



The Effect of Mother's Education on Sexual Education of Preschool Children Based on Health Belief Model

ARTICLE INFO

Article Type

Original Research

Authors

Faraji S.¹ MSc,
Taymoori P.¹ PhD,
Gharibi F.² MSPH,
Bahmani A.*¹ PhD

How to cite this article

Faraji S, Taymoori P, Gharibi F, Bahmani A. The Effect of Mother's Education on Sexual Education of Preschool Children Based on Health Belief Model. Journal of Education and Community Health. 2021;8(4):299-306.

ABSTRACT

Aims Nowadays the necessity of informing children of various ages about sexual issues is felt more than ever before. The present study has been conducted to determine the effect of the mothers' education on the preschool children's sexual training based on the health belief model.

Methods The present study is experimental intervention research performed on 144 mothers with preschool children in 2020 in Sanandaj. The participants were randomly selected from 12 preschools by multi-stage cluster sampling method. The intervention was conducted through the use of a combination of in-person and remote training according to the constructs of the health belief model. The data were collected by the use of a researcher-constructed questionnaire the validity and reliability of which have been assessed and confirmed and subsequently analyzed using SPSS, version 23, through the descriptive and analytical statistics, including chi-square tests, fisher's exact test and t-test, one-way variance analysis, and LSD follow-up test and Kolmogorov-Smirnov test.

Findings The study results indicated that the mean values of the scores calculated for knowledge and perceived susceptibility constructs, perceived barriers, cues to action, and perceived self-efficacy in the intervention group's mothers following training were significantly higher than those of the control group ($p < 0.05$).

Conclusions The results of this study showed that 3 training sessions with the design of health belief model structures in mothers are effective in performing sexual education of children.

Keywords Education; Mothers; Sexology; Preschool; Health Belief Model

¹Department of Public Health, Faculty of Health, Kurdistan University of Medical Sciences, Sanandaj, Iran

²Vice-Chancellor for Resources Management Affairs, Kurdistan University of Medical Sciences, Sanandaj, Iran

*Correspondence

Address: Sanandaj, Pasdaran Street, Kurdistan University of Medical Sciences, Health Faculty, Public Health Department. Postal Code: 6617713446.

Phone: +98 (87) 33286654

Fax: +98 (87) 33625132

a_bahmani59@yahoo.com

Article History

Received: January 12, 2021

Accepted: June 01, 2021

ePublished: December 31, 2021

CITATION LINKS

[1] Evaluation of validity and reliability of "parents comfort to discuss ... [2] An overview of prevention of multiple risk behaviour ... [3] The new sexuality education curriculum for Queensland ... [4] Barriers and facilitators to maternal communication ... [5] There should be more help out here! A qualitative study ... [6] Sexual selection: A tale of male bias and feminist ... [7] The comparison of normal sexual behaviors in boys ... [8] A qualitative study on mothers's experiences from sex ... [9] Preliminary survey on puberty for adolescent girls: A ... [10] Developing and testing a sex education ... [11] Mothers' knowledge & perception about child sexual ... [12] Effectiveness of a sex education program for ... [13] Awareness of child sexual abuse prevention education ... [14] The sexual development and education of preschool ... [15] The effect of training of parental role on mothers' ... [16] Child abuse training and knowledge: a nationa ... [17] Prevalence of child sexual abuse: a corrective ... [18] Child police, role of pediatric police in dealing with ... [19] Theories, models and methods of health education ... [20] Patterns of sexuality communication between ... [21] A review of parental involvement in sex education ... [22] The role of parents in shaping and improving the ... [23] Sexual instruction of the children and adolescents ... [24] The effect of the sexual misbehavior prevention ... [25] Effect of the sexual education program ... [26] A comparison of natural sexual behaviors in ... [27] The effect of education about preventive behaviors ... [28] Assessing the impact of an educational ... [29] Influencing factors in the health promoting ... [30] Pap smear test structures for measuring ... [31] Using the health belief model to explain parents ... [32] Comparison the effect of conventional and distance ... [33] Blended learning on medication administration ... [34] Developing an E-learning education programme for ...

Introduction

Sex education is a measure that is taken from the early stages of human life for the balanced and proportionate development of his sexual instinct and its main goal is to increase sexual knowledge and increase peace in life [1]. All of the children need accurate gender education to understand how to healthy sexual behavior [2].

Parents have an important and effective role in the socialization, sexual health, and the development and formation of confidence in the future in children [3, 4]. Despite the barriers to communication between parents and children about sex education, we must note that parents are the most important and accessible people for educating children [5]. Parents imagine that the awareness of the children about the sexual issues would cause their deviation [6], while parents should be the first individuals who teach sexual matters to their children [7]. Determining the level of knowledge, the attitude of parents about the issue of sex education before sex education is a priority [8]. The role of the mother in transferring sexual issues is more prominent than others and educated women can be very good sources for the transferring of information to their children [9, 10]. Mothers can play a significant role in the prevention of children's sexual abuse through supervision, reduction of the risk factors, guidance, and education [11]. Many of the families avoid giving sexual information to their children due to low self-confidence, negative attitudes, and unwillingness for talking about sexual issues [12]. Since children are the most vulnerable in society and need the support of their parents, the enhancement of the parents' knowledge directly influences their children's knowledge [13]. The years before school are very important and influential for the children. The children's knowledge and behavior form in this period [14]. Sexual abuse of children leads to short-term and long-term consequences and the children's lives are physically, psychologically, and socially affected. The children who are subjected to sexual abuse suffer from depression, anxiety, eating disorders, sexual performance disorder, and social isolation that may be continued till adulthood [11]. A review study conducted around the world shows that Out of every four children, one child suffers from physical sexual abuse and has been abused at least once in their lifetime [15]. Based on the statistics published for the US, more than one million children are annoyed annually [16]. The analysis of 22 studies in the US indicated that 30-40 percent of girls and 13% of boys have experienced sexual abuse during childhood [17]. Based on the statistics for Iran, the grounds of the emergence of sexual violence towards children exist to a large extent. The high rate of addiction, expansion of suburbanization, increase in divorce and economic-cultural problems are amongst the cases justified in the studies performed about child abuse [18].

The health belief model is a preventive behavior model that includes the constructs of perceived susceptibility, perceived severity, perceived benefits, perceived barriers, cues to action, and perceived self-efficacy [12]. The theoretical foundations assert that if the individuals feel danger about their health status and sense the intensity of the problem, they would more likely exhibit the preventive behavior in case of knowing its advantages and if they find themselves not confronted with serious barriers for exhibiting it [19]. The studies performed by Waikaf *et al.* in 2007 demonstrated that pre-maturity is the best time for fathers and mothers to present their children with the messages for preventing sexual dangers before the initiation of the sexual behaviors [20]. The researchers in England emphasize the family empowerment programs due to the important role of the parents as the main individuals in the children's sexual training [21]. The studies indicated that the parents often need supports like information, motivation, and strategies that might help them attain favorable results, including the reduction or prevention of risky behaviors such as sexual abuse [22].

The present study has been carried out to investigate the effect of mothers' training on the prevention of preschool children's sexual abuse.

Methods

The present study is interventional research and the study population included mothers having preschool children in Sanandaj in 2020. Our sampling method in this study was random and based on the multi-stage cluster method. First, Sanandaj city is divided into three regions (based on location): good, medium, and weak in terms of social-economic status. In each region, two preschool centers were selected as the intervention group and two preschool centers as the control group randomly selected. In every center, 12 mothers of preschool children were randomly selected and, eventually, 72 mothers were placed in the intervention group and 72 others in the control group (In both intervention and control groups, 36 mothers with 6-year-old girls and 36 mothers with 6-year-old boys were selected). The study inclusion criteria were the ability of reading and write and understand the questions, informed consent and the tendency for participation in the study, and having passed no course on sexual training; the study exclusion criteria were migration and non-participation in the instructional sessions. The information-gathering instrument of this study was a researcher-constructed questionnaire that was prepared based on the health belief model and contained 75 preliminary questions. Considering the content validity and Cronbach's alpha estimation, the questions were reduced to 58 for the codification of which relevant texts' evaluation and experts' ideas were applied. The 58-item questionnaire has been codified in three parts. The first part includes four

questions about the demographic information of the participants; the second part includes 16 questions for assessing the knowledge (minimum score 0 and maximum score 16) and the correct answers are given a score equal to one and the wrong and "I don't know" answers are scored zero; the third part includes 38 questions related to the constructs of the health belief model. 8 questions for perceived susceptibility structure (minimum score 8 and maximum score 40), 6 questions for perceived severity (minimum score 6 and maximum score 30), 5 questions for perceived barriers (minimum score 5 and maximum score 25), 6 questions for Perceived benefits (minimum score 6 and maximum score 30), 6 questions for cues to action (minimum score 0 and maximum score 6) and 7 perceived self-efficacy questions (minimum score 7 and maximum score 35) were considered. For perceived susceptibility, perceived severity, perceived barriers, perceived benefits, and self-efficacy the instrument was rated based on Likert's five-point scale. In cases that the item signifies the positive consistency in an individual, the highest score equal to five is given to the answer "completely agree" and, respectively, scores equal to 4, 3, 2 and 1 are given to the answers "agree", "not sure", "disagree" and "completely disagree". For assessing the cues to action the correct answers are given a score equal to one and the wrong and "I don't know" answers are scored zero. In order to assess the content validity, five professors of health education and health promotion were used. The total content validity index found for the present questionnaire was 87% and Cronbach's alpha coefficient was calculated to equal to 0.86 for the reliability index.

In order to implement the plan, a confirmation letter was acquired from the medical ethics committee of the university and the required coordination was made with 12 headmasters of preschool centers for making the sampling. Considering the prevalence of coronavirus and the fear and worries of most of the mothers about attending the instructional sessions, efforts were made to present the instructions in the form of in-person and remote training. Therefore, for mothers who could not attend the instructional sessions, the training was presented virtually and through telegram and WhatsApp applications. In such

a way that the phone numbers were initially received from the schools and calls were made to them for inviting them to attend the study and the instructions were presented in the virtual space. The instructional content used in this study has been excerpted from the book "children and adolescents' sexual training (particular to parents and instructors) [23]; the instructional film prepared in this regard has been confirmed by the Ministry of Culture and Islamic Guidance. It is worth mentioning that the instructional content was identical in both of the training ways (in-person and remote) but also the method of lectures and questions and answers were used for mothers who attended training sessions. The training intervention for the intervention group was made in the form of three sessions within three weeks (one session a week) (Table 1). For mothers who were trained in person, lectures, educational videos, and questions and answers were used, and for mothers who were trained virtually, educational content and videos were sent. Before the educational intervention, the purpose of the study was explained to the target group and they were given sufficient assurance regarding the confidentiality of the information, and conscious consent was obtained from the target group to participate in the study. Then, permission to issue the plan was obtained from the university ethics committee. The questionnaire was completed before the initiation of the instructional intervention by the mothers in both of the intervention and control groups; three months after the last instructional session, the mothers were asked to again complete the questionnaire. The data were collected from the mothers who had been trained in person through administering them with the written questionnaire. The data were collected from the mothers who had chosen to be remotely trained through sending the questionnaire via telegram and WhatsApp applications and receiving them after they completed the questionnaire. The data analysis was carried out in SPSS, version 23, through the descriptive and analytical statistics, including chi-square tests, Fisher's exact test, t-test, one-way variance analysis, LSD follow-up test, and Kolmogorov-Smirnov test was used to check the normality of quantitative data. The significance level was set at lower than 0.05.

Table 1) Details content of "educational intervention based the Health Belief Model on the promotion of prevention of sexual abuse of preschool children in the experimental group

Sessions	Objectives	A summary of topics and activities	Time (minutes)
1	Familiarity of mothers with the concept of child sexual education; Making mothers aware of the dangers and threats of child sexual abuse; (perceived susceptibility and perceived severity)	Lecture and Q&A methods for mothers who attended the training sessions in person; Send content virtually using WhatsApp and Telegram programs for mothers who were trained in virtually	60
2	Initiation time of the sexual issues' instruction to the children; Proportion between these instructions and the children's age; dangers of the children's unawareness; Identifying and removing barriers facing mothers in education; (perceived benefits and perceived barriers)	For mothers who were trained in person, lectures and Q&A were used; For Mothers who were trained virtually, the content was sent as a voice recording	60
3	Empowering mothers to educate their children to prevent sexual abuse; (perceived self-efficacy)	For mothers who were trained in person, lectures, educational videos and Q&A were used; For mothers who were trained virtually, educational content and videos were sent	60

Findings

The findings indicated that the mothers’ average age is 32.3±6.7 in the intervention group and 34.1±6.6 in the control group (p>0.05). The intervention and control groups did not statistically differ in terms of education level, job, and the number of children (p>0.05). Mothers were selected equally based on the gender of the children (being a boy or a girl) in both intervention and control groups, and the same educational content was used to educate all mothers (Table 2).

The mean and standard deviation score of the mothers’ knowledge before intervention was 9.47±2.02 in the intervention group and 9.54±2.31 in the control group and no significant statistical difference was observed in this regard (p=0.85). No significant difference was observed in a comparison of the mean scores obtained for the constructs of the health belief model before instructional intervention in the intervention and control groups for perceived susceptibility, perceived barriers, perceived benefits, cues to action, and perceived self-efficacy (p>0.05) but a significant difference was documented for the perceived severity before intervention in both of the studied groups (p=0.03; Table 3).

After the intervention, the mean and standard deviation knowledge score of the intervention group was 10.46±0.67 which is significantly higher than that of the control, i.e. 9.65±1.80 (p=0.001). The mean scores of the perceived susceptibility, perceived barriers, cues to action, and self-efficacy were significantly higher after the instruction in the intervention group’s mothers as compared to those of the control group’s mothers (p<0.05). However, there was no significant difference between the mean scores of constructs like perceived severity and perceived benefits after the intervention in both of the studied groups (p>0.05; Table 2). According to the analysis of covariance (ANCOVA Test), the intervention did not affect the perceived severity structure.

The mean and standard deviation score of the mothers’ knowledge was 9.47±2.02 in the instruction group before intervention and it was 10.46±0.67 after the intervention hence the difference is statistically significant (p=0.0001). A significant difference was observed in a comparison of the mean scores of constructs like perceived susceptibility, perceived benefits, cues to action, and self-efficacy for the intervention group before and after the educational intervention (p<0.05). But no significant difference was evidenced for the constructs like perceived severity and perceived barriers in the intervention group before and after the instruction

(p>0.05; Table 3). The mean scores of the knowledge and health belief model’s constructs were not significantly different in a comparison of the two groups that had been subjected to instruction in presence and instruction via virtual space (p>0.05). The mean score of knowledge and perceived susceptibility constructs and perceived self-efficacy in both in-person and virtually groups compared to the control group showed that there was a statistically significant difference documented (p<0.05; Table 4).

Table 2) Comparing the frequency of variables in the mothers of the two studied groups (numbers in parenthesis are in percent)

Variable	Intervention	Control	p-value
Education			
Primary	6 (8.3)	1 (1.4)	0.26
Guidance	15 (20.8)	14 (19.4)	
High school	28 (38.9)	30 (41.7)	
University	23 (31.9)	27 (37.5)	
Job			
Housewife	62 (86.1)	61 (84.7)	0.81
Employed	10 (13.9)	11 (15.3)	
Number of children			
One	35 (48.6)	26 (26.1)	0.06
Two	30 (41.7)	29 (40.3)	
Three and more	7 (9.7)	17 (23.6)	
Gender			
Girl	36 (50.0)	36 (50.0)	0.99
Boy	36 (50.0)	36 (50.0)	

Table 3) Comparing the mean±SD scores of knowledge and constructs of HBM in the intervention and control groups before and after instruction

Assessment stage	Intervention	Control	p-value
Knowledge			
Before	9.47±2.02	9.54±2.31	0.850
After	10.46±0.67	9.65±1.80	0.001
p-value	0.0001	0.750	-
Perceived susceptibility			
Before	26.68±6.38	28.22±5.63	0.120
After	32.25±2.65	28.11±4.66	0.001
p-value	0.001	0.890	-
Perceived severity			
Before	21.35±2.02	22.32±3.34	0.030
After	21.21±1.51	21.58±2.45	0.270
p-value	0.640	0.130	-
Perceived barriers			
Before	16.93±2.19	17.18±2.85	0.550
After	17.01±1.54	17.79±2.02	0.010
p-value	0.790	0.140	-
Perceived benefits			
Before	24.76±3.30	25.75±4.60	0.140
After	25.79±2.37	25.90±3.91	0.840
p-value	0.030	0.830	-
Cues to action (external)			
Before	4.79±1.48	4.82±1.52	0.910
After	5.42±0.91	4.93±1.40	0.010
p-value	0.003	0.650	-
Self-efficacy			
Before	25.85±3.85	26.63±4.77	0.280
After	28.04±2.95	25.03±3.82	0.001
p-value	0.001	0.002	-

Table 4) Comparison of mean scores of knowledge and Health Belief Model constructs in individuals trained in-person and virtually with the control group

Group	Mean±SD	Group	Mean diff. ±SE	P-value
Knowledge				
In-person	10.65±0.59	In-person-Virtually	0.358±0.321	0.266
Virtually	10.29±0.69	In-person-Control	0.994±0.283	0.001
Control	9.65±1.80	Virtually-Control	0.637±0.272	0.021
Perceived susceptibility				
In-person	32.71±2.49	In-person-Virtually	0.864±0.896	0.337
Virtually	31.84±2.75	In-person-Control	4.595±0.790	0.001
Control	28.11±4.66	Virtually-Control	3.731±0.761	0.001
Perceived severity				
In-person	21.68±1.45	In-person-Virtually	0.887±0.478	0.065
Virtually	20.79±1.47	In-person-Control	0.093±0.421	0.825
Control	21.58±2.45	Virtually-Control	-0.794±0.406	0.052
Perceived barriers				
In-person	17.18±1.26	In-person-Virtually	0.308±0.425	0.470
Virtually	16.87±1.75	In-person-Control	-0.615±0.375	0.103
Control	17.79±2.02	Virtually-Control	-0.923±0.361	0.012
Perceived benefits				
In-person	26.32±2.57	In-person-Virtually	1.008±0.762	0.188
Virtually	25.32±2.09	In-person-Control	0.421±0.672	0.532
Control	25.90±3.91	Virtually-Control	-0.587±0.647	0.366
Cues to action				
In-person	5.44±0.86	In-person-Virtually	0.046±0.281	0.869
Virtually	5.39±0.97	In-person-Control	0.511±0.248	0.041
Control	4.93±1.40	Virtually-Control	0.464±0.239	0.054
Perceived Self-efficacy				
In-person	28.38±2.94	In-person-Virtually	0.646±0.808	0.426
Virtually	27.74±2.97	In-person-Control	3.355±0.712	0.001
Control	25.03±3.82	Virtually-Control	2.709±0.686	0.001

Discussion

The results of our study elevate the mothers' knowledge about the prevention of sexual abuse and increase the children's knowledge in this regard by their parents. By instructing the sexual care to the children at the proper ages and in a gradual manner, the children can be safeguarded in the area of sexual abuse. Such instructions contribute to the parents to better understand the concept of the children's sexual abuse and explain it to their children as to how they can prevent sexual abuse. In the present study, the instructions led to a change in the awareness and some constructs of the health belief model in the intervention group's mothers. Therefore, after the intervention, the mean score of the awareness in the intervention group's mothers was found to significantly increase in contrast to that of the control group's mothers. In line with these results, Khanjari's study [24] and Mobredi's study [25] were consistent with our study and showed that the sexual education program has a positive effect on mothers' knowledge. Probably in the current educational program, the use of educational video, providing relevant and applicable information and the introduction of books have increased knowledge. Sadegh Moqaddam *et al.* investigated the parents' sexual instruction needs in the city of Birjand and showed that only 25.9% of the mothers can respond correctly to their children's questions and this is reflective of the families' low ability in the area of their children's sexual upbringing [26].

In this study, the mean scores of the constructs like perceived susceptibility and self-efficacy were found

to increase after intervention (in both the in-person and remote training groups) as compared to the control groups. In line with this in the Nowruz study, the mean score of perceived susceptibility structures and perceived self-efficacy in the intervention group increased compared to the control group [27].

In the study by Yakubu *et al.* in northern Ghana, the results indicated that the mean scores of the constructs like perceived sensitivity and self-efficacy have been significantly increased after the instruction in the participants of the intervention group [28]. The similarity of these results can be a product of the instruction based on the health belief model. Mothers are worried about the risk of their children's sexual abuse and make efforts to empower them by training them for preventing their sexual abuse. On the other hand and in contradiction to the results of this study, the study by Mostawfi *et al.* did not show significant changes in the self-efficacy scores but did show a significant increase in the perceived susceptibility score in the intervention group after the educational intervention [12], and this difference might be a product of the difference in the target groups. In the study by Mostawfi *et al.*, the target group was comprised of the mothers of young girls but the target group of this study consisted of the preschool children's mothers so they might have empowered themselves more due to the low age of their children and their perception of their children's inability in protecting their body. In the present study, the mean scores of the constructs of the perceived intensity and perceived advantages were found not significantly different after intervention

between the groups that had been subjected to in-person and virtual training and the control group. In line with this study, no notable change was observed in the study by Mostawfi *et al.* for the mean scores of a construct like the perceived intensity and perceived advantages in a comparison of the intervention and control groups [12]. In a study that was carried out by Nowruzi and its results are consistent with what has been found herein, the mean scores of the constructs like perceived intensity and perceived advantages were found not significantly different after the intervention in a comparison with the control group [29]. This can be due to the effect of the instruction based on the health belief model or the disproportion in the time required for instruction based on this model's constructs. Inconsistent with the present study's results is the results of another study by Nowruzi *et al.* for both the in-person and remote training groups in terms of the mean scores for the construct "perceived advantages"; however, the mean score of the construct "perceived intensity" was found only increased in the in-person training group [27]. This can be due to the use of lecturing and question-and-answer methods during the in-person training intervention. It is suggested that training be held in person if possible. In a study that was conducted by Yakubu *et al.* in northern Ghana, the results indicated that the mean scores of the constructs like perceived intensity and perceived advantages are significantly increased after the intervention in the participants of the intervention group and the differences were found also statistically significant. In this study, the perceived intensity of pregnancy in the adolescents specified their motivation for avoiding sexual relationships [28]. This difference in perceived severity and perceived benefits compared to our study could be due to differences in the target group. It was seen in the present study that the mean score of such a construct as the perceived barriers was significantly reduced after the intervention compared to the control group. This is indicative of the positive effect of instruction on the elimination of the perceived barriers in the intervention group. The enhancement of the awareness and correction of the incorrect beliefs can play an effective role in the reduction of the perceived barriers. Therefore, the removal of the barriers in the instruction of sexual matters can empower the parents in the area of instructing their children. Several studies with results in accordance with those of the present study have shown that the perceivable barriers predict health-enhancing behaviors [30]. Offering useful solutions for overcoming these identified barriers can help mothers better instruct their children for sexual matters. In the study by Brock and Beazley who used HBM for measuring the participation of the adolescents' families in sexual instruction by their parents, it was demonstrated that the perceived barriers and perceived self-efficacy are

the most important predictors of the parents' avoidance of the sexual health instruction [31]. In our study, the structure of perceived barriers in the post-training intervention group increased slightly compared to the pre-training intervention group, which could be due to the impatience and inaccuracy of mothers in answering the questionnaire. In the present study, the mean score of the construct cues to action was found increased after the intervention in comparison to the control group. Contrary to our study in Yakubu [28] and Mostofi [12] study, the results indicated that the mean score of the construct cues to action" has not undergone any increase after the intervention in the participants of the intervention group in comparison to the control group. In our study, the introduction of a book on child sexual education probably increased the average score cues to action.

In this study, no significant statistical difference was evidenced in a comparison of the two groups that had been subjected to in-person and remote training. In accordance with the present study's results, Ebadi *et al.* documented no significant statistical difference between the in-person and remote training methods [32], due to the reason that use had been made in both of the foresaid instruction methods of identical contents. In contradiction to the results of the present study, the researches that have given a high superiority to the in-person or remote training can be pointed out. The results of the study by Sung *et al.* signified that the virtual instruction group has acquired better scores and it was shown that virtual instruction can heighten the knowledge more in contrast to class-based instruction [33]. This can be due to the reason that this study's target group includes university students who are more skillful in virtual training whereas the target group of our study included mothers with different education levels. The study by Chang *et al.* reported that the traditional groups acquire better scores in contrast to the virtual group [34], due to the reason that uses has been made for the in-person training group of lecturing and question-and-answer methods. The present study shows the positive effects of the educational programs designed based on HBM. Having not enough time for taking part in the instructional classes, non-participation in the in-person classes for the fear of getting sick due to the Corona Virus outbreak, and because both of the parents, the primary protectors of the children, play a considerable role in the sexual training of the children, the non-evaluation of the fathers is amongst the limitations of the present study.

Based on the results of the study, it is suggested that teaching sexual issues and ways of body care to children and adolescents in the home by parents, in kindergartens, preschools, and schools in Iran. Due to the increasing number of sexual abuse of children in Iran and the lack of necessary training on sexual

issues, educational interventions with these titles should be held on a larger scale for parents and teachers.

Conclusion

The results of the present study are expressive of the idea that the instructional intervention can positively influence the knowledge and some constructs of the health belief model, including perceived susceptibility, perceived barriers, cues to action, and perceived self-efficacy in the intervention group.

Acknowledgments: The authors appreciate all the people who participated in the study.

Ethical Permissions: Ethical considerations observed in this study included receiving the ethics code from the Kurdistan University of Medical Sciences (ethics code: A-10-1554-1), Full coordination with preschool principals to get the job done, obtaining informed consent from the participants, and assuring them to observe the confidentiality of personal information of the participants.

Conflicts of Interests: This article is retrieved from a master thesis entitled "Investigating the Effect of Mother's Education on Sexual Education of Preschool Children Based on Health Belief Model" in 2021 with the code of A-10-1554-1. The researchers have not reported any conflict of interest in this article.

Authors Contribution: Faraji S. (First Author), Introduction Writer/Main Researcher/Discussion Writer (40%); Taymoori P. (Second Author), Methodologist (10%); Gharibi F. (Third Author), Statistical analyst (10%); Bahmani A. (Forth Author), Main Researcher/Discussion Writer (40%).

Funding/Support: The research vice chancellorship of Kurdistan's medical sciences university is thanked for the financial sponsorship. Also, the dear mothers are thanked for their cooperation with the research group.

References

- 1- Youzbashi B, Maarefvand M, Hosseinzadeh S. Evaluation of validity and reliability of "parents comfort to discuss about sex topics" and " parents intention to discuss about sex topics" questionnaires. Quarterly journal of social work. 2017;6(1):37-43. [Persian]
- 2- Jackson CA, Henderson M, Frank JW, Haw SJ. An overview of prevention of multiple risk behaviour in adolescence and young adulthood. J Public Health. 2012;34 suppl 1:31-40.
- 3- Goldman JD. The new sexuality education curriculum for Queensland primary schools. Sex Educ. 2010;10(1):47-66.
- 4- Miller KS, Fasula AM, Dittus P, Wiegand RE, Wyckoff SC, McNair L. Barriers and facilitators to maternal communication with preadolescents about age-relevant sexual topics. J AIDS Behav 2009;13:365-74.
- 5- Mohajer N, Bessarab D, Earnest J. There should be more help out here! A qualitative study of the needs of Aboriginal adolescents in rural Australia. Rural Remote Health. 2009;9(2):1137.
- 6- Vandermassen G. Sexual selection: A tale of male bias and feminist denial. Eur J Womens Stud. 2004;11(1):9-26.
- 7- Sadeghmoghaddam L, Askari F, Akbari A, Mazloom SB, Keramati A. The comparison of normal sexual behaviors in boys and girls of 2-7 years old and mothers' performance on these behaviors. Horizon Med Sci. 2006;11(4):49-54. [Persian]

- 8- Abedini E, Tabibi Z, Ziaee P, Kheibari SZ. A qualitative study on mothers' experiences from sex education to female adolescents underlining cultural factors. J Fundament Ment Health. 2016;18(4):202-11. [Persian]
- 9- Anoosheh M, Niknami SH, Tavakoli R, Faghihzadeh S. Preliminary survey on puberty for adolescent girls: A qualitative study. Iran J Psychiatry Clin Psychol. 2003;9(2):64-70. [Persian]
- 10- Shirpak KR, Ardebili HE, Mohammad K, Maticka-Tyndale E, Chinichian M, Ramenzankhani A. Developing and testing a sex education program for the female clients of health centers in Iran. Sex Educ. 2007;7(4):333-49.
- 11- Alzoubi F, Ahmad Ali R, Hussein Flah I, Alnatour A. Mothers' knowledge & perception about child sexual abuse in Jordan. J Child Abuse Negl. 2018;75:149-58.
- 12- Mostofi N, Shamshiri A, Shakibazadeh E, Garmaroudi GH. Effectiveness of a sex education program for mothers of adolescent girls based on Health Belief Model on mothers' knowledge, attitude, and behaviour. J Pediatr Dimens. 2018;3(4):1-5.
- 13- Chen JQ, Chen DG. Awareness of child sexual abuse prevention education among parents of Grade 3 elementary school pupils in Fuxin City, China. J Health Educ Res. 2005;20(5):540-7.
- 14- Kurtuncu M, Akhan LU, Tanir IM, Yildiz H. The sexual development and education of preschool children: knowledge and opinions from doctors and nurses. Sex Disabil. 2015;33:207-21.
- 15- Cheraghi F, Rostaie Z, Asgari M, Shamsaei F, Tapak L. The effect of training of parental role on mothers' attitude with children aged 1-5 years with respect to children' abuse. Iran J Health Educ Health Promot. 2017;5(3):182-90. [Persian]
- 16- Starling SP, Heisler KW, Paulson JF, Youmans E. Child abuse training and knowledge: a national survey of emergency medicine, family medicine, and pediatric residents and program directors. Pediatrics. 2009;123(4):e595-602.
- 17- Bolen RM, Scannapieco M. Prevalence of child sexual abuse: a corrective metanalysis. J Soc Serv Rev. 1999;73(3):281-313.
- 18- Labbaf F. Child police, role of pediatric police in dealing with child abuse from the perspective of police and welfare organization. J Police Knowl. 2014;16(2):43-62. [Persian]
- 19- Safari M, Shojaezadeh D, Ghofranipour F, Haydarniya A, Pakpoorhajiagha A. Theories, models and methods of health education and health promotion. 3rd edition. Tehran: Sobhan; 2012. pp. 53-73. [Persian]
- 20- Wyckoff SC, Miller KS, Forehand R, Bau JJ, Fasula A, Long N, et al. Patterns of sexuality communication between preadolescents and their mothers and fathers. J Child Fam Stud. 2008;17(5):649-62.
- 21- Turnbull T, van Wersch A, van Schaik P. A review of parental involvement in sex education: The role for effective communication in British families. Health Educ J. 2008;67(3):182-95.
- 22- Pop MV, Rusu ASJP-S, Sciences B. The role of parents in shaping and improving the sexual health of children—lines of developing parental sexuality education programmes. Procedia Soc Behav Sci. 2015;209:395-401.
- 23- Nazari N. Sexual instruction of the children and adolescents (specific to parents and instructors). 1st Edition. Tehran: Aftab-e-Giti; 2020. pp. 43-51. [Persian]
- 24- Khanjari S, Modabber M, Rahmati M, Haqqani H. The effect of the sexual misbehavior prevention instruction program on the awareness, attitude and performance of the

school-age children's parents. Iran J Nurs. 2017;29(104):17-27. [Persian]

25- Mobredi K, Hasanpoor Azgahdy SB, Azin SA, Haghani H, Farahani LA. Effect of the sexual education program on the Knowledge and attitude of preschoolers mothers. J Chin Diagnostic Res. 2018;12(6):6-9.

26- Sadegh Moghaddam L, Askari F, Akbari A, Mazloun S, Keramati AJHos. A comparison of natural sexual behaviors in 2-to 7-year-old girls and boys in Gonabad and how mothers approach these behaviors. Horiz Med Sci. 2005;11(4):49-54. [Persian]

27- Noroozi F, Tahmasebi R, Noroozi A. The effect of education about preventive behaviors of urinary infection based on health belief model by attending and non- attending educational programs in pregnant women. Alborz Univ Med Sci J. 2015;4(4): 237-47. [Persian]

28- Yakubu I, Garmaroudi G, Sadeghi R, Tol A, Yekaninejad MS, Yidana A. Assessing the impact of an educational intervention program on sexual abstinence based on the health belief model amongst adolescent girls in Northern Ghana, a cluster randomised control trial. Reprod Health. 2019;16(1):124.

29- Noroozi F, Noroozi A, Tahmasebi R. Influencing factors

in the health promoting behaviors of Urinary system based on health belief model in pregnant women in Bushehr 2013-14. Iran South Med J. 2015;18(3):597-606. [Persian]

30- Karimy M, Shamsi M, Araban M, Gholamnia Z, Kasmai P. Pap smear test structures for measuring health belief model and factors affecting women in urban centers covered Zarandieh. Qom Univ Med Sci J. 2012;6(3):52-9. [Persian]

31- Brock GC, Beazley RP. Using the health belief model to explain parents' participation in adolescents' at-home sexuality education activities. J Sch Health. 1995;65(4):124-8.

32- Ebadi A, Yousefi Goshtasb Sh, Khaghanizadeh M, Hosseini SMJ, Raeisifar A, Masoumi M, et al. Comparison the effect of conventional and distance training on nurses\clinical skills. J Mil Med. 2010;12(2):71-4. [Persian]

33- Sung YH, Kwon IG, Ryu E. Blended learning on medication administration for new nurses: integration of e-learning and face-to-face instruction in the classroom. Nurs Educ Today. 2008;28(8):943-52.

34- Chang WY, Hsiao Sheen ST, Chang PC, Lee PH. Developing an E-learning education programme for staff nurses: Processes and outcomes. Nurs Educ Today. 2008;28(7):822-8.