Puberty Health Education in Iranian Teenagers: Self - Learning or Lecture and Discussion Panel?

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Abstract

Background. *Teenagers, a huge age group in developing countries, face a period with many physical, mental and social problems. Appropriate health education concerning their periodic development is of importance in community health services. The present study performed a comparative assessment of subjects' knowledge, attitude and practice, concerning puberty health programs.*

Method. *In an interventional study, 350 girl students aged between 12 and 14 were randomly selected through a two-phase sampling and divided into two parallel groups. Their knowledge, attitude and practice concerning puberty health were measured by a questionnaire for each subject. Then, one group was trained through a self - learning pamphlet and another participated in a discussion panel and some lectures about puberty health. Mean scores were obtained by a test and compared between groups as well as in pre- and post intervention using student t-test and paired t-test.*

Results. *Both groups were similar in scores before intervention. After intervention, mean score for knowledge significantly increased in both groups (P<0.001). In the self-learner group, mean scores for attitude were not significantly different after education (p=0.16 & 0.056, respectively); but in the other group, they were statistically remarkable (p<0.001& p=0.0001, respectively). The comparison of scores obtained in two groups showed significant increases in knowledge and practice levels through discussion panel (p<0.001); but no significant difference was observed concerning attitude (p=0.84).*

Conclusion. *Discussion panel is more effective than self-learning despite traditional and cultural obstacles in puberty health education for Iranian teenage girls.*

Key words. puberty, puberty health education, teenagers, Isfahan

Introduction

Adolescents in Iran comprise 27% of the total population (1). Health hazards due to the ignorance of physical and emotional puberty health adolescents face are studied in the developed countries (2-4) but there are a few studies in these regards in developing countries (5-6) especially in Islamic societies. As many individual physical, mental and social problems emerge during this period, quality health education must be emphasized for health promotion in developing countries (7). What are the effective ways for adolescents to receive information needed to maintain optimal health in their puberty period? Different teaching strategies are needed to meet individual needs, developmental capabilities, anxiety level, and the individual health beliefs (8).

During this study, two educational methods for puberty health promotion among Iranian teenage girls were compared. In one method, considering the possible high anxiety level caused by face-to-face education, self-learning pamphlets were used. The other method was lecturing and group discussion. After education, the effects were assessed by comparing the students' knowledge, health beliefs and practice toward puberty and maintenance of health in this important period.

Method

This interventional study was performed in five main education districts administrated by Isfahan Education Administration. Sampling was done randomly among girl students in 24 randomly selected schools as clusters. All clusters were distributed through the entire city. As Isfahan city has diversity in economical, social and cultural features, we classified junior high schools according to these features into 3 regions; low, intermediate and high socioeconomic classes. Then, the total number was estimated based on the number of students in each region. To distribute the selected sample

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Table 1. The comparison of knowledge, attitude and practice percentages in Iranian teenage girls concerning menarche and menstruation health before and after health education, in general.

	Knowledge	CI%95	Attitude	CI%95	Practice	CI%95
Before education	37%	32-42%	56%	64-73%	65%	60-70%
After education	60%	56-66%	59%	53-64%	69%	64-73%

Table 2. The score percentages of knowledge and practice concerning different aspects of puberty health in Iranian teenage girls after health education

	Knowledge	CI%95	Practice	CI%95
Mental health	12%	8-15(%)	54%	47-61(%)
Mouth & teeth health	25%	20-30(%)	55%	48-62(%)
Menstrual health	33%	24-42(%)	66%	59-73(%)
Menstrual nutrition	38%	33-43(%)	66%	59-73(%)
Menstrual Islamic precepts	46%	41-51(%)	88%	83-93(%)
Puberty features	55%	49-60(%)	-	-

Table 3. The comparison of knowledge, and practice means & standard deviations in two groups with different education programs concerning menstruation health and puberty features

	Knowledge	Attitude	Practice
Self - learner group			
Before education	11.42±3.36	84.2±13.2	96.77±11.15
After education	14.05±3.35	86.5±11.7	99.06±10.87
P_{value}*	0.0001	0.016	0.056(N.S)
Discussion group			
Before education	11.28±3.42	84.52±12.65	97.41±10.15
After education	22.69±2.5	93.8±11.7	108.25±10.58
P_{value}*	0.0001	0.001	0.0001
P_{value}**	0.001	0.84(N.S)	0.0001

* The difference between the states of each group before and after intervention;
** The difference between two groups after intervention.

through the city, we randomly selected our subjects from many schools in each region (12 from each school). Sample size was 350 randomized into two groups. At the beginning of the study, a questionnaire was completed by each girl. It included 30 multiple-choice questions for assessing knowledge (score=30), 30 questions for assessing attitude with 5 points in Likert ranks (maximum score = 150) and 30 questions for assessing practice (score range = 1-5 for every question). All uestions were related to puberty and puberty health including mouth and teeth health, mental health, menstrual nutrition, normal and abnormal puberty features, menstrual health and menstrual religious precepts.

The pediatricians, gynecologists and public health specialists confirmed the content validity of the questionnaire. Also, the reliability was determined by alpha-Krunbach as 0.96. Its variance of 1.5-2.5 was calculated by 5 points in Likert ranks. For examining the construct of attitude measuring, Mc Hoo & Wasser 48-item questionnaire concerning puberty and menstruation was translated into Persian. Then, the scale value was calculated in two groups of psychiatrics and students at the age of puberty including 100 (1:1). The correlation of our questionnaire and Mc Hoo & Wasser questionnaire was 82% and 89% based on psychiatrics' and students' scale value, respectively. This kind of instruction validity is called reliability among coders used when several observers are to be compared in regard to measuring. In fact, several observers who measure with the same instruction must obtain similar results, therefore, that measuring tool has reliability among coders.

The interventional education included two different methods for two groups. One group received self-learning pamphlets. The other group participated in two 2.5-hours sessions covering the same content as the pamphlets in group one, lectured by a health trainer. Also, there was a discussion panel including questions and answers concerning puberty and puberty health. Each session took 2 hours. The trainer answered the students' questions about puberty health (menstruation and its process, mouth and teeth health, mental health and the necessary physical activity in this period, etc). The trainer also had a specified program with clear aims and did the subsequent assessment by the first questionnaire. The pretest could motivate the subjects to find some answers for the questions proposed in the questionnaire and as a result this could cause a bias for the study. To prevent this bias and in order to assess mere effects of education, similar groups of girls in the same schools were trained.

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Results

The mean and standard deviation of the age of menarche in the study group was 12.5±1 years. Nearly 22 % of girls stated they had no knowledge about menstrual period before their first experience. Forty two percent of subjects preferred to obtain the required information about menstruation from their mothers. Nearly 88% of girls described their feelings as unpleasure concern about the menarche (51.4 % as anxiety and worry, 26.6 % as shame, 16.3% as indifferent and 5.7% as joy).

From statistical point of view, both groups were the same in knowledge, attitude and practice before education. The results are presented in Tables 1 to 3. According to the findings of this study, education through discussion was more effective to promote knowledge, attitude and practice, even in the presence of "shame" to ask questions.

Discussion

Cost-effective adolescent health education is essential in developing countries with young populations. Menarche, an important event during adolescence, causes physical and behavioral health issues and frequently needs assessment and intervention (7).

In the present study, the age of menarche was 12.5±1 years for the studied subjects. About 88% of our subjects felt some concern towards menarche. In a Chinese study (6), 52.2% of girls felt puzzled and disgusted with the onset of puberty.

Their tendency for questioning about puberty period via their mothers was 42%. The latter is the same as the one in a similar study by Azizi (11).

Before health education the results were as follows:

Their knowledge level at 37% showed a big gap in the areas of mental health, mouth and teeth health, menstrual health and following that menstrual nutrition, Islamic menstrual precepts and finally puberty features. The level of positive attitude was obtained at 56 %. In practice assessment, accurate level of practice was 65% with a remarkable gap in managing mental and emotional problems. The order of practice accuracy was the same as the one in attitude assessment. The above results elucidate the necessity of a comprehensive health education regarding puberty health in adolescent Iranian girls.

It had been previously assumed that self-learning method rather than discussion method was an efficient and cost-effective way to promote knowledge, attitude and practice in adolescent girls. The reason for this assumption was the level of anxiety caused by face-to-face education. But the results obtained in this study rejected this hypothesis, suggesting that group discussion is more effective than self-learning method to promote puberty knowledge in Iranian girls. It is in conflict with the result of another study that did not show any significant difference between the three educational methods (lecture, pamphlet and films) for promoting health knowledge in pregnant women regarding the pregnancy health care; all methods were effective (12). However, the results of the present study are similar to the ones obtained through a comparative study in contraceptive education using three methods: group discussion, lecture and pamphlet (13).

In the present study, the difference of attitude levels did not show any significant difference in two groups after education ($p=0.84$). In the self-learner group, there was no significant difference before and after education; but in the discussion group, there was ($p<0.001$).

The knowledge of Indian adolescent girls in a similar study (5) was poor and their major sources of information on menstrual and reproductive health problems were mainly television (73.1%), radio (37.1%) and parents (36.1%). They preferred to consult parents (49.2%) and doctors (44.6%) concerning their sexual health problems. In our study, the girls obtained it from mothers (42%), friends (20.6%), their teachers (14.6%), books, TV, radio, etc (6.8%).

Singh et al. emphasize on educating both schoolgirls and parents about adolescent health. Also, in a study (14) among 6^{th} and 7^{th} grade girls, the optimistic emotion during the menstruation increased remarkably almost as twice and ability of avoiding sexual intercourse was enhanced (14). Also, they showed an increase in knowledge and health behavior such as washing the external genitals during menstruation. The follow-up test showed that the effects of sex education lasted. In another study in China, the subjects whom have been studied, acquired sexual knowledge and information predominantly from magazines (10).

Conclusion

The importance of maintaining adolescent health in today girls and future mothers makes it necessary to plan a comprehensive health education for Iranian adolescent girls in schools.

It is also necessary to study their mothers' and teachers' knowledge concerning this aspect, and to perform a suitable puberty health education program for both mothers and teachers.

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