Effect of the Sexual Education Program on the Knowledge and Attitude of Preschoolers' Mothers

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ABSTRACT

Introduction: Sexual instinct needs education and training similar to other aspects of the human life. Education can promote changes in knowledge and attitudes of parents, especially mothers. Education has a main role in teaching healthy sexual behaviours among pre-school age children.

Aim: To investigate the effect of the sexual education program on the knowledge and attitude of preschoolers' mothers.

Materials and Methods: This quasi-experimental study was consucted in two healthcare centers in an urban area of Iran. Study subjects were preschoolers' mothers, which were selected using a multistage method. For each control and experiment groups, 39 individuals each were selected. The experiment group participated in four educational sessions in four weeks, one session per week. A self-administered questionnaire

was developed for data collection. Descriptive and inferential statistics were used for data analysis.

Results: Statistically significant differences in the mean score of knowledge and attitude between the groups immediately and eight weeks after the education program were reported (p < 0.001). The mean score of knowledge was increased from 27.23 to 34.2 immediately and to 37.44 eight weeks after the education program. The mean score of attitude in the experiment group significantly was increased from 48.54 to 59.15 immediately and to 64.49 eight weeks after the intervention (p < 0.001).

Conclusion: The sexual education program influenced the knowledge and attitude of preschoolers' mothers. Therefore, mothers should be empowered regarding children's sexual education.

Keywords: Awareness, Children, Opinion, Sexual training

INTRODUCTION

Preschooler sexual education is one of the family's main challenges and concerns across the globe [1,2]. While sexual issues are so common among teenagers and in teenage years, children are often avoided to learn about them. It is noted that sexual maturation does not appear all of a sudden in the teenage period and puberty. Sexual maturation is a process that starts right after birth and is required for the development of human's sexual aspects [3].

Family as the child's first source of education influences his/her sexual self-awareness and role as a boy or girl [4,5]. Parents have an outstanding role in the sexual socialization of children [6]. In the Iranian culture and context, owing to the superstitious customs including 'modesty and shyness', both in the family and the educational system makes dealing with sexual issues postponed to later ages [2]. The knowledge and attitude of families and especially mothers are important, because the family is the starting point of human life and spend the most time with children. While studies have emphasized the mothers' significant role in sexual education, they still feel incompetence in this area [7-9].

While sexual education is of great importance no systematic plan is available for it in the Iranian formal and informal educational systems [5,8]. The scientific evidence indicates that a number of obstacles to communicate about sexual issues are a necessity for preserving the child's purity and innocence and can lead to lack of knowledge about how to provide age-specific education to the child, feeling of discomfort and children's criticisms and judgments [10]. However, studies indicated that the provision of answers to the child's sexual curiosities not only does not bring about the child's early sexual activities, but also postpone them [11,12]. In this regard, studies have shown that Latin and Asian mothers hardly ever talk on sexual issues with their children [5,13]. If the parents inform their children sufficiently of sexuality and are treated with honesty and in accordance with the child's age, the child does not show an extraordinary excitement for obtaining information. Such children accept the world's surprise and they will feel satisfied in their role [14-16]. Parents who make their child aware of sex education by appropriate communication their children have a positive effect on sexual safety and outcome [10,17]. Therefore, sexual education for children is the basis for becoming a sexually healthy adult in the future [10,15].

There is some evidence about the significance of the child's sexual education; it has not yet been considered a right for childcare [18]. It is believed that research on sexual education among preschool children is low compared with education to youth and adolescents [6]. A few studies have been conducted on sexual education in Iran [5,19]. A probable reason is the effect of culture that considers children sexually innocent [6]. On the other hand, cultural influences may change the efficiency of any education program on sexual issues [5,20]. Education programs are guiet established in developed countries, where sex education for children is widely recognized [21]. In Iran, similar to other conservative societies, there are cultural and political barriers for the sexual education of preschool children. Given the above-mentioned reasons and cultural taboos surrounding children' knowledge about sexual issues [5], this study was conducted through the provision of educational materials based on the Iranian values and culture to instigate the effect of the sexual education program on the knowledge and attitude of preschoolers' mothers.

MATERIALS AND METHODS

This was a quasi-experimental study. The study was conducted from March 2016 to February 2017. Subjects were the mothers of preschoolers (3-6-year-old) visiting two healthcare centers of Valfajr and Kazemian affiliated with Iran University of Medical Sciences in

Registry of Clinical Trials (Code: IR.IUMS.REC.1394.9313593005,

an urban area of Iran. For preventing contact between the groups, distinct healthcare centers were choosen to study the subjects in control and experiment groups, one center for each group. Next, the healthcare centers were simple randomly allocated to either of the groups. For increasing the likelihood of similarities and demographic characteristics of the groups, two healthcare centers that were most possibly close to one another were chosen.

The sample size was determined to be 78 mothers according to $\alpha = 0.05$, $\beta = 0.1$, d = 2.5, the standard deviation reported by a previous study [22] and 10% possibility of dropouts (n=39 women in each control and experiment groups). Given that 835 women had 3-6 years old children in the selected healthcare centers, 10, 12, and 17 mothers were selected for 3-4 years old, 4-5-year-old, and 5-6-year-old age groups, respectively. Sampling was conducted simple randomly from each category considering the appropriate ratio based on the child's age from May to August 2016. The duration of the sampling process was four months.

Inclusion criteria for both control and experiment groups were, able to read and write in Farsi, Iranian citizen, no academic educational degree in psychology, educational sciences, medical sciences and paramedical sciences, no previous history of sexual educational workshops. Skipping one session of the educational program and any unpleasant event in the experimental group led to the exclusion of the samples.

The data collection tool was a form with questions about demographic data and preschoolers' mothers' questionnaire on the knowledge and attitude of sexual education. They were compiled in Farsi. The items were extracted using a review of the literature and previous similar tools [2,6,19,22-24]. The face and content validity of the questionaire was assessed using both qualitative and quantitative methods. For face-qualitative validity of the tool, face-to-face interviews were done with 10 mothers. For achieving face-quantitative validity, 20 mothers filled out the questionnaires to determine the importance of degree of each of the items. Then, the impact score was determined quantitatively for each of the items; items achieving impact scores higher than 1.5 were determined as 'appropriate'.

Content validity was done both qualitatively and quantitatively. For quantitative content validity, Content Validity Ratio (CVR) and Content Validity Index (CVI) were measured. For measuring CVR, 15 specialists were asked to respond on the necessity of each of the items. The CVR was measured. According to Lawshe's table, the items with scores less than 0.49 were deleted. For measuring the content validity index, the assessors and specialists were asked to score each item based on 4-point Likert scale relevance. Then the content validity index was measured. Thus, items achieving scores higher than 0.79 were considered as appropriate.

For reliability, the internal consistency and test-retest methods were used. For internal consistency, the Cronbach's alpha coefficient was calculated. Therefore, the questionnaire was filled out by 30 mothers with a ten-day interval. The Pearson correlation coefficients were 0.7 and 0.75 for knowledge and attitude, respectively. The Cronbach's alpha coefficient was 0.84 for the mothers' attitude about sexual education. There were 20 items for knowledge about sexual education for 3-6 years old children. Answers were categorized as 'Yes', 'No', and 'I don't know'. They were given two, zero and one scores, respectively. The lowest and highest scores were 0 and 40, respectively. The higher the knowledge mean score, the higher the knowledge level. There were also 15 items for attitude. The scoring for attitude was the Liker's five-point scale with 5= strongly agree, 4= agree, 3= undecided, 2= disagree and 1= strongly disagree. Negative items were scored inversely. The least score was 15, and the highest one was 75. Higher scores indicated better attitudes.

Ethical Considerations

The present study was performed after approval by Iran University of Medical Sciences Committee of Ethics. It was registered at the Iranian

s in N1 IRCT 2016 041027309). The researcher contacted with the mothers through making phone calls and explained the purpose and nature of the research. It was voluntary to take part in this study and all collected data was kept confidential. Those who willingly agreed to take part in this study were requested to sign the written consent form.

Data Collection Procedure:

The education program emphasized on the importance of children's sexual education, the role of parents (especially mothers) in sexual education, the appropriate age of sexual education, child sexual questions and parents' concerns about such questions, different methods of dealing with children who do not ask any question, different methods of sexual education, how to respond to child sexual questions and masturbation and preventing sexual abuse in children. The above-mentioned items were collected through a review of literature and considering the society's cultural background. The content of the educational program was reviewed and confirmed by sexual education specialists.

The experiment group with number six to ten individuals participated in four educational sessions, one session per week and received the sexual education program and educational movies related to each training session in the time. Grouping was done based on when mothers were able to participate in the training sessions, also the groups trained at different times during each week. Each session consisted of a lecture followed by questions and answers and group discussions by the mothers in Farsi on subjects predetermined in the educational program. Moreover, the mothers watched two short educational movies, which were in Farsi about different types of touch, the private parts of the body and abuse in a session, which was related to a variety of touches. Each session lasted for about one and hour a half. The experiment group completed the knowledge and attitude questionnaires in three phases, which are as follows before the education program; after the last training session and eight weeks after the last education session

The control group received normal healthcare services similar to the experiment group, also filled out the questionnaires three times similar to the experiment group. Having completed the questionnaires for the third time, the control group received the sexual education program and movies and trained if they were willing.

STATISTICAL ANALYSIS

The data were analyzed using SPSS software version 23.0. Chisquare, Fisher's-exact test and independent t-test were used to study the homogeneity of demographic variables in the two groups. The independent t-test was used to compare the mean score of knowledge and attitude in the experiment and control groups. The Analysis of Variance with repeated measures was used to compare the mean scores of knowledge and attitude before, immediately and eight weeks after the education program in the groups. p< 0.05 was considered statistically significant.

RESULTS

No attrition was reported in the groups, which could be attributed to the closeness of the samples' houses to the research environment and the researcher's full-time presence at the working hours in the healthcare centers.

The mothers' mean ages were 35.92 ± 4.68 years and 35.5 ± 4.19 years in the experiment group and control group, respectively. Comparison in the terms of demographic variables in the experiment group with the control group are shown in [Table/Fig-1].

[Table/Fig-2,3] Independent t-test was used to compare the mean scores of mothers' knowledge and attitude before, immediately and eight weeks after the education program in the two groups.

[Table/Fig-4] indicated that no statistically significant difference in the mothers' knowledge mean score before the education program,

Character- istic	Level	Experimental group (n=39) Number (Percent %)	Control group (n=39) Number (Percent %)	p-value
Maternal age (years)	< 30 30-34 35-39 >40	2 (5.1) 12 (30.8) 18 (46.2) 7 (17.9)	4 (10.4) 11 (28.2) 15 (38.5) 9 (23.1)	0.64*
Maternal education level	High school University	18 (46.2) 21 (53.8)	16 (41.0) 23 (59.0)	0.64**
Maternal occupation	Housewife Employed Self employed	22 (56.4) 17 (43.6)	23 (59.0) 14 (35.9) 2 (5.2)	0.86***
Economic status (Self report)	Poor Moderate Good	0 (0.0) 32 (82.1) 7 (17.9)	0 (0.0) 29 (74.4) 10 (25.6)	0.41**
Sources of information	No information Internet Book, magazine Workshop Friends TV	13 (33.3) 9 (23.1) 7 (17.8) 6 (15.4) 2 (5.2) 2 (5.2)	17 (43.6) 13 (33.3) 3 (7.7) 4 (10.4) 2 (5.2) 0 (0)	0.36***
Child's age range	3-4 years old 4-5 years old 5-6 years old	10 (25.6) 12 (30.8) 17 (43.6)	10 (25.6) 12 (30.8) 17 (43.6)	0.81*
Child gender	Girl Boy	26 (66.6) 13 (33.3)	19 (48.7) 20 (52.6)	0.44***

[Table/Fig-1]: Comparing the terms of demographic variables in the experiment group with the control group.

*Non-significant: Independent t-test

**Non-significant: Chi-square test

***Non-significant: Fisher's-exact test p< 0.05 was considered statistically significant

Knowledge	Experimental group	Control group	
Before intervention*	27.23±3.15	27.59±3.36	
immediately after interventions**	34.2±3.02	28.57±3.27	
8 weeks after interventions***	37.44±2.41	28.85±3.58	

[Table/Fig-2]: Comparison of mothers' knowledge score before, immediately and

eight weeks after the intervention in the study groups

Test applied: Independent t-test; p<0.05 was considered statistically significant

* Non-significant: p= 0.62 ** Significant: p < 0.001

*** Significant: p < 0.001

Attitude	Experimental Group	Control Group
Before intervention*	48.54±7.76	48.33±5.41
immediately after intervention**	59.15±4.35	50.51±6.11
8 weeks after intervention***	64.49±4.71	51±8.17

[Table/Fig-3]: Comparison of mothers' attitude score before, immediately and eight weeks after the intervention in the study groups.

Test applied: Independent t-test; p< 0.05 was considered statistically significant

* Non-significant: p= 0.89

** Significant: p < 0.001

*** Significant: p < 0.001

Time Variable	Group	Before intervention	Immediately after intervention	8 weeks after intervention
Knowledge	Control*	27.59±3.36	28.57±3.27	28.85±3.58
	Experiment**	27.23±3.15	34.2±3.02	37.44±2.41
Attitude	Control***	48.33±5.41	50.51±6.11	51±8.17
	Experiment****	48.54±7.76	59.15±4.35	64.49±4.71

[Table/Fig-4]: Comparison of mothers' knowledge and attitude scores before, immediately and eight weeks after the intervention in each group. Test applied: Analysis of variance with repeated measures; p< 0.05 was <u>considered statistically</u>

significant

* Non-significant: p= 0.15

- ** Significant: p < 0.001
- ***Non-significant: p= 0.0 *** Significant: p < 0.001

immediately after the education, and eight weeks after the education in the control group (F = 1.96, p = 0.15). However, a statistically significant difference in the experiment group was reported (F = 183.89, p<0.001). With regard to the attitude of the mothers, no statistically significant difference between the mean scores of the attitude before, immediately after the education, and eight weeks after the education program was reported in the control group (F = 2.72, p = 0.07). However, a statistically significant difference in the experiment group was found (F = 78.51, p < 0.001).

DISCUSSION

The findings of this study indicated that the sexual education program increased level of knowledge and attitude in the subjects. The mean score of knowledge was increased from 27.23 to 34.2 immediately and to 37.44 eight weeks after the education program. The mean score of attitude significantly was increased from 48.54 to 59.15 immediately and to 64.49 eight weeks after the intervention. A few studies have been conducted on sexual education among Iranian preschoolers [2,19] indicating that mothers had a low level of knowledge and attitude with regard to children's sexual education. According to a study in Iran, social concern in the field of sexual education was mentioned by its negative effects [25]. Also, parents used inappropriate methods for sexual education, because of lack of knowledge and skills about it. Inability to distinguish normal behaviours related to children's growth and sexual development and abnormal behaviour confused the parents for employing the use of appropriate educational strategies for their children. [2,21]. While children need sex education, adults are unable to respond appropriately to child's questions and sexual behaviours. They are eager to receive more information [26].

In the present study, the subjects' level of knowledge and attitude was approximately average before the education program and was better than that of the previous studies done in Iran [19,27]. The findings of a descriptive study on the needs for sexual education of preschoolers' parents in Iran indicated that only 25.9% of mothers were able to answer their children's questions correctly; this shows the families' incapability with respect to sexual education for their children. A 23.7% of mothers stated that in response to sexual questions their children changed the subject and 8.1% stated that they were severely upset and punished their child. 41.6% answered that every time you grow up, you understand yourself [27].

This difference is likely due to the different educational levels of the study subjects and the 'time and place' of the study done. The present study was done in the Iranian capital, and all the participants had college education level or at least high school diplomas, but the participants' descriptive study had elementary to college education levels [2,19]. Some major changes in parents' attitudes about sexual education are needed. Now-a-days, parents have more positive attitudes about sexual education and believe that sexual education should be taken seriously [28]. The findings of a qualitative study in Iran indicated that most parents believed that the child's sexual development should be started in families [2].

Most studies on sexual education in children have focused only on elementary school and teenagers [29-32]. The findings of a study in Korea were consistent with those of the present study. While the aforementioned study aimed at investigating the effect of education on preschoolers' mothers before and after the intervention [22], in the present study, the level of knowledge and attitude was measured before the educational Intervention, immediately after the education, and eight weeks after that. Therefore, the effect of sexual education on mothers' awareness and attitude was measured during the posteducation period.

In the present study, an increase was observed in the mean score of attitude in the control group, both four weeks and eight weeks after the program, but the increase was not statistically significant [Table/ Fig-4]. This increase was likely owing to the nature of the research

topic and the items of the questionnaire that improved curiosity and motive in the control group. Therefore, they might have attempted to seek information from their friends, relatives and some other sources.

The findings of other studies on sexual education for elementary school and higher-level students were consistent with the findings of the present study [29-32]. These studies emphasized that the sexual education programs for elementary school students should consider an individual approach and focus on students' strengths and different levels of understandings [31]. In a descriptive study in Turkey on physicians and nurses, 93.1% of subjects provided a high level of sexual education to children. Only 7.54% of subjects assumed that starting sexual education was ideal when children were in the age range of 7-12 years. Such a low percentage indicated a high level of attitude toward sexual education in the preschool age [23]. Given the participants' level of education and job in the aforementioned study, it is quite logical and reasonable to expect such a high level of knowledge and attitude toward sexual education. Compared to the above-mentioned study, the mothers' level of awareness were lower than that of doctors and nurses even after the intervention.

LIMITATION

Fathers of children were not involved in educational sessions, which might have affected mothers' views and attitudes on sexual education. Therefore, the mothers were provided with an educational booklet and were asked to study the booklet with their husbands. In case of having disagreements or questions on the booklet, they were asked to call the researcher. It is suggested that both parents are involved in future studies.

CONCLUSION

The findings of the present study indicated that the sexual education program affected the knowledge and attitude of preschoolers' mothers. Therefore, it is recommended that sexual education program be implemented in health centers where preschool mothers visit for their children's health care.

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