



CODEN [USA]: IAJPBB

ISSN: 2349-7750

**INDO AMERICAN JOURNAL OF  
PHARMACEUTICAL SCIENCES**<http://doi.org/10.5281/zenodo.2551674>Available online at: <http://www.iajps.com>

Research Article

**KNOWLEDGE OF MOTHERS REGARDING THE GIRLS  
'PUBERTY IN SAUDI ARABIA**

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**Abstract**

**Background:** Puberty is the stage of individuals' life that involve the transfer from childhood stage to an adult stage. Puberty stage involve several changes including physical, psychological and social changes. The puberty stage in girls is very important as it affects not only the girl but also her offspring in the future, so girls should know enough about this stage. Mother is the closest person to her children especially daughters and she is the person responsible for girls' awareness. **Aim:** To assess the level of knowledge of mothers regarding the Girls' puberty. **Methods:** This is a cross sectional study that was conducted on mother during the period from 1 March to 31 July 2018, using an online survey. The survey included 2 parts of questions to investigate demographics and 4 dimensions of knowledge. **Results:** The mean  $\pm$  SD of knowledge was  $78 \pm 10.4$ , the highest mean  $\pm$  SD score of knowledge was found regarding physical puberty  $80.8 \pm 12.4$ . There were 87.1% of mothers had good level of knowledge. There was a significant weak positive correlation between age of mother and knowledge of social puberty ( $P=0.04$ ,  $r=0.2$ ) and there were a significant moderate correlations between education of mothers and over all knowledge as well as knowledge of physical puberty ( $p=0.01$ ,  $r=0.4$ ) and ( $P=0.02$ ,  $r=0.4$ ) respectively. **Conclusion:** There was an overall good knowledge, but there was low knowledge regarding nutrition in puberty.

**Keywords:** Mothers' knowledge, Puberty, Girls, KSA, Puberty in Girls

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Please cite this article in press Taibah Ali Alsaihati et al., *Knowledge Of Mothers Regarding The Girls' Puberty In Saudi Arabia.*, Indo Am. J. P. Sci., 2019; 06(01).

**INTRODUCTION:**

The individual enters a new phase of his life at the end of childhood period, this phase is known as juvenility, the conditions in this phase differ from the childhood phase [1]. The transition stage between childhood and adulthood is called puberty [2]. During puberty stage, several changes happen to the person including biological, psychological, physiological and social changes [3,4]. The onset of puberty is recognized by the manifestation of secondary sexual characteristics that include testicular enlargement in males and breast enlargement in females and pubic/axillary hair in both [2]. Girls in adolescent stage between 10-19 years old can show different reactions toward the changes occurs to them during puberty phase [5], hence they should be guided and learned properly about these changes [6]. The health of girls is more important than that of boys as the girls' health will affect the offspring [7]. The health of adolescents can be improved by increasing their awareness about the issues related to puberty [6]. However, the lack of information results in bad outcomes such as failure in marriage and psychiatric disorders such as anxiety [7]. It was reported that mothers are the main source of information for girls about the puberty stage and its transmission [8]. Another study showed that mothers considered that providing information about puberty and menstruation education to their girls was their duty [9]. The lack of mothers' information was the challenge associated with adolescent health education [10]. The present study was conducted to assess the level of knowledge of mothers regarding puberty health in girls.

**SUBJECTS AND METHODS:**

This is a cross sectional study that was conducted on mothers via an online survey. The inclusion criteria were mothers having at least one girl and could complete the survey totally; those who sent in completed survey or have no girls were excluded. The questionnaire had 2 parts the first part investigated the demographics of mothers, whereas the second part investigated the knowledge of mothers regarding 4 dimensions, the knowledge regarding physical puberty, nutrition in puberty, social puberty and psychological puberty. Each dimension included 6-8 multiple choice questions.

**STATISTICAL ANALYSIS AND SCORING:**

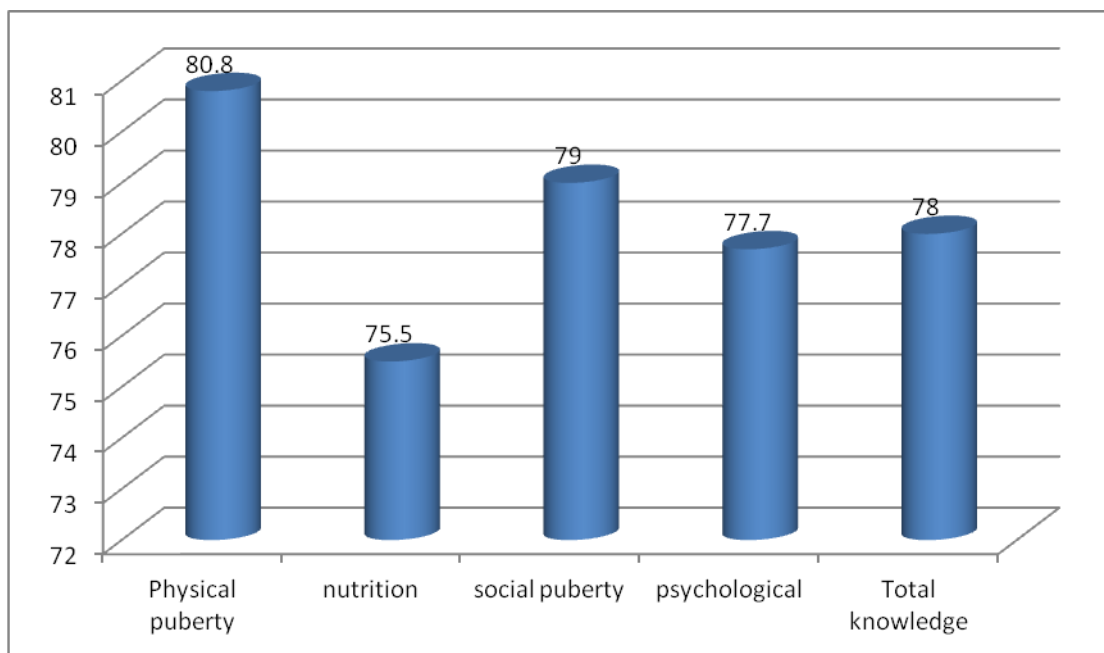
SPSS software version 20 was used to analyze the data, T-test and ANOVA were used to compare the means of data and Pearson correlation coefficient was used to make the correlations, P-value <0.05 was considered significant. The weak knowledge was identified at score of 1-33, whereas moderate and good knowledge were scored at 34-66 and 67-100 respectively.

**RESULTS:**

The present study included 700 mothers, the mean age was  $40.6 \pm 12.8$  years old. More than half of mothers 405(57.9%) had university education and the majority were housewives 609(87%), table1. The mean score of knowledge of the 4 dimensions and total knowledge is shown in figure1. The mean score of total knowledge was  $78 \pm 10.4$  and the highest mean score of knowledge was found regarding physical puberty  $80.8 \pm 12.4$ .

**Table1: Demographics of mothers**

Characteristics	N(%)
Age (Mean $\pm$ SD)	40.6 $\pm$ 12.8
Education	
Prep school	91(13%)
High school	204(29.1%)
University	405(57.9%)
Work	
Working	91(13%)
Housewife	609(87%)



**Fig1: Knowledge of mothers**

Regarding the level of knowledge, there were 610(87.1%) had good knowledge and the highest knowledge was found regarding physical puberty, where 650 (92.9%) had good knowledge, whereas the highest weak knowledge was regarding nutrition in puberty 49(7%), table2. There was a positive weak

correlation between the age of mothers and the level of social puberty knowledge ( $P=0.04$ ,  $r=0.2$ ), whereas there were a positive moderate correlation between education of mothers and overall knowledge ( $P=0.01$ ,  $r=0.4$ ) and physical puberty ( $P=0.02$ ,  $r=0.4$ ), table3.

**Table2: Distribution of Mother's Knowledge Scores in the Scopes of Physical, Nutrition, Psychological, and Social Puberty**

Type of knowledge	Mother's Knowledge Level N(%)		
	Weak (1-33)	Moderate (34-66)	Good (67-100)
Overall knowledge	20(2.9%)	70(10%)	610(87.1%)
Mother's knowledge of physical puberty	21(3%)	29(4.1%)	650(92.9%)
Mother's knowledge of nutrition in puberty	49(7%)	177(25.3%)	474(67.7%)
Mother's knowledge of social puberty	42(6%)	58(8.3%)	600(85.7%)
Mother's knowledge of psychological puberty	4(0.6%)	79(11.3%)	617(88.1%)

**Table3: Pearson Correlation Coefficient Between Maternal Age and education with The Knowledge Level of Mothers**

Type of knowledge	Age of mother		Education of mother	
	P	P	r	r
Overall knowledge	0.2	0.01	0.4	0.03
Mother's knowledge of physical puberty	0.07	0.02	0.4	0.04
Mother's knowledge of nutrition in puberty	0.09	0.7	0.2	0.2
Mother's knowledge of social puberty	0.04	0.07	0.1	0.2
Mother's knowledge of psychological puberty	0.4	0.06	0.1	0.1

**DISCUSSION:**

The present study included 700 mothers to investigate their knowledge regarding puberty health of their girls as the mother is the main source of information for girls about this issue. It was reported in Indian study that in most cases, mother was the main source of information [11]. The mean score of knowledge was 78, regarding the dimensions of knowledge, the highest mean score of knowledge was found regarding physical puberty, whereas the least score was found regarding nutrition in puberty. Similarly, a study from Iran [1] showed that the mean of total knowledge score was 78.17, however in the contrary to our findings, the Iranian study reported that the highest mean knowledge score was found regarding social puberty dimension [1]. The current study showed that high percent 87.1% had good overall knowledge about the puberty health of girls, only 2.9% had weak knowledge. Also, the highest percent of mothers 92.9% had good knowledge regarding physical puberty, whereas 64.7% had good knowledge in puberty nutrition, higher percents 88.1% and 85.7% had good knowledge regarding psychological puberty and social puberty respectively. It seems that there is a lack of mothers' knowledge regarding nutrition in this stage of girls' life. In agreement with our findings, the Iranian study [1] reported that 86.4% had good overall knowledge, but in contrast to ours they reported that the highest percent recorded good knowledge was regarding social puberty [1]. In our study, we investigated the factors that may influence the mothers' level of knowledge, age of mothers was significantly and positively associated with social puberty knowledge of mothers, whereas education was significantly and positively associated with the overall knowledge as well as the physical puberty knowledge. This positive association between

education level and overall knowledge as well as the physical puberty knowledge explains the high percent of participants to have good overall knowledge and physical puberty knowledge with a high mean in the score as well, as more than half 57.9% of mothers had university education and more than quarter 29.1% had high school education. A previous Iranian study [1] showed that age had no significant correlation with knowledge which differs from our findings, however the authors demonstrated that education significantly associated with total knowledge, knowledge of physical and nutrition puberty [1]. The influence of education on mothers' knowledge about puberty health was reported by Najafi et al [12] who reported the presence of such correlation. Another study reported a significant impact of mothers' education and the level of knowledge [13]. There was lack of research number about this subject, so we couldn't compare more results with ours, however this study showed there is a good level of knowledge among mother and this is a promising findings. Further studies are recommended around the world and in KSA in specific areas to find the other possible factors that may cause lack of knowledge to correct them.

**CONCLUSION:**

There was good level of overall knowledge about puberty health of girls among mothers, however increasing knowledge in some dimension should be performed, especially regarding nutrition dimension. This can happen by the family medicine doctors who can provide mothers the required information and provide them small books and websites to increase their knowledge.

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