

The score range obtained in the pre-test varied from 0-12 and in the post test from 14-19. It was evident from table 3 that the post-test mean (16.2) was higher than pre-test mean (5.2). The standard deviation for pre-test is 2.8 and for post-test is 1.4. The median of pre-test is 5.5 and for post-test is 16. The present study was supported by P.R.G. Paul Reji 2011 [11] a study to assess the effectiveness of structured teaching programme on menarche among the pre-adolescent girls in selected schools at Nagercoil, k.k. dist with a view to develop a pamphlet. The score range obtained in the pre-test varied from (0-12) and in the post test from 14-19. It was evident that the post-test mean (5.2) and the finding also revealed that the pre test scores were less dispersed, pretest SD \pm 2.8 and post-test SD \pm 1.4. The median for pre-test was (5.5) and the post test was (16).

• Effectiveness of behavioral change communication on knowledge regarding menarche among pre-adolescent girls

Table 3: Comparison of mean pretest with mean posttest knowledge score of pre-adolescent girls.

S. No.	Knowledge	Mean	MD	SDMD	t-value
1	Pre-test	5.2	11	1.4	25.974
2	Post-test	16.2			

The mean posttest knowledge score (16.2) was higher than the mean pretest knowledge score (5.2) and the mean difference is 11. The obtained 't' value ($t = 25.975$, $df = 59$) was significant at 0.01 level. It implies that behavioral change communication has significant effect in increasing the knowledge and there is a significant difference in the group with regard to the knowledge before and after behavioral change communication.

Comparison of mean difference standard deviation of mean difference and 't' value of posttest knowledge score regarding menarche among pre-adolescent girls.

The mean post-test knowledge score of Adolescent girls (16.2) was higher than the mean pretest knowledge score of the control group (5.2). The mean difference is (11). The obtained t value ($t = 25.974$, $df = 59$) was significant at 0.01 level. It indicates that the behavioral change communication has played a significant role in improving the knowledge of experimental group.

The present study was supported by P.R.G. Paul Reji 2011 [11] a study to assess the effectiveness of structured teaching programme on menarche among the pre-adolescent girls in selected schools at Nagercoil, k.k. dist with a view to develop a pamphlet. The mean post-test knowledge scores at pre-adolescent girls (16.2) was higher than the mean pretest knowledge scores (5.2) and the mean difference was 11. The

obtained t value ($t=25.974$, $df 5.9$) was significant at 0.01 level. It indicates that the structured teaching programme has played a significant role in improving the knowledge of pre-adolescent girls.

4. Association between the posttest levels of knowledge with their selected demographic variables

There was a significant association between knowledge score and education, but there was no association between the knowledge score and other demographic variables such as Age, Standard, Religion, Type of family and Family monthly income.

Conclusion

The study proves that behavioral change communication is highly effective in improving knowledge of pre-adolescent girls regarding pubertal changes and menarche.

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Author's contribution

All the authors actively participated in the work of the study. All authors read and approved the final manuscript.

Conflicts of interest

The authors declare no conflicts of interest.

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