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Mothers Literacy and Support: Puberty Health in Their Adolescent Girls

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ABSTRACT

Puberty is a transitional opportunity not to be missed and is accompanied with physical, Psychological and emotional changes. The aim of this study was to obtain the relationships between the level of mothers' literacy and feelings and experiences during puberty on teenage girls. This study took place in Tehran among teenage students. For this Cross-Sectional study through Cluster random sampling the total number of 386 female students were selected. Three research structured questionnaires in the fields of physical, psychological and social health measured the knowledge, attitude and behavior of adolescent girls, were done. Data was described and analyzed by using descriptive and analytical statistics. The average age of the subjects under study is 13.5 years old and the mean age at menarche was 12.5 years. Generally, 50% of the students had extensive knowledge and have more positive attitude towards health and puberty. Majority of the girls (79%) can completely define the meaning of puberty and its associated changes. 37% these students believed that it is a physiological phenomenon and about 46% considered this matter undesirable. Approximately 10% of these students experienced fear during menarche. Majority of the students' performance regarding adolescent's health were relatively excellent while one third of these students have excellent performance on this matter. Mothers were considered the most important source in providing the information and counseling and approximately two third of these girls have informed their mother first regarding their menarche before any others. This study showed that considering the mothers' role in providing information and experiences in the field of adolescent health, mother's education is still considered as a necessity to improve school literacy as well as health literacy.

Key words: Adolescent health, Adolescent girls, Mothers' literacy.

INTRODUCTION

Adolescence is the stepping stone for a child to reach adulthood (Bosch *et al.,* 2008). The onset of menstruation is part of a maturation process (Lee *et al.,* 2006). In some studies, menarche has been experienced as a turning point from childhood to womanhood and is associated with belonging to a new group and acquiring a new status in the family (Do Amaral *et al.,* 2011). The

way in which menarche is experienced may exert an impact on women's reproductive health, sexuality and lifestyle behaviors (Do Amaral *et al.,* 2011). Following the International Conference on Population and Development in Cairo in 1994, the social and general views on the subject of family planning have made a turning point in the consideration of reproductive health (Chegini 2009). Due to cultural and social reasons, girls' health in comparison to the boys is considered to have more importance for the reason that, puberty is not only important on the next stage of their life but also is important on the lives of their coming offspring. Unfortunately, lack of knowledge, attitudes and inappropriate behaviors on the part of the adolescents towards physical, spiritual and mental health would result to problems such as marriage failures, infertility, premature and risky pregnancy and psychiatric disorders such as anxiety and depression (Chegini 2009). A study conducted in Bangladesh in 2008 showed that adolescent girls and boys were not adequately informed about menarche and spermarche and about 64% of adolescent girls reached menarche with fear (Bosch *et al.,* 2008). In a study conducted by Jaffer in Oman in 2006 among 1675 teenage girls, showed that only 50% of these girls knew of the bodily changes that would take place on a female's body during puberty and a lesser number knew of the bodily changes that would take place on the male's body during puberty (Jeffer *et al.,* 2006). A qualitative study using in-depth interview conducted in the United States in 2004 among 22 multi-racial girls aged 14-18 showed that girls who have previous knowledge regarding the physical changes that would take place during puberty have confronted the changes more easily and were feeling much better (Teitelman, 2004). Studies conducted in some African countries indicated lack of knowledge and inadequate performance. Another study conducted in Nigeria in 2000 for the purpose of assessing the level of knowledge, attitudes and performance showed that 40% of these girls did not possess the needed knowledge regarding adolescent health and menstruation and 84% were not psychologically prepared for puberty and menarche and 66.3% have poor performance in terms of hygienic observance during menstruation (Abioye-Kuteyi, 2000). In a study conducted in 2006 among 400 adolescent girls in 20 villages in Lahore, Pakistan regarding reproductive health showed that 58% of these girls had enough knowledge regarding this matter and they believed that having enough knowledge on reproductive health would result to the promotion on the health of mothers, children and the future generation (Sheikh and Rahim, 2006). In similar studies conducted in Nepal in 2003 showed that, out of 96 girls aged 11-17, 73% did not have prior physiologic preparation on puberty and menstruation (Sharma and Gupta, 2003). While a study conducted in Oman in 2006 on 1675 female students in the guidance school level showed that only 50% of these girls have knowledge about physiologic and sexual changes that take place during puberty (Jeffer *et al.,* 2006). Another study conducted in Sweden in 2004 on 345 adolescent girls showed that education can increase the knowledge, understanding and attitudes of the girls regarding puberty and menstruation and an active intervention exactly before menstruation would result to improvement in the attitudes regarding this phenomenon (Rembeck and Gunnarsson, 2004). Due to the fact that relationship exist between the health of the girls of today to the health of future generations, therefore, conducting extensive research and efforts to promote the level of knowledge, type of attitudes and behaviors of adolescent girls in the field of adolescent health is in truth is considered an investment in achieving individual and social health (www.teengrowth.com). In the other hand, higher parents literacy and especially health literacy is very important to improve the outcome of not only physiologic procedures but also health disorders and diseases (Harrington *et al.).* Parents with low health literacy may struggle to help their children (Heather *et al.,* 2009). For this reason, this research was conducted in order to seek the answer this question, "girls in the 3rd level of guidance school in the city of Tehran; to what extent do they know regarding adolescent health, what are their attitudes and behaviors regarding this matter and, does the level of their mothers' education have any effect on this components? And depending on the results, educational program planning must be implemented by the Ministry of Education for students and for parents and teachers as well.

MATERIALS AND METHODS

This investigation was a cross sectional study (descriptive- analytical) that was conducted in Tehran. The population under study in this research consisted of female students in the third level of guidance school among the schools in Tehran. Considering the nature of the questionnaire, inclusion criteria for the participants are those girls who have just experienced menstruation. Based on previous studies, the mean age at menarche was reported to be 12-13 years (Lawan*et al.,* 2010; Ozdemir *et al.,* 2010; Kashani *et al.,* 2009; Gharravi *et al.,* 2008; Razzaghy-Azar *et al.,* 2008) among female students in the 3rd year of guidance school. In order to estimate the sample size, initially the total numbers of female students currently enrolled in the schools in Tehran were obtained from the Ministry of Education and based on Morgan table 371 samples were taken and basing on statistical formula and taking into consideration the type of study, 386 samples were finally taken. In order to acquire the statistical population, the cluster random sampling was used in such a way that Tehran was divided into 5 districts: central, north, east, west and south respectively and from each district a region and from each region a school is selected based on random selection. Also, in considering that the numbers of female students in each district were not equal, therefore, the number of samples pertaining to that district was determined based on the number of students, meaning (62 students in the northern district, 59 students in the central district, 87students in the western district, 109 students in eastern district and 69 students from the southern district).Also, necessary permission and coordination from the district and schools under study were obtained. Measuring tool were three questionnaires on knowledge, attitudes and performance in the field of adolescent health incorporated to demographic questionnaire of which after confirmation of its validity from relevant experts and professors, its reliability was also confirmed through test and retest. The questionnaires were composed of sub-scale multiple choice questions with only one option for each question to be selected by the participants. For scoring, the total score counted was calculated and were then distributed into the corresponding 5 areas: extremely low (extremely negative, extremely wrong), low (negative, wrong), average (relatively positive, relatively correct), high (positive, correct) and extremely high (very positive, very correct). Scores obtained by each respondent were categorized in the corresponding level. Questionnaires were implemented by experts from Undersecretary for Research and Technology, Ministry of Health and Medical Education (instructions and explanations were given in previous meetings) then data from the 386 students were collected. Data was described and analyzed with the use of descriptive and inferential statistical techniques (one way ANOVA and post hoc Tukey test). In order to compare mean results (mean age at menarche, mean score for knowledge, attitudes and performance) the one way Anova and post hoc Tukey test was used and all statistical procedures were done with the use of the SPSS software (version XI). In this research permission of the ethic committee was obtained and ethical principles in data gathering, data analyzing were considered. Informed consent was obtained from all participants and no personal identifier was recorded on the questionnaires.

RESULTS

The population under study in this research was 386 female students in the third level of guidance schools in Tehran. With regards to mothers' educational level 5% of the students did not respond to this questionnaire and for those student who responded, 1.7% have illiterate mothers, 33.8% were high school undergraduates, 41.1% have graduated high school, 7.8% have associate degree, 13.8% have bachelor's degree,1.5% have master's degree and only 0.3% have doctoral degree and or higher. Mean age of the respondents was 13.5 years old. The mean age of menarche was 1/1 ± 12/5 with a minimum of 9 and a maximum of 15 years of age. The mean age at menarche in different schools in different areas under study did not have any significant difference.78.8% of students were able to define puberty perfectly and the remaining 21.2% define it with some imperfections. In terms of the students' feelings toward puberty, 2% of the students did not respond to this questionnaire and for those students who responded, 45.5% expressed it to be unpleasant and troublesome while 36.7% have

expressed puberty to be a natural phenomenon and considered it to be pleasant and 17.8% did not give any comment and for them puberty does not make any difference. With regards to the time of the first occurrence of menstruation, results showed that 10.6% of students experienced fear and for some time did not tell this experience to anyone while 17.4% have prior knowledge and were prepared for necessary measures, 69% have notified their mothers and 3% notified their friends before taking any measures. Findings regarding students' knowledge, attitudes and performance are shown in tables 1-3. As shown in Table 1, the highest frequency is the students' high level of knowledge on adolescent health (50.3%) and the lowest frequency is on the level of knowledge which is (1.6%). Table 2 showed that (54.4%) of students have positive attitude towards adolescent health that accounted for the highest frequency and(1.3%) of students have extremely negative attitude towards adolescent's health. As shown in Table 3, the highest frequency (57%) is related to the students' relatively correct performance in the field of adolescent's health, while the lowest frequency pertain to students with highly correct performance (0.8%). The present study showed that students (respondents), studying in different schools and in different areas have significant differences in knowledge, attitude and practices in a way that from 5 school districts in 5 geographical location in Tehran, students studying in northern part of Tehran have significantly more knowledge and have better practices in comparison to other districts (P<0/05) and students studying in the southern part of Tehran have significantly lower knowledge and practices in comparison to other districts (P <0/05).Students studying in the central part of Tehran, had the most positive attitude towards puberty (P<0/05)and regarding the students studying in some other areas, no significant difference has been noted. Also, in this present study, a significant relation between mothers' level of education and the students' level of knowledge in the field of adolescent health has been observed (P<0.05) meaning that the mean score of students' knowledge with mothers who are high school graduates and higher while the mean score of students whose mothers have lesser education has been found to have significant difference (P<0.05). We therefore conclude that the higher the educational level of the mother, the higher knowledge students possess.

Results showed that a significant relationship exist between the mother's level of education and the students behavior in relation to adolescent health (P<0.05).In a way that students whose mothers having bachelor's degree and or higher, have higher mean score in terms of performance and appropriate practices in

Table 1: Frequency distribution of students' knowledge in the fields of health, physical and mental maturity

Level of knowledge	Frequency	Percentage
Extremely low	6	1.6
Low	27	7.0
Moderate	131	33.9
High	194	50.3
Extremely high	28	7.2
Total	386	100

Table 2: Distribution of students' attitude towards adolescent's physical and mental health

Types of attitude	Frequency	Percentage
Extremely negative	5	1.3
Negative	7	1.8
Moderate	139	36.0
Positive	210	54.4
Extremely positive	25	6.5
Total	386	100

Table 3: Distribution of the students' behavior towards adolescent's physical and mental health

Behavior	Frequency	Percentage
Poor (incorrect)	16	4.1
Moderate (relatively correct)	220	57.0
Correct	147	38.1
Highly correct	3	0.8
Total	386	100

comparison to students having mothers with lower level of education (high school drop outs) (P<0.05). It is important to note that there exists a significant relationship between the levels of maternal education to students' attitudes towards adolescent health. Also, in this study, 76.5% of students have expressed that the immediate family (mother) is the preferred source of advice on matters of adolescent health, 8.2% expressed that the source, whoever it maybe does not matter to them and 15.3 % preferred the source of advice to be the family. Also, 73.4% of the students have preferred their mother to be the source of education on adolescent health and 11.4% expressed that it does not matter with them who will be the source of information and 15.2% preferred their families.

DISCUSSION

Results of the present study showed that the mean age of menarche is 1/1 ± 12.5 years of age. Kashani et.al, in their study conducted in 2009 showed that the age of menarche in Iran was 12.65 years (Kashani *et al.,* 2009). In another study conducted by Gharavi et al., in 2008 in the northern part of Iran, showed that the average age of menstruation was 1.45± 12.2 (Gharravi et al., 2008). Another study conducted by Razaghi Azar et.al, in Tehran in 2006 showed that the age of menarche was 12.68 (Razzaghy-Azar *et al.,* 2006) which are very close to our study. Similar studies conducted in 2010 in the neighboring country of Turkey showed that age of menarche was between 12 and 13 respectively (Ozdemir *et al.,* 2010). In a study conducted in Nigeria in 2010 showed that the age of menarche was 8.0 ± 12.9 (Lawan *et al.,* 2010). In our study, only 17.4% of the students have prior information and preparation regarding menarche while study conducted by Tiwari in India showed that 37.2 % of adolescent girls were not prepared for their menarche (Tiwari *et al.,* 2006). Also, in this study, (45.5%)) of the students have considered puberty to be an unpleasant experience, while 1/3 (36.7%) have described puberty to be a physiologic phenomenon. In Tiwari's study, 31% have considered menstruation and puberty to be physiologic (Tiwari *et al.,* 2006). In another study conducted by Marvan et al., in 2007 among 126 girls before their menarche, majority have negative feelings regarding menstruation (Marvan *et al.,* 2007). Another study conducted by Ozdemir et al., in 2010 showed that in Izmir, Turkey, 52.9% of adolescent girls have described puberty and menstruation to be a physiological event (Ozdemir *et al.,* 2010). In this study, 50% of students have high and extremely high knowledge regarding adolescent health while in a study conducted by Sheikh in Pakistan (Sheikh *et al.,* 2006), showed that 58% of the girls under study have moderate knowledge about adolescent health and is consistent to our study. Results of the present study showed that majority of the students have positive attitude towards adolescent health (61%) but despite results obtained specially on the level of knowledge and attitudes, only 1/3 of the students observed correct health practices and this matter needs more studies. The only study on this field that is found in Iran was the study conducted by Bagherzad et al., in 1998 (Baghersad, 2000) showing poor practices and poor knowledge which is inconsistent with the results of our study. However, the former study has been done years before. Significant relationship exists between the mother's level of education on students' level of knowledge and health practices in this study and as well as in the study conducted by Abevie (Abioye- Kuteyi, 2000) in Negiria and in the study conducted by Bagherzad (Baghersad, 2000). In this study about 3/4 (73.4%) of students have considered their family to be the main source of education on matters regarding adolescent health. In a study conducted by Lee et al., in 2006 which is more consistent with our study, 80% of the source of information regarding menstruation and its disorders were the students' mother (Lee *et al.,* 2006). Study conducted by Tiwari (Tiwari *et al.,* 2006) in India also showed that in most cases, the main source of information on matters regarding menstruation is the mother. Qualitative study conducted by Hennik (Hennik *et al.,* 2005) in 2005 in Pakistan showed that majority of adolescent girls in that country obtained their information on matters regarding personal development and puberty from the member of their family. In this assessment, majority of the girls (69%) in the event of menstruation, the first person they will inform is their mother, which is consistent with the study conducted by Ozdemir in Turkey in 2010, showing 69.1% of Turkish girls informed their mother first about their menstruation before divulging this matter to others (Ozdemir *et al.,* 2010). Results of

this study showed that although the level of knowledge and attitudes of students and even their behavior towards adolescent health in mental and physical aspects has improved in previous decade, but still we need more education and in the case that majority of the family is considered the priority source of information and counseling, awareness and provision of educational training to mothers to build their capabilities on this matter. This training will serve to improve school education and increase health literacy as well and must be given important consideration in a way that the WHO has emphasized on improving women's awareness and promoting their health education (World Health Organization, 2008). So it is recommended to conduct this research in other provinces of Iran to compare the results. Also to intervention for improving the literacy of women especially in the field of reproductive health.

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