

# The effect of needs assessment-based education on the fathers' attitude about puberty of male adolescents

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## Introduction

According to the definition of the World Health Organization, the age group 10-19 is considered adolescence period [1]. This is one of the most important and precious times in a person's life since it is the beginning of the physical, mental, and social transformations and developments; a critical time when puberty occurs in it [2]. Puberty is a period for transition from childhood to adulthood,

## Abstract

Adolescence is the most important stage of every individual, and puberty is one of the most critical phenomena of this period. According to the important role of parents in helping children for safe and healthy transition of this stage, and the first step in educational program is need assessment of target group so, this study aimed to determine effect of need assessment-based education on father's attitude toward puberty health in male adolescents. This study is a quasi-experimental and the field trial. After determining fathers' educational needs by separate descriptive survey, a one-day educational workshop was planned. 30 subjects were randomly selected. Fathers' opinion measured by a researcher-made questionnaire and compared, before and after intervention. The data were analyzed by statistical software SPSS using Chi-square, paired t-test and Wilcoxon. The results indicates that there was a significant difference between total mean score as well as level of knowledge in pre-and post-intervention ( $P < 0.001$ ). There was a significant difference between total mean score of opinion about psychological-behavioral health and physical and sexual health in pre-and post-intervention ( $P < 0.001$ ), but level of opinion have no significant difference in before and after intervention ( $P = 0.4$ ). The results showed that needs assessment-based educational program can promote the opinion of parents about puberty period in male adolescents. This makes them better able to help their children for healthy transition of this critical period.

**Keywords:** Adolescent, Attitude, Fathering, Health, Needs assessments

and gaining reproductive ability [3]. Changes in puberty, lead to deep and considerable growth and development in adolescents, laying the foundations for life in adulthood and elderly times [1, 4].

Statistically, adolescents aged 10 to 19 years, currently have demographic prominence, and make up the largest age group in the world, and comprise 20% of the world's population

[5]. According to the latest census conducted in Iran, over 12% of the population (about 13 million people) is aged 10-19 years [6].

In today's world, adolescents' health is regarded as an independent issue, and especially emphasized since the International Conference on Population and Development in 1994 in Cairo [5]. Puberty is a stage in physical development of a person associated with appearance and progression of secondary characteristics, and represents correct physiological function of the body and its stages of progress are important in evaluation of the person's health [7]. Puberty events are not the same in every society, and as well as genetic factors, race, geographical region, nutritional factors, socio-economic status, are also involved in its and development stages [8]. Boys worry about the changes they observe in their body at puberty. Early or delayed puberty is also an issue that concerns them. Delayed puberty in boys is 8 times as common as in girls, which could have adverse psychological consequences such as emotional disorders, poor body image, and low self-esteem. Also, psychological consequences that follow early puberty include looking older than classmates, and higher expectation of the society because of their older looks [9]. Besides physical and bodily changes during puberty, adolescents are also faced with mental-psychological, social, and behavioral problems that may lead to anxiety and depression. Independence seeking is a prominent characteristic of this period, and causes the person to become aggressive, stubborn and spiteful of his parents. The real reason for these changes (physical, mental, behavioral...) are hormonal changes that occur in the body of the person in this period [10].

Even though it seems physical and health problems are less in boys than in girls during puberty, boys have to deal with several difficulties (physical, mental-psychological, and behavioral-social) in this period. High risk sexual behaviors, accidents, and

substance abuse are examples of adolescent risks that are far more common among boys [9]. For a safe and sound passage of boys from this critical stage in life, it is necessary that they have proper knowledge of puberty and its subsequent drastic physical, psychological, and behavioral changes. Currently, no special, formal academic puberty training is given to boys, and because of cultural obstacles, parents do not much relate to boys on this subject, to train them, which may lead to boys' getting their information from wrong sources (peers, uninformed people ...) [11].

Family as the first building block of community has the most important role in teaching their adolescents proper (and healthy) behaviors [6]. et al. in 2012 stated that parents have different knowledge and attitudes about adolescent's problems, and it is their right to know, but usually parents are not comfortable with sexual issues [12]. A study by Camper et al. in 2011 showed that if parents teach their adolescents, it improves their sexual knowledge and performance, and suggest that training through parents be used as an effective strategy in enhancing healthy sex in adolescents [13]. Fathers have a greatly important role for boys. Parents' lack of knowledge about changes and challenges during puberty could cause irreparable damage to adolescents [14].

Therefore, the need to educate parents about their adolescents' puberty is seriously felt. Needs assessment is the first and most fundamental step in healthcare system planning, which leads to greater efficacy of the educational program [15]. Needs assessment is highly important in educational program planning, and it should be institutionalized in implementation of educational programs. Yarmohammadian et al. and Jaffari et al. emphasized the importance of needs assessment in educational programs in their studies [15, 16]. There are a variety of methods that can be used to educate adults. In planning and holding educational courses, it should be noted that experience oriented courses with

feedbacks are effective. Compared to other methods, educational workshops contain more of these characteristics [17].

There have been several studies in Iran and worldwide on adolescents' health during puberty, mostly on pubertal girls. Very few studies have dealt with puberty in boys, and most of them have been on the adolescents' attitudes and awareness about this period [6, 7, 8, 11, 19]. Specifically, no study was found on awareness of fathers about their sons' problems during puberty. Sajjadi *et al.* found that fathers' awareness of sons' problems during puberty was very little, and less than 20% had proper attitudes toward physical and mental health and behavior of adolescents. The attitude of fathers was related to their education level [18].

Considering the important role of parents in teaching and guiding adolescents through provision of comprehensive and correct information, the need to educate them, lack of research in training fathers and their educational needs assessment about puberty of their sons, this study was conducted to examine the impact of education based on needs assessment on the attitudes of fathers toward puberty of their adolescent sons.

### **Method**

This is a single group, quasi-experimental study, conducted in pre-test/post-test design. To determine educational needs of fathers, a descriptive surveying study in needs assessment was carried out [19]. In accordance with the determined needs based on results of the surveying study, a one-day educational program (educational workshop) was designed and scheduled. The study population consisted of all fathers resident in Gonabad with a first year high school son. Sample size was determined as 25 using means difference formula at alpha level 5%, power 80%, and pretest mean 84.5, posttest mean 93.8, and scores of attitudes based on studies [20], so, 30 people were selected according to the study criteria. Study inclusion criteria were consent and desire to

take part, literacy, being younger than 60 years old, with physical, psychological and mental health for participation in the workshop. People were randomly selected from a number of high schools, and formally invited to partake in educational workshops. Subjects presented in workshop included physiology of puberty in boys, physical changes, mental-psychological and behavioral changes during puberty, and physical and sexual health during puberty that were taught by tutors according to their experiences and specializations (physiology, health education, psychology and counseling), in lecture with discussions, recitation, and presentation of sample. Attitudes of fathers before attending the workshop and two weeks after were measured and analyzed using tools of the study. Data collection tool included a questionnaire consisting of 4 sections; demographic details, assessment of fathers' awareness of puberty and changes in their sons, assessment of their attitudes toward mental and behavioral changes and parent-adolescent relationship, and physical and sexual health issues in adolescent boys.

Awareness was assessed with 12, 4-option questions. Each correct answer received 2 marks, wrong answers received zero and 'I don't know' option received 1 mark. Final awareness scores were between 0 and 24, and scores less than 8 meant low awareness, between 8 and 16 meant medium, and scores over 16 meant high awareness. The attitudes of fathers toward mental and behavioral changes, and parent-adolescent relationship were evaluated in 15 statements in 4-option Likert style with scores ranging 0-45. Scores less than 15 meant weak attitude, 15-30 moderate, and over 30 meant good attitude. Attitude of fathers toward boys' sexual and psychological health was also assessed by 11 statements 4-option Likert style with scores ranging 0-35. Scores less than 11 meant weak attitudes, 11-22 moderate, and over 22 meant good attitudes.

Reliability of the study tools had been assessed in the surveying study with test-

retest. In the study, conducted on 15 people, with one week interval, the coefficient of reliability was found to be 0.89 [18]. After reviewing the literature on the subject of puberty, a preliminary questionnaire was prepared to determine face and content validity of the study tool and was issued to 6 faculty members, all experts and experienced in the field (psychology PhD, health education PhD and MSc, counseling MSc, medical education development, physiology). Implementing their opinions and recommendations, the final questionnaire was prepared. The questionnaires were analyzed by SPSS-16 software using descriptive statistical tests (for determining frequencies, standard deviations, and distributions), and inferential tests such as chi-square, paired t-test, and Wilcoxon test with  $P < 0.05$  significance level.

**Results**

Mean age of participants was 47.9 (6.3) years and ranged 41-60. Most participants, 19 (63.3%), had high school diploma or higher. The highest frequencies, 8 (26.7%) participants were civil servants, 13 (43.3%) participants had 2 children (range 2-6 children), 20 (66.6%) participants had one adolescent boy, and in 15 (50%) this ranked second.

The study showed that the mean awareness of fathers about puberty of their sons before intervention was 8.2 (3.6), which increased to

16.2 (4.1) post-intervention. Also, the mean fathers' attitude about mental and behavioral health was 25 (6.5) pre-intervention and increased to 29.3 (7) post-intervention, and mean score of attitudes toward sexual health increased from 12.6 (4.4) pre-intervention to 16.3 (5.3) post-intervention. This difference was significant according to paired t-test ( $P < 0.001$ ) (Table 1).

**Table 1-** Mean of awareness and attitude of fathers toward puberty of their adolescent boys pre/post intervention.

Time	Variable	Pre (SD) Mean	Post (SD) Mean	Test results
	Awareness	8.2 (3.6)	16.2 (4.1)	$P < 0.001$
	Attitude (psychological and behavioral health)	25 (6.5)	29.3 (7)	$P < 0.001$
	Attitude (physical and sexual health)	12.6 (4.4)	16.3 (5.3)	$P < 0.001$

Results of the study revealed that before intervention only one person (3.3%) had a good level awareness, and after intervention, this increased to 16 (53.3%). This difference was statistically significant ( $P < 0.001$ ) (Table 2). The attitude of fathers toward psychological and behavioral problems and physical and sexual health of their adolescent boys had changed after intervention, but this difference was not statistically significant ( $P = 0.4$ ) (Table 2).

**Table 2-** awareness and attitudes of fathers toward their adolescent boys, pre/post intervention.

Variable	Time	Pre		Post		Test result
		Number	Percent	Number	Percent	
Awareness	Good	1	3.3	16	53.3	$P < 0.001$
	Average	12	40	12	40	
	Low	17	56.7	2	6.7	
	Total	30	100	30	100	
Attitude (psychological and behavioral health)	Good	7	23.3	9	30	$P = 0.40$
	Average	16	53.3	15	50	
	Weak	7	23.3	6	20	
	Total	30	100	30	100	
Attitude (physical and sexual health)	Good	4	13.3	5	16.7	$P = 0.63$
	Average	21	70	17	56.7	
	Weak	5	16.7	8	26.7	
	Total	30	100	30	100	

Results of the study showed that levels of awareness and attitudes of people toward problems during puberty are directly correlated with their education level ( $P < 0.001$ ). People with higher education were more informed, but still, their awareness was not at a good level. Compared to people with lower education levels, those with higher levels of education had better attitudes ( $P < 0.01$ ). The correlation between fathers' needs about problems of puberty period and other demographic elements was also investigated. Those with civil servant jobs were more informed and had better attitudes compared to other occupations (self-employed, manual workers, retired, and others), and this was statistically significant ( $P = 0.002$ ). No significant correlation was found between number of children, child order, major, and other demographic elements with fathers' attitudes.

### **Discussion**

By comparing attitudes of fathers toward puberty of their sons, pre/post intervention (educational workshop), it was revealed that the education program based on needs assessment elevated fathers' awareness and attitudes toward related issues of puberty of their sons, and mean awareness, levels of awareness, and also mean attitudes of participants had significantly increased post-intervention. However, the increased attitude levels in participants were not statistically significant.

There are few studies that specifically investigate fathers' attitudes toward their sons' puberty. *et al.* (2012), investigated parents' attitudes toward adolescents' health problems [12]. In a quasi-experimental study, *Campro et al.* examined the impact of educating parents on sexual health of adolescents. Results of this study showed that there was a significant increase in knowledge and behavior of adolescents in the education group about sexual and puberty health [13]. In a quasi-experimental study, *Afghari et al.* investigated the effect of education on

awareness, attitude, and performance of girls in relation to puberty, and results indicated that the mean score of awareness, attitude, and performance had significantly increased post-education [19]. A study by *Mohammadzadeh et al.* investigated the effects two educational methods on awareness, attitude, and performance in relation to puberty health. The results showed both educational methods significantly increased awareness and attitude scores of participants. The method was better able to elevate attitudes of participants, and after intervention, there was a significant difference between the two groups [20]. The results of these studies were in line with those found in the present study.

In another study by *Maleki et al.*, it was revealed that puberty health education taught by any reliable source (parents, teachers, and nurses) improves healthy behaviors. The score of healthy behaviors of participants generally showed a significant rise in all three groups after intervention. But, training given by teachers and nurses was more effective [5]. The results of a study by *Khabazan et al.* showed that people's awareness about puberty health had significantly increased after intervention [21], which confirms the results of the present study.

A study by *Sadeghnejad et al.* showed that both group discussion and significantly increased awareness and attitudes of participants in breast self-examination [22]. In the present study, attitude levels pre/post intervention did not significantly change in participants. Also, in *Mohammadzadeh et al.* study [20], the attitude level did not significantly change, which agrees with the results of the present study. In similar studies conducted by *Maleki et al.*, *Afghari et al.*, and *Sadeghnejad et al.*, only the mean score of attitude was investigated and not the levels of attitudes [5, 22, 19]. Lack of change in the level of attitude could be due to the fact that even with increased score of attitudes and improved perspectives of participants by the workshop, this increase was still insufficient for changing their level of attitudes, and

perhaps, there is a need for a continuous education to change attitudes.

Other findings of this study indicate a direct and significant correlation between attitudes of fathers and their level of education. Fathers with higher levels of education were more aware and had better attitudes toward their sons' puberty problems. This correlation also applied to occupation, and those fathers with civil servant jobs had better attitudes. The correlation between education level and attitude is a rational and expected result, but between occupation and attitude can also be attributed to education. as normally civil servants have higher education levels than people in other jobs (manual worker, self-employed ...), which could play a role in their awareness and attitudes. In Afghari et al. [19] study, there was a direct and significant correlation between attitude and level of education of parents, which concurs with the results of the present study. No correlation was found between awareness and attitudes of fathers with other elements such as age, number of children, child order, and having older children. In Maleki et al. study, no correlation was observed between healthy behaviors and age, occupation, number of children, child order, and education level of parents [5]. In Bromandfar et al. study, there was a reverse correlation between age and awareness, and no correlation was found with other elements such as fathers' education level [23]. The findings of the present study are in agreement with some of the above studies, but there was no agreement in correlation between factors like level of education and age, and attitude. This may be due to the differences in participants. The above studies were conducted to assess educational needs of boys and girls in puberty period, but the present study focused on educational needs of fathers about puberty period. This study was limited to a single group. In a quasi-experimental design, there is less certainty about the attribution of changes only to educational intervention. Another limitation was the relatively small sample size

in this study. Lack of similar studies for comparison and reference was another limitation. Considering that the study samples were from Gonabad only, extending the results to other parts of Iran may be difficult. This study is one of the few studies conducted in Iran on education of fathers for sons' puberty health, and could be regarded as a starting point for future studies. It is recommended that similar studies be conducted in different parts of the country with larger sample sizes, and better study plans such as randomized control trial.

### **Conclusion**

Provision of educational methods based on parents' needs assessment, in any form, can cause improvement in their attitudes toward their children's puberty health. For change and reform of attitudes, continuous education should be considered. Finally, it is recommended that an effective step be taken by holding educational courses (workshops, seminars, parent-teacher meetings ...) to increase awareness of, reform and improve attitudes of parents.

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### **Contributions**

Study design: MS, MM

Data collection and analysis: AA, NB

Manuscript preparation: MS, AI, MM

### **Conflict of interest**

"The authors declare that they have no competing interests."

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