ORIGINAL ARTICLE

The Effect of Education on the Attitude and Child Abuse Behaviors of Mothers with 3-6 Year Old Children: A Randomized Controlled Trial Study

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Abstract

Background: Child abuse is a kind of domestic violence of children under the age of 18 which potentially or actually damages all aspects of their health. This study was conducted to determine the effect of education based on growth and development with home-visiting follow up on the mothers' attitude and child abuse with 3-6-year-old children.

Methods: This controlled trial study was carried out in two rural community health centers in Khorasan Razavi province in Iran, during April 2016 to Jun 2017 on 64 abusive mothers of 3-6-year-old children. The data collection tools included the 32-item adult adolescent parenting inventory (AAPI) and the questionnaire of child abuse. By using multi-stage random sampling, the mothers referring to two health centers were assigned to the experimental (N=32) and control groups (N=32). The intervention group received parenting educational interventions based on child growth and development and after being followed up for eight weeks through home-visits. The data were analyzed in SPSS-16, using descriptive statistics, analytical tests including the Chi-square, independent t-test, and Mc Nemars test.

Results: After the intervention, the overall score of parenting attitudes was found to be significantly increased ($P<0.001$), and the prevalence of most abusive behaviors towards children was significantly reduced ($P<0.05$) in the intervention group compared to the control group.

Conclusion: According to the results, this educational program was found to be significantly more effective in improving parenting attitudes and preventing child abuse compared to routine childcare programs in health centers.

Trial Registration Number: IRCT2016052628094N1

Keywords: Attitude, Child abuse, Child development, Health education, Home visit

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Introduction

Child abuse is a kind of domestic violence[1] that involves all forms of physical, emotional and sexual maltreatment and negligence of children under the age of 18 which potentially or actually damages all aspects of their health.[2] The prevalence of sexual and physical child abuse has respectively been estimated to be about 4 per 1000 and 3 per 1000 cases.[3] Of a sample of 2750 children, 53% were reported to have suffered physical abuse and 28% emotional abuse.[4]

Today, child abuse is proposed as a health priority in different countries owing to its widespread risk factors and profound effects it exerts on the growth and development of children, families and society.[5] Different factors are associated with this phenomenon, including drug use,[6] the psychological status and the education level of parents, family conflicts, residential area (rural and suburb versus urban settlement), knowledge deficits associated with child growth and development, as well as attitudes towards education.[7, 8] In addition to severe cases of abuse or violence, i.e. willful misconduct, which causes great damage to children, behaviors that are presumably performed for training children can also be considered child abuse.[5] Parents normally tend to be perfect and are concerned about their child development; however, they sometimes give themselves the right to punish their children in whatever manner they prefer and cause the most common type of domestic violence, i.e. child abuse.[9] The lack of the knowledge, skills and competence necessary for the care of children and meeting their safety, developmental and nutritional needs are the most common factors contributing to child abuse[1] and impaired parenting, which involves all families, not just high-risk families.[10]

Childhood is a fundamental stage in life which establishes and forms one's personality.[10] According to Erikson's theory of psychosocial development, innovation versus guilt occurs during the preschool years, when children develop their social world and learn to behave purposefully to deal with challenges.[11] The behaviors normally presented by children at this stage include sleep disorders,[12] nutritional problems, toilet problems, urinary incontinence,[13] gender identity development, mood swings,[12] selfishness and stubbornness. These characteristics mainly appearing due to changes in the capabilities of 3-6-year-old children may cause behavioral changes and child abuse in parents.[13] Research suggests that child abuse is more prevalent in mothers than in fathers,[14] and that child abuse and neglect are preventable.[15] Numerous social, communicational and personal programs have been, therefore, recommended and developed to prevent the child abuse, including parents' educational programs and the communication programs proposed by the World Health Organization (WHO) for preschool children.[16] These programs are used as the primary strategy for preventing the abuse of vulnerable children[1] and treating mainly the children with behavioral problems rather than the healthy ones.[17] They also tend to mostly investigate the parenting skills, parents' psychological health and parent-child conflicts instead of misconduct, impaired parenting as well as the knowledge and educational needs of parents for child development and management of their behaviors.[1]

Although child growth is monitored in Iran's healthcare system,[18] child protection services are not assigned a top-priority for preventing the child abuse.[19] Some health centers in Iran have been recently teaching parenting styles and the management of child misbehavior to volunteer mothers, but they have failed to focus on teaching parenting behavior based on the characteristics and requirements of child growth and development. Primary healthcare services provided for parents, especially mothers, are interpreted as educational and advisory services, as is the case in some other countries.[20]

Home visiting serves as a useful and valuable support and education strategy for the staff of the primary healthcare system, especially nurses, for directly communicating

with families, investigating the interaction with children in their habitat, referring the children and their family to support centers on time, identifying developmental strengths and weaknesses in children,[21] and identifying vulnerable children to child abuse and neglect. Nurses, particularly community health nurses and family nurse practitioners, are in charge of child abuse interventions as they have the opportunity to teach parents about health needs, lifestyle and especially parenting roles.[1] In Iran, home visiting can be implemented in rural areas to actively follow up the services, the status of sick children or delayed vaccinations in the case of parents' failure to respond to phone calls. Nurses in Iran often work in hospitals, and even community health nurses in the health system are not involved in providing primary healthcare services, which is a responsibility of health care providers with university degrees in cities and those without academic degrees in villages.[22]

The effect of home visit program was assessed on the growth and development of newborns in Iran.[23] Also, some studies conducted in Iran investigated the prevalence of child abuse and the relevant factors including family factors[7, 24] and attitudes towards child abuse[25] in nursing and other disciplines. Also, some studies addressed parenting styles training to improve parenteral attitude regarding child abuse in mothers[26, 27] and also about two to six year old child rearing rules through completed SOS(Help For Parents) program, in primary health care settings in high-risk and normal populations[18, 26] without using the home-visiting strategy.

Given the importance of parent-oriented training programs on preventing child abuse, especially in nursing discipline, the key role of parents in child development and the necessity of normalizing the parent support strategy[20] through primary healthcare system and services rather than the secondary and tertiary interventions performed in hospitals and social welfare organizations,[18] the present study was conducted in the primary healthcare system to determine the effect of an educational program designed based on growth and development with home visiting strategy follow up on parenting attitude and abusive behaviors of mothers with 3-6 year old children.

Materials and Methods

This is a trial study using pretest-posttest design during April 2016 to Jun 2017. The study population comprised mothers of 3-6 year old children, who were covered by two health houses in Torbat-e-Jam in Khorasan Razavi province in Iran. The convenience selection of these two health houses was carried out in two nearby villages, due to the cultural similarity and availability of research intervention through primary health care and follow up by home visits. The sample size was calculated as about 28 in each group based on a similar study,[28] a confidence interval of 95% and a test power of 80%. Given a drop-out rate of 15%, a total of 32 subjects were assigned to each group. The inclusion criteria comprised the lack of parental drug addiction and abuse, no history of psychiatric problems and treatments in parents, the father being employed and having a source of income and the mother being a housewife, a minimum education level of primary school for mothers, the family being nuclear, parents being responsible for child training and care and mothers giving consent to home-visits and participation in the study. The inclusion criteria for children comprised the lack of physical defects and disabilities and being firstborn. The exclusion criteria consisted of mothers' unwillingness to cooperate more and absence in the training course for at least two sessions as well as children's developing a disease requiring hospitalization.

The data collection tools included the 32-item Adult-Adolescent Parenting Inventory (AAPI) and the questionnaire of child abuse. The AAPI originally was developed by Stephen J. Bavolek in 1984 to assess parenting and child rearing attitudes of adults and adolescents. AAPI has four

subscales including expectations of children (6 items), parental empathy towards children's needs (8 items), belief in the use of corporal punishment (10 items), and reversing parent-child family roles (8 items). The items were scored on a five-point Likert scale of 'strongly disagree (5)', 'disagree (4)', 'uncertain (3)', 'agree (2)' and 'strongly agree (1)'. The overall mean score ranged 32-160. A high score indicates appropriate parenting. Reliability and validity of the AAPI are reported on data from over 6500 adolescents and 2000 adults nationwide in the original version. Construct validity was established through inter-item correlations, item-construct correlations, and factor analyses. The internal reliability of the AAPI ranges from 0.70 to 0.86 for adults and adolescents. The internal consistency of the items indicated adequate levels of reliability for each construct (Construct on Expectations: 0.70; Construct on Empathy: 0.75; Construct on Corporal Punishment: 0.81; and Construct on Family Roles: 0.82). The test–retest reliability coefficient of the items showed an adequate level of stability (0.76) over a one-week period.[29]

In Iran, AAPI questionnaire designed by Parsa et al. was translated into Persian (by two experts in English) and back-translated into English by two other people who were experts in both English and Persian. Reliability of the four constructs of AAPI was tested before the study. Within the final model, most factor loadings were above 0.70 and all were above 0.30. Therefore, the quality of the constructs ranged from appropriate to excellent by considering the internal consistency of the reliability analysis of the scales. In this study, Cronbach's alpha coefficients were calculated in a pilot study with 30 eligible subjects and an actual study with 240 mothers who breastfed and those who never breastfed, as 0.76 and 0.79 for AAPI. Cronbach's alpha coefficients for expectation, empathy, belief in punishment and reversing parent-child roles subscales were 0.75, 0.79, 0.81 and 0.75 respectively, and presented appropriate levels of internal consistency for the questionnaire.[30]

Also, in Cheraghi et al.'s study, AAPI Cronbach's alpha coefficient was calculated 0.81; also, Cronbach's alpha coefficients for expectation, empathy, belief in punishment and reversing parent-child roles subscales were 0.81, 0.82, 0.80 and 0.83 respectively, which confirmed its reliability.[27] Negative attitudes were attributed to scores 32-64, neutral attitudes to scores 65-96 and positive attitudes to scores 97-160.[26, 27]

The questionnaire of child abuse was developed by Iranian researchers[7] to investigate frequency and different kinds of abuse towards children by parents. This questionnaire includes information about parents and children, physical abuse including slapping, burning, pinching, not feeding, use of belt and wood stick, and throwing things, psychological-emotional abuse and neglect including confining, disregarding, comparing with others, using verbal insults, humiliating the child before others, abandoning, and tying to the chair. The answer for each item is dichotomous and participant's answer is "yes, I did" or "no, I did not" this child abuse behavior. The validity of this questionnaire was confirmed by content validity, and a Cronbach's alpha of 0.79 confirmed its reliability.[7] In our study, besides determining the frequency of mothers doing any types of child abuse according to this questionnaire, mothers who positively responded that they had done at least one item in each dimension of violence were identified as child abusers.

Multistage sampling was used to select the subjects. At first, to match the geographical and cultural conditions, and also information transmission prevention, we used simple sampling and selected one of four rural community health centers of Torbat-e-Jam in Khorasan, Iran, and two of the four health houses in the rural community health center. Then, an initial list of families whose firstborn was 3-6 years old was obtained from the healthy child care office in each health house, which included 201 families in the first health house and 172 in the second. Based on the inclusion criteria, 73 families

were ultimately selected from the first health house and 94 from the second health house. The health worker helped us to contact and invite the mothers to participate in the study. After obtaining informed consent, we asked the mothers to complete the child abuse questionnaire. According to the completed questionnaires, 39 mothers were found to be child abuser in the first health house and 41 in the second. By simple random sampling, thirty-two subjects of each health house were selected so that the number of female and male children in both groups was equal. Simple random sampling was then used to assign the first health house to the intervention and the second health house to the control group (Figure 1). After the AAPI was completed by the study subjects, parenting attitude was investigated in both groups. Based on the developmental characteristics and needs of 3-6 year old children, parental caregiving behavior was taught to the intervention group in five 90-min sessions. The educational sessions included physical, emotional, psychomotor and nutritional growth and developmental characteristics, and common behavioral changes at this age group as well as proper parenting methods for dealing with these changes. The discourse-based method of education along with questions and answers and exercise cases were used to train the subjects. After completing the educational intervention, a 2-month follow-up was conducted through the home-visit of each of the families for at least twice. The first visit was arranged for two weeks after the end of the course and the second for 2-4 weeks after the first visit to investigate the mothers' parenting behavior and the family needs and to give advice on caregiving methods that fit the developmental needs of children and the family conditions. Upon the completion of the follow-ups, in order to determine the effects of the sessions and follow-ups, the AAPI and the questionnaire of child abuse were completed again by the mothers in both experimental and control groups.

The data collected were analyzed in SPSS-16, using descriptive statistics (frequency, mean, standard deviation), analytical tests including Chi-square, independent t-test for the comparison with different groups, and

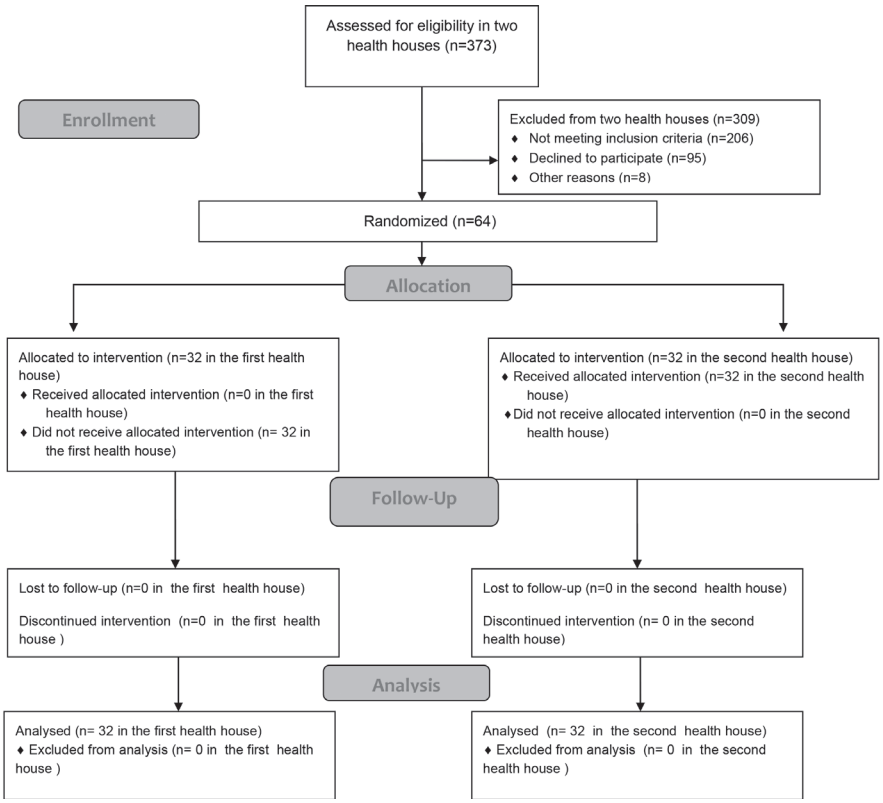

Figure 1: Consort flow diagram of the participants

Mc Nemar's test to analyze before-after study paired data regarding the frequency of the mothers did a type of child abuse behaviors within each experimental and control groups. The level of significance was determined as $P<0.05$.

The ethical principles considered in the present study comprised receiving the approval of the Ethics Committee (with ethical identification code: GMU.REC.93.51) and authorities of the university, briefing the subjects on the study objectives, asking them to sign informed consent forms, and assuring them of the confidentiality of their information followed by home visits. Also after completing the study, the educational program was administered to the control group.

Results

Table 1 presents the demographic information of the families and their children as well as the data associated with the children's health in the experimental and control groups. According to this Table, the participants and their husbands were both young and have diploma or lower education levels; there were no significant differences in the study demographic variables between the two groups ($P>0.05$).

As shown in Table 2, no significant differences were found between the two groups in terms of the overall mean score of parenting attitude before the intervention ($P=0.27$), but it showed statistically significant differences after the intervention ($P=0.001$).

According to Table 3, which compares the frequency of child abuse in the experimental and control groups based on the Chi-square test, all mothers in the two groups had harmful behaviors before the intervention. Physically abusive behaviors, such as slapping ($P=0.005$) and using wood for punishment ($P=0.04$), were

Table 1: Comparison of demographic variables in the experiment and control groups

Variables	Experimental group N=32	Control group N=32	P value*
	Mean±SD	Mean±SD	
Age of mother (years)	25.34±3.14	24±2.92	0.08
Age of husband(years)	29.19±2.44	28.22±2.12	0.09
Age of child (months)	52.28±15.79	52.81± 12.68	0.88
Birth Weight of child (kg)	3.29±0.36	3.18±0.44	0.28
child Weight at the time of study (kg)	16.56±2.97	16.25±2.78	0.66
	N (%)	N (%)	P value**
Husband's educational level			
Primary	12 (37.50)	3 (9.30)	0.06
Secondary	11 (34.40)	14 (43.80)	
Diploma	8 (25.00)	13 (40.60)	
University	1 (3.10)	2 (6.20)	
Participant's educational level			
Primary	6 (18.80)	2 (6.20)	0.21
Secondary	9 (28.10)	12 (37.50)	
Diploma	17 (53.10)	16 (50.00)	
University	0 (0.00)	2 (6.20)	
Husband's job			
Employee	1 (3.10)	2 (6.20)	0.33
Self-employed	16 (50)	9 (28.10)	
Worker	3 (9.30)	5 (15.60)	
Farmer	12 (37.50)	16 (50.00)	
Child sex			
Female	18 (56.20)	15 (46.90)	0.45
Male	14 (43.80)	17 (53.10)	

*Independent t-test; **Chi-Square test

Table 2: Comparison of the mean and standard deviation scores of parenting attitude before and after the intervention in the intervention and control groups

Parenting attitude	Control group (N=32)	Intervention group (N=32)	P value*(between)
	Mean±SD	Mean±SD	
Before intervention	97.40±6.30	100.34±13.08	0.27
After intervention	96.37±9.31	104.25±6.77	0.001
P value** (within)	0.4	0.09	

*Independent t-test; ** paired t-test

Table 3: Comparison of the types of child's physical abuse before and after the intervention used by mothers in the intervention and control groups

Types of physical child abuse		Intervention group (N=32)	Control group (N=32)	P value*
		N (%)	N (%)	Between
Slapping	Before intervention	28 (87.50)	18 (56.30)	0.005
	After intervention	3 (9.30)	17 (53.10)	0.001
	P value** within	<0.001	1	
Use of Belt	Before intervention	1 (3.10)	0 (0.00)	0.31
	After intervention	0 (0.00)	0 (0.00)	1
	P value** within	1	-#	
Use of wood	Before intervention	1 (3.10)	6 (18.80)	0.04
	After intervention	0 (0.00)	3 (9.30)	0.07
	P value** within	1	0.4	
Pinching	Before intervention	11 (34.40)	12 (37.50)	0.68
	After intervention	4 (12.40)	11 (34.40)	0.03
	P value** within	0.04	1	
Throwing things	Before intervention	4 (12.50)	3 (9.40)	0.79
	After intervention	1 (3.10)	4 (12.50)	0.16
	P value** within	0.37	1	
Not feeding	Before intervention	1 (3.10)	5 (15.70)	0.08
	After intervention	4 (12.50)	4 (12.50)	1
	P value** within	0.37	1	

*Chi-Square test; **McNemar's test; #The impossibility of performing the test because of the number zero before and after

found to be significantly different between the two groups; slapping was significantly more prevalent in the intervention group, while using wood for punishment was more prevalent in the control group. The other similar behaviors were, however, found not to be significantly different before the intervention. After the intervention, the intervention group showed significantly lower frequency of slapping (P=0.001) and pinching (P=0.03) behaviors compared to the control group.

Also according this Table, results of McNemar's test revealed significant differences regarding the behavior of slapping (P<0.001) and pinching (P=0.04) in the intervention group before and after the intervention, but there was no significant difference in the control group before and after the intervention (P>0.05).

According to Table 4, all the mothers in both groups had shown psychological and emotional damaging behaviors and neglect before the intervention. Moreover, after the intervention, confinement (P=0.03) and disregard (P<0.001) were found to be significantly more prevalent in the intervention group than in the control group, while other behaviors were significantly more prevalent in the control group (P<0.05). None of the participants was found to use tying to the chair after the intervention.

Also, based on the McNemar's test, the intervention group before and after the intervention showed a significant difference

Table 4: Comparison of the types of child's psychological and emotional punishment and neglect before and after the intervention used by mothers in the intervention and control groups

Types of psychological and emotional punishment and neglect		Intervention group (N=32)	Control group (N=32)	P value* Between
		N (%)	N (%)	
Confinement	Before intervention	3 (9.30)	15 (46.90)	0.001
	After intervention	16 (50.00)	18 (56.20)	0.03
	P value** within	<0.001	0.01	
Comparing with others	Before intervention	19 (59.30)	11 (34.70)	0.04
	After intervention	0 (0.00)	8 (25.00)	0.002
	P value** within	P<0.001	0.4	
Verbal insults	Before intervention	27 (84.40)	32 (100.00)	0.02
	After intervention	10 (31.20)	31 (96.90)	0.001
	P value** within	P<0.001	1	
Disregard	Before intervention	22 (68.70)	7 (21.90)	0.001
	After intervention	23 (71.90)	7 (21.90)	0.001
	P value** within	0.4	0.21	
Humiliating child before others	Before intervention	24 (75.00)	18 (56.20)	0.11
	After intervention	0 (0.00)	22 (68.70)	0.001
	P value** within	0.001	0.28	
Only to leave children at home	Before intervention	1 (3.10)	0 (0.00)	0.31
	After intervention	0 (0.00)	0 (0.00)	1
	P value** within	0.37	-#	

*Chi-Square test; **McNemar's test; #The impossibility of performing the test because of the number zero before and after

regarding all of psychological behaviors except disregard and only leaving children at home (P>0.05), humiliating the child before others (P=0.001); but in the control group the difference was not significant before and after the treatment (P=0.28), except for confinement behavior (P=0.01) that increased in the intervention group.

Discussion

The present study was conducted in the primary healthcare system to determine the effect of an educational program designed based on the growth and development with home visiting strategy follow up on parenting attitude and abusive behaviors of mothers with 3-6 year old children. The result of this study showed that while there was no significant differences between the two groups in terms of the overall mean score of parenting attitude before and after the intervention, the intervention could increase the score of maternal attitude in a positive range in the intervention group.

The healthy families America Home Visitation Program significantly improved parenting attitudes in vulnerable families such as low-income ones, those with a history of unsuccessful abortion and sexual abuse; this study was conducted on parenting attitude and behavior in a 3-5 year period based on Bowlby's attachment theory, and ecological and structural views on misconduct were reported. The program involved teaching of child development and parenting behaviors, developing secure parental relationships, developing the use of social support resources, and establishing the relationship of families with the healthcare system to improve the access to protective factors that reduce the risk of misconduct through home visits.[31] However, these programs mostly focused on vulnerable families and parenting education rather than ordinary families. Also, "family nurturing program" for prisoners and parents recovering from drug abuse was designed to present training on domestic violence, parenting programs for addicted parents in addiction camps,[32] and a family nurturing program for parents in crisis and those summoned

to the court for obligatory custodianship;[33] all these programs improved the parenting attitudes. In Iran, a three session education based on Behavior Intention Model (BIM) regarding child abuse for abuser mothers with children under the age of 6 who participated in this program improved the attitude of these mothers toward abusive behaviors according AAPI.[26] Parents' role training changed the mothers' attitudes about child abuse and improved their attitude toward appropriate parent's rearing style according to AAPI. The positive attitude shows the parent's tendency to use the correct parenting style without punishing children. However, neutral attitude suggests that the parents' inadequate information on how to treat the child will lead to the use of incorrect parental style in the rearing of children and that a negative attitude indicates inadequate parents' information and also their belief in using wrong methods.[27]

The results obtained in the present study on determining the child abuse behaviors showed that both groups used a variety of physical and psycho-emotional abuse and neglect before the intervention.

Another study found corporal punishment to be mainly used as a child-rearing method by mothers with low levels of education and lack of knowledge about proper child-rearing methods[18] which is consistent with the results of the present study and the demographic information of the subjects.

Slapping was the most common physical behavior used by mothers in this study. Another study found that nearly 80% of 3-6 year old children suffer from physical abuse by their parents,[34] and many studies identified slapping as a common physical abuse.[5, 7, 35, 36]

None of the two groups in the present study was found to use the corporal punishment of burning and the emotional abuse of tying to the chair either before or after the intervention, which is in the same line with the majority of other studies;[35, 36] mothers in this study were not child abusers and they tended to punish their children owing to their lack of knowledge and according to their family and social culture.

The present study suggested a significantly lower prevalence of child abuse after the intervention in the intervention group compared to the control group; the use of slapping, pinching and throwing things, i.e. physically abusing behaviors, was reduced and use of belt and wood stick was completely eliminated in the intervention group.

Also after the intervention in this study, regarding psycho-emotional abusing behaviors and neglect, humiliating children before others and abandoning them were found to be eliminated in the intervention group and the prevalence of comparing with others and verbal insults to be significantly lower in the intervention group than in the control group. The increased prevalence of mothers who used confinement in the intervention group can be associated to the content of the training program, which systematically involved deprivation, confinement to a room and disregard, which was not an abusive behavior in this training program.

In other studies focusing on parents' attitudes, it was anticipated that changing attitudinal behavior would lead to parental behavior and reduce the child abuse.[26, 27] Also, studies which focused on improving parenting styles and children's maladaptive behaviors reported reductions in the overall score of the children's behavior problems and improvements in parenting methods,[18, 37] and children's social behaviors. In an experimental study, a nurturing parenting program which is built on the core principle that empathy is the base of responsive parenting was conducted as a preventive parenting intervention. The researchers reported significantly higher positive parenting attitudes and milder and warmer parenting styles in mothers and their children in the intervention group compared to the control group.[8]

The evaluation of nine home-visiting programs in research indicated positive effects of these programs on preventing the child abuse and neglect through improving maternal parenting practices, the quality of

children's home environment and children's development. Meanwhile, Iranian parents who take their children to healthcare centers for growth control and vaccinations[21] have been recently provided with parenting education, which is mainly focused on child maladaptive behaviors and parenting styles, while home-visiting programs are not routinely conducted to improve the child's health, especially in urban areas. According to the WHO, the lack of knowledge about child development and unrealistic expectations in all parents including vulnerable cases prevent the parents from properly comprehending the child's behaviors and needs. In fact, these behaviors are interpreted as intentional misbehavior rather than a developmental stage of life.[1] Therfore in the proper care of children, informed parent participation is one of the most important factors in preventing the child abuse.[27] In this study, therefore, we used a home-visiting strategy to familiarize the parents with the growth and development status and natural behavioral changes expected in children as well as the child behavior management as a parenting requirement for improving parenting attitudes and modifying damaging parenting behaviors.

The limitations of this study was convenience sampling and the unavoidable use of self-reports to investigate behavioral changes in mothers owing to their children's young age. Also in this study, only data analyzer was blind regarding the experimental and control groups.

Conclusion

The present study found that educational programs based on growth and development improved the parenting attitudes and reduced the prevalence of child abuse in mothers by meeting their educational needs for child treatment based on children's developmental needs, which is a fundamental right of both mothers and children. Given their high prevalence, different abusive behaviors towards children, which are considered a necessary child-rearing method, the primary healthcare service providers in healthcare systems are recommended to prevent these behaviors and their complications. Parents are required to learn the skills and proper training methods and gain knowledge about the child's developmental characteristics to play the key role of child-rearing, or they will commit child abuse and harm their children. This program is, therefore, recommended to be implemented along with routine childcare methods at the primary preventive level in community health centers. Plans are required to deal with the potential challenges, including home-visiting problems and the lack of contribution of nurses, especially community health nurses in Iran's health system.

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References

1 Alonso-Marsden S, Dodge KA, O'Donnell KJ, et al. Family risk as a predictor of initial engagement and follow-through in a universal nurse home visiting program to prevent child maltreatment. Child Abuse Negl. 2013;37:555-65.
2 UNICEF. Child Maltreatment: Prevalence, Incidence and Consequences in the East Asia and Pacific Region–A Systematic Review of Research. Bangkok: UNICEF East Asia and Pacific Regional Office; 2012.
3 Stoltenborgh M, Bakermans-Kranenburg MJ, Anik LRA, Van IJzendoorn MH. The Prevalence of Child Maltreatment

across the Globe: Review of a Series of Meta-Analyses. Child Abuse Review. 2015;24:37-50.
4 Stevens NR, Gerhart J, Goldsmith RE, et al. Emotion regulation difficulties, low social support, and interpersonal violence mediate the link between childhood abuse and posttraumatic stress symptoms. Behavior Therapy. 2013;44:152–61.
5 Tonmyr L. The Canadian Incidence Study of Reported Child Abuse and Neglect: a partnership. Health Promot Chronic Dis Prev Can. 2015;35:117-8.
6 Broning S, Wiedow A, Wartberg L, et al. Targeting children of substance-using parents with the community-based group intervention TRAMPOLINE: A randomized controlled trial - design, evaluation, recruitment issues. BMC Public Health. 2012;12:223.
7 Zahrabi Moghadam J, Nouhjah S, Divdar M, et al. Frequency of child abuse and some related factors in 2-5 years children attending health centers of Ahvaz and Haftgel in 2011. Jentashapir Journal of Health Research. 2012;3:237-45. [In Persian]
8 Maher EJ, Marcynyszyn LA, Corwin TW, et al. Dosage matters: The relationship between participation in the Nurturing Parenting Program for infants, toddlers, and preschoolers and subsequent child maltreatment. Children and Youth Services Review. 2011;33:1426-34.
9 Campbell JC, Webster DW, Glass N. The Danger assessment: validation of a lethality risk assessment instrument for intimate partner femicide. Journal of Interpersonal Violence. 2009;24:653-74.
10 Herdman TH, Kamitsuru S, NANDA. Nursing Diagnoses: Definitions & Classification 2015-2017. 10th ed. New Jersey: Wiley Blackwell; 2014.
11 Basten M, Tiemeier H, Althoff R, et al. The Stability of Problem Behavior Across the Preschool Years: An Empirical Approach in the General Population. J Abnorm Child Psychol. 2016;44:393-404.
12 Ferguson KT, Cassells R, MacAllister J, Evans GW. The physical environment and child development: An international review. Int J Psychol. 2013;48:437-68.
13 Kliegman R, Stanton B, St. Geme JW, et al. Nelson textbook of pediatrics. 20th ed. Phialdelphia: Elsevier; 2016.
14 Hockenberry MJ, Wilson D. Wong Nursing Care Of Infants and Children. 9th ed. St. Louis: Mosby/Elsevirr; 2011.
15 Teresi JA, Burnes D, Skowron EA, et al. State of the science on prevention of elder abuse and lessons learned from child abuse and domestic violence prevention: Toward a conceptual framework for research. J Elder Abuse Negl. 2016;28: 263-300.
16 World Health Organization. Preventing child maltreatment: a guide to taking action and generating evidence. Geneva: World Health Organization; 2006.
17 Self-Brown S, Fredrick K, Binder S, et al. Examining the need for cultural adaptations to an evidence- based parent training program targeting the prevention of child maltreatment. Children and Youth. Services Review. 2011;33:1166-72.
18 Oveisi S, Ardabili HE, Dadds MR, et al. Primary prevention of parent-child conflict and abuse in Iranian mothers: A randomized Controlled Trial. Child Abuse Negl. 2010;34:206-13.
19 Loman LA, Siegel GL. Effects of approach and services under differential response on long term child safety and welfare. Child Abuse & Neglect. 2015;39:86-97.
20 Prinz RJ. Parenting and family support within a broad child abuse Prevention strategy. Child Abuse Negl. 2016;51:400-6.
21 Barger D, Pooley B, Dupuy JR, et al. Bolivia program evaluation of a package to reach an underserved population: community-based maternal and newborn care economic analysis. Health Policy Plan. 2017;32:i75-i83.
22 Heydari H, Rahnavard Z, Ghaffari F. Exploring the Position of Community-Based Nursing in Iran: A Qualitative

Study. Int J Community Based Nurs Midwifery. 2017;5:386-396.
23 Qasemi F, Valizadeh F, Toulabi T, Saki M. A Survey of Some Behavioral Disorders Due to Parental Corporal Punishment in School Age Children. Yafte. 2008;9:59-65. [In Persian]
24 Khakrangin M, Fathi M. Family factors associated with child abuse. Social Welfare. 2009;9:123-45. [In Persian]
25 Asadollahi M, Jabraeili M, Asghari Jafarabadi M, Hallaj M. Fathers' attitude toward child abuse in the health centers of Tabriz. Journal of Pediatrics Nursing. 2015;1:70-9. [In Persian]
26 Tavakol K, Azimi S, Sharifirad GR, Hosseini A. Attitude change toward child abuse after educating behavioral intention model to mothers referred to Falavarjan health homes in 2007-2008. Journal of Research in Behavioural Sciense. 2008;6:37-44. [In Persian]
27 Cheraghi F, Rostaie Z, Asgari M, et al. 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;5:182-90. [In Persian]
28 Cullen JP, Ownbey JB, Ownbey MA. The Effects of the Healthy Families America Home Visitation Program on Parenting Attitudes and Practices and Child Social and Emotional Competence. Child Adolesc Soc Work J. 2010;27:335-54. [In Persian]
29 Culp AM, Culp RE, Noland D, Anderson JW. Stress, marital satisfaction, and child care provision by mothers of adolescent mothers: Considerations to make when providing services. Children and Youth Services Review. 2006;28:673-81.
30 Parsa P, Masoumi Z, Parsa N, Parsa B. Parents' Health Beliefs Influence Breastfeeding Patterns among Iranian Women. Oman Med J. 2015;30:187-92.
31 O'Donnell L, Fuxman S. Effectiveness of a Brief Home Parenting Intervention for Reducing Early Sexual Risks Among Latino Adolescents: Salud y Éxito. J Sch Health. 2017;87:858-64.
32 Fang X, Fry DA, Ji K, et al. The burden of child maltreatment in China: a systematic review. Bull World Health Organ. 2015;93:176-85C.
33 Vidal S, Prince D, Connell CM, et al. Maltreatment, family environment, and social risk factors: Determinants of the child welfare to juvenile justice transition among maltreated children and adolescents. Child Abuse Negl. 2017;63:7-18.
34 Palusci VJ, Crum P, Bliss R, Bavolekd SJ. Changes in parenting attitudes and knowledge among inmates and other at risk populations after a family nurturing program. Children and Youth Services Review. 2008;30:79-89.
35 Shin DW, Stein MA. Maternal Depression Predicts Maternal Use of Corporal Punishment in Children with Attention-Deficit / Hyperactivity Disorder. Yonsei Med J. 2008;49:573-80.
36 MacGregor JC, Wathen N, Kothari A, et al. Strategies to promote uptake and use of intimate partner violence and child maltreatment knowledge: an integrative review. BMC Public Health. 2014;14:862.
37 Thijssen J, Vink G, Muris P, de Ruiter C. The Effectiveness of Parent Management Training-Oregon Model in Clinically Referred Children with Externalizing Behavior Problems in The Netherlands. Child Psychiatry Hum Dev. 2017;48:136-50.