



Effect of the virtual training program for managing fever and seizures on the stress of mothers of children with febrile seizures

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Abstract

Background and aims: This study investigates the effect of virtual training on the stress of mothers of children with febrile seizures.

Methods: This quasi-experimental research was conducted on 64 mothers of children with febrile seizures in Shahrekord in 2022. The samples were randomly distributed into intervention and control groups. The intervention group received WhatsApp training during three individual and 3 group sessions, and the control group received routine training. Mothers' stress was measured using the Pediatric Inventory for Parents (PIP) questionnaire, completed by two groups before, immediately, and two months after the intervention. Data analysis was done using the SPSS 18 version, descriptive statistics, repeated measure analysis of variance, independent t-test, chi-square, and Fisher tests.

Results: Before the intervention, the average total score of stress in frequency level in intervention and control groups was 117.29 ± 20.70 and 122.50 ± 24.69 and in difficulty level in intervention and control groups were 122.21 ± 25.32 and 129.83 ± 3.24 . There was no statistically significant difference on the two levels between the groups ($P=0.363$) and ($P=0.285$). Immediately after the intervention, the average total score on the two levels in the intervention group was significantly lower than the control group ($P=0.001$) and ($P=0.003$). Two months after the intervention, the average score on two levels in the intervention group was lower than the control group ($P<0.001$).

Conclusion: Using virtual training is suggested as an effective method to reduce the stress of mothers of children with febrile seizures.

Keywords: Distance education, Stress disorders, Febrile seizure

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Introduction

One of the most prevalent neurological disorders in children is a febrile seizure, which takes place between six months and five years, and its prevalence is between 12 and 18 months (1). Despite the best prognosis, seeing a child with seizures causes a whole lot of stress for parents, especially mothers, because of the primary caregivers (2). The health and well-being of children are inextricably linked to their parents' physical, emotional, and mental state (3). In parents with a child affected by a febrile seizure, the reaction of parents to the occurrence of a seizure in their child can be in the form of physical, mental, and behavioral manifestations. Common physical signs and symptoms that parents experience after their child's seizure include indigestion, anorexia, and sleep

disorder (4). These parents sleep next to their child, and due to the fear of the recurrence of seizures, they regularly check the child's temperature to ensure that the child does not have a fever. This causes insomnia in parents (5). Psychological reactions of parents include fear of the recurrence of seizures, fear of epilepsy, excessive anxiety, and concern about fever even at low degrees (4). Stress, depression, and anxiety had been shown by 45%, 46%, and 56% of parents with children who had seizures (6). Stressful conditions after febrile seizures lead to frustration and impatience in mothers (7). Parents' stress following their child's seizures can last for several days. It usually increases at night, especially if the child feels warm, looks sick, or has a fever (5). Parents' stress and fear can have many negative effects on the daily life of the family and

the parent-child relationship (4). Also, parents' fear and stress can make child care difficult (8). Excessive fear and emotional damage of parents due to lack of awareness, causing excessive protection of the child, restrictions on the child's activities, sleep disorders, or other functional disorders (9,10). The reason for parents' fear and worry is largely because they do not know what is happening, how dangerous the seizure is, and what can be done about it (5). Many studies show the lack of knowledge as an important factor in causing stress and anxiety among parents (1,5,7-9, 11,12).

On the other hand, lack of knowledge causes false beliefs and inappropriate management of the situation (13). Inadequate knowledge of these conditions makes some panic when their child has a fever and become agitated when they cannot control it and its adverse effects (7). Lack of sufficient knowledge leads to abnormal behavior in mothers and the use of inappropriate methods to control febrile seizures (5). Correct parental intervention during seizures, which will be possible with proper training, can prevent complications such as head injuries, mouth and teeth injuries, and suffocation during seizures (14). Therefore, training followed by increasing awareness can increase the understanding and ability to manage the situation and care for the child (8) and reduce parents' worries and negative attitudes toward febrile seizures (13). The most common thing that mothers do after experiencing a febrile seizure is to search for information. They seek information from any source. The need to learn and obtain information is considered so important to mothers that some mothers feel they have to forego their normal activities to obtain information about febrile seizures from multiple sources (7). Finding a useful approach to give parents the necessary information is considered to be difficult. The best form of education in health has been described as face-to-face instruction. Despite the advantages of face-to-face education, the lack of specialists available for training, high expenses, and accessibility issues, including transportation, caring for other children, and family schedules, may limit parental involvement in face-to-face education (15). Web-based learning has provided a suitable platform to overcome the limitations of face-to-face education. Web-based social networks such as Telegram and WhatsApp are online services that allow people to share their information and communicate with others on a specific system. In recent years, messaging applications rooted in mobile phones have become very popular among people (16). They can be seen as powerful tools for health education that different age groups can use daily to learn and share knowledge (17). The virtual environment provides its users with amazing and huge resources and facilities in science and knowledge. With features such as timelessness, placelessness, and interactivity, it provides its users with many capabilities in the field of education. Studies show that most of today's parents look for information about their child's health online (18,19).

A literature review reveals that training programs based on virtual participation on the stress and anxiety experienced by parents of premature infants (20), using Telegram for education on continued breastfeeding and complementary feeding of children among mothers (21), using virtual social networks to promote women's self-efficacy in preventing osteoporosis (22), psychoeducational interventions delivered via WhatsApp for mothers of children with autism spectrum disorder (23) and educating patient using social network in young patients with type 1 diabetes (24) have been effective.

Also, a literature review shows that sometimes virtual training is ineffective. For example, a study by Golshahi et al in 2022 to measure the effectiveness of virtual communication skills education with a cognitive-behavioral approach to the communication skills of midwifery personnel in healthcare centers showed that virtual education of communication skills could alter the field too much (25).

Since the use of online social networks can be used as an effective potential for remote education of parents in the field of health and has wide acceptance among parents, this investigation aims to examine the effect of a virtual training program for managing fever and seizures on the stress of mothers of children who have febrile seizures.

Materials and Methods

The current research is quasi-experimental, conducted as a pre-and post-intervention survey and a follow-up two months after the intervention. This research was conducted in 2022 on 64 mothers who were referred to Hajer Hospital and met the criteria to enter the study. The sampling method of the current research is purposefully based on the entry criteria. Numbers were assigned to a predetermined number of samples for two control and test groups by using random assignment software. According to random numbers, the samples were entered into each control or test group based on the study entry criteria and in the order of visiting the hospital.

Mothers who were willing to take part and who have children aged six months to five years old and have febrile seizures diagnosed by a pediatrician the first time the child suffers from a febrile seizure, who do not have additional convulsive illnesses like epilepsy or cerebral palsy, etc. Parents who were not medical professionals had minimal literacy in Farsi, had no history of psychiatric disorders, and had access to a smartphone or other digital device that could run WhatsApp were included in the study. They were excluded from participating in the study if the mother decided to stop taking part, the child was admitted to the hospital during the trial for any reason other than a seizure caused by a fever, or if the family had another stressful event.

The parameters and goals of the trial were explained to the eligible moms in person and to each mother separately once a pediatrician confirmed the diagnosis of febrile seizure. A demographic questionnaire was used

to collect details about the child's age, gender, number of siblings, birth order, family history of febrile seizure, level of education and employment of the parents, and place of residence and the Pediatric Inventory for Parents (PIP) questionnaire was used to measure the stress level of mothers. The PIP questionnaire has 42 items that measure parental stress in four areas: communication (communication with the child, partner, or health care team with nine items), emotional distress (effect of disease on sleep quality and feeling with 15 items), medical care (therapy plan eight items) and role function (the effect of the disease on the ability to work and take care of other children, ten items) are measured at two levels of frequency and difficulty. Responses were scored using a five-point Likert scale from "never" to "often" for the level of repetition and "not at all" to "extremely" for the level of difficulty. There is also a total score consisting of the sum of the four domains, which provides the sum of the repetition level scores and the total of the difficulty level scores. The total score ranges from 42 to 210 regarding difficulty and frequency (26).

The correlation of this questionnaire with other valid tests, the Parental Stress Scale and state- trait anxiety inventory form Y (STAI-Y questionnaire), shows convergent validity. The face and content validity of this questionnaire was considered acceptable. The reliability of this questionnaire was reported as 0.808 to 0.957 in the above study (27). Cronbach's alpha coefficient was utilized in this study to estimate the tool's reliability. Cronbach's alpha is 0.922 at the repetition level and 0.947 at the difficulty level.

After the mothers' initial consent to participate in the research, the link to the electronic questionnaire was delivered to them via WhatsApp messenger. The questionnaire had an informed consent form attached; after reading all the items of the informed consent form, mothers were shown the questionnaire's questions if they selected the "I am willing to participate in the research" option. Mothers answered the PIP questionnaire three times: once before the intervention, once right after the intervention, and once two months after the intervention.

The first questionnaire was typically given to mothers on the second day after the child's condition had stabilized (7,28). It was only possible to provide group training for some intervention group samples due to the gradual sampling and admission of moms into the study; therefore, the training material was provided individually on each person's page in WhatsApp. Three 30-minute training sessions spread over a week were included in the presentation of the training program in the form of text, images, and video clips. Symptoms, causes, care during seizures, care between seizures, prognosis, and dos and don'ts of dealing with these kids were all covered in the course. After completing three individual training sessions, two to four mothers joined a WhatsApp group. For three weeks, the group met once a week with prior notification of the time, allowing the

mothers in each group to discuss their concerns in the researcher's presence and share their questions regarding the care of their child. Immediately after the one-month educational intervention, PIP electronic questionnaires were completed by the mothers of the intervention and control groups as the first post-test. Two months after the end of the intervention, to follow up on the mother's stress levels, the PIP electronic questionnaire was completed by the mothers of the intervention and control groups as the second post-test. All educational materials, including text, slides, and videos, were sent to the mothers of the control group.

The data was entered into the SPSS software version 18 using descriptive statistics (frequency, percentage, mean, and standard deviation) and analytical statistics (repeated measure analysis of variances with Tukey's test, independent t-test, chi-square test, and Fisher's exact test). While $P \leq 0.05$ was considered significant.

Results

Due to the long duration of the study, 6 of the mothers refused to continue cooperating. Finally, 64 mothers of children with febrile seizures participated in this study in the control group ($n = 30$) and the intervention group ($n = 34$).

The two groups in demographic characteristics including sick child's gender ($P = 0.462$), number of children ($P = 0.979$), order of the child's birth ($P = 0.722$), mother's education ($P = 0.534$), father's education ($P = 0.538$), mother's job ($P = 1.000$), father's job ($P = 0.804$), housing ($P = 0.531$), family history of febrile seizure ($P = 0.919$), Child's age in months ($P = 0.089$) were nearly equal. There is no significant difference ($P > 0.05$).

The values calculated in the table for qualitative variables are frequency (percentage) and for quantitative variables (mean \pm standard deviation) (Table 1).

Repeated measure analysis of variances (ANOVA) showed that the average score of the communication domain at the frequency and difficulty in the intervention group is significantly lower than the control group ($P < 0.01$). It shows a significant difference in the investigated times, respectively ($P < 0.05$) and ($P < 0.001$). Tukey's posthoc test showed that the average score of the communication domain in the frequency and difficulty level immediately and two months after the intervention was significantly lower than before the intervention ($P < 0.001$), and in the intervention and control groups, it shows a significant difference during the investigated times ($P < 0.05$). Before the intervention, the average score of the communication domain in the frequency and difficulty in the intervention and control groups did not show a significant difference ($P = 0.133$) and ($P = 0.373$). However, immediately and two months after the intervention, the average score in the intervention group was significantly lower than the control group ($P = 0.006$) and ($P = 0.001$), ($P = 0.013$) and ($P = 0.004$) (Tables 2 and 3).

Repeated Measure Analysis of Variances showed that

Table 1. Demographic characteristics of the study groups

Demographic characteristics	Group		P value	
	Experimental No. (%)	Control No. (%)		
Gender of child	Girl	19 (55.9)	14 (46.7)	0.462
	Boy	15 (44.1)	16 (53.3)	
Number of children	One	11 (32.4)	9 (30)	0.979
	Two	13 (38.2)	12 (40)	
	Three or more	10 (29.4)	9 (30)	
sick child,	The first	14 (41.2)	13 (43.3)	0.722 ^a
	The second	13 (38.2)	9 (30)	
	The final	6 (17.6)	8 (26.7)	
	Other	1 (2.9)	0 (0)	
Mother's education	Below high school diploma	11 (32.4)	10 (33.3)	0.534 ^a
	High school diploma	9 (26.5)	12 (40)	
	Bachelor degree	8 (23.5)	6 (20)	
	Master's degree and above	6 (17.6)	2 (6.7)	
Father's education	Below high school diploma	11 (32.4)	13 (43.3)	0.538 ^a
	High school diploma	8 (23.5)	9 (30)	
	Bachelor degree	12 (35.3)	7 (23.3)	
Mother's job	Master's degree and above	3 (8.8)	1 (3.3)	1.000 ^a
	Housewife	30 (82.2)	27 (90)	
	Employee	3 (8.8)	2 (6.7)	
Father's job	Self-employed	1 (2.9)	1 (3.3)	0.804 ^a
	Unemployed	4 (11.8)	2 (6.7)	
	Employee	5 (14.7)	7 (23.3)	
Housing	Self-employed	23 (67.6)	19 (63.3)	0.531 ^a
	Other	2 (5.9)	2 (6.7)	
	Private house	16 (47.1)	10 (33.3)	
	Tenant	12 (35.3)	10 (43.3)	
Family history of febrile seizures	My father's house	1 (2.9)	3 (10)	0.919 ^a
	Father-in-law's house	5 (14.7)	4 (13.3)	
	Yes	11 (32.4)	8 (26.7)	
The child's age in months	No	23 (67.6)	22 (73.3)	0.089
	Mean ± SD	36.09 ± 16.93	Mean ± SD 28.73 ± 17.02	

^a Fisher's exact analysis was used, and the chi-square test was used for the rest of the qualitative variables. An Independent t-test was used for quantitative variables.

the average score of the medical care domain at the frequency and difficulty in the intervention group is significantly lower than the control group ($P < 0.05$), and it shows a significant difference in the investigated times, respectively ($P < 0.001$). Tukey's posthoc test showed that the average score of the medical care domain in the frequency and difficulty level immediately and two months after the intervention was significantly lower than before the intervention ($P < 0.001$) and in the intervention and control groups, it shows a significant difference during the investigated times ($P < 0.001$) and ($P < 0.01$). Before the intervention, the average score of the medical care domain in the frequency and difficulty in the intervention and control groups did not show a significant difference ($P = 0.492$) and ($P = 0.522$). However, immediately and two months after the intervention, the average score in

the intervention group was significantly lower than the control group ($P = 0.013$) and ($P < 0.001$) (Tables 2 and 3).

Repeated Measure ANOVA showed that the average score of the Emotional Distress domain at the frequency and difficulty in the intervention group is significantly lower than the control group ($P < 0.01$), and it shows a significant difference in the investigated times respectively ($P < 0.001$). Tukey's posthoc test showed that the average score of the Emotional Distress domain in the frequency and difficulty level immediately and two months after the intervention was significantly lower than before the intervention ($P < 0.001$) and in the intervention and control groups, shows a significant difference during the investigated times ($P < 0.01$) and ($P < 0.001$). Before the intervention, the average score of the Emotional Distress domain in the frequency and difficulty in the intervention

Table 2. The mean and standard deviation of the stress score in different domains at the repetition level in the studied groups at the studied times

Domains	Time	Control Mean \pm SD	Experimental Mean \pm SD
Communication Frequency score	Before	24.57 \pm 5.53	22.65 \pm 4.55
	Immediately after the intervention	23.17 \pm 5.99	19.26 \pm 5.00
	Two months after the intervention	21.70 \pm 5.14	17.15 \pm 5.18
Communication Difficulty score	Before	26.00 \pm 6.91	24.62 \pm 5.39
	Immediately after the intervention	25.53 \pm 6.58	21.62 \pm 5.72
	Two months after the intervention	23.70 \pm 7.49	18.53 \pm 6.13
Medical Care Frequency score	Before	24.30 \pm 5.11	25.24 \pm 5.64
	Immediately after the intervention	23.73 \pm 5.58	20.29 \pm 5.28
	Two months after the intervention	22.27 \pm 5.53	16.91 \pm 5.48
Medical Care Difficulty score	Before	23.40 \pm 6.04	22.47 \pm 6.34
	Immediately after the intervention	22.97 \pm 5.76	19.38 \pm 5.51
	Two months after the intervention	22.03 \pm 6.22	16.29 \pm 5.27
Emotional Distress Frequency score	Before	45.60 \pm 10.20	43.38 \pm 8.87
	Immediately after the intervention	44.03 \pm 9.36	36.26 \pm 7.96
	Two months after the intervention	43.60 \pm 16.94	31.56 \pm 9.73
Emotional Distress Difficulty score	Before	50.53 \pm 12.62	48.09 \pm 11.69
	Immediately after the intervention	48.73 \pm 11.33	40.26 \pm 9.50
	Two months after the intervention	46.43 \pm 11.81	34.50 \pm 9.61
Role Function Frequency score	Before	28.03 \pm 6.42	26.03 \pm 4.80
	Immediately after the intervention	26.93 \pm 5.49	22.56 \pm 5.38
	Two months after the intervention	25.87 \pm 6.15	20.03 \pm 4.62
Role Function Difficulty score	Before	29.90 \pm 7.94	27.03 \pm 5.40
	Immediately after the intervention	29.50 \pm 7.70	22.56 \pm 5.38
	Two months after the intervention	28.37 \pm 8.66	20.79 \pm 5.29
Total Frequency scores	Before	122.50 \pm 24.69	117.29 \pm 20.70
	Immediately after the intervention	117.90 \pm 24.00	98.38 \pm 21.37
	Two months after the intervention	113.43 \pm 30.64	85.65 \pm 22.67
Total Difficulty scores	Before	129.83 \pm 3.24	122.21 \pm 25.32
	Immediately after the intervention	126.73 \pm 28.82	105.74 \pm 25.02
	Two months after the intervention	120.53 \pm 31.96	90.12 \pm 23.59

Table 3. The results of the variance test of repeated values: the effects of group (control and intervention), time (before, immediately after, and two months after the intervention), and the interaction of time on the group

Domain examined in the PIPquestionnaire	Group			Time			Time on the group		
	F	df	P	F	df	P	F	df	P
Communication frequency score	8.844	1.62	0.004	32.300	2.124	<0.001	3.499	2.214	0.037
Communication difficulty score	5.843	1.62	0.019	25.620	2.124	<0.001	5.370	2.214	0.010
Medical care frequency score	5.561	1.62	0.022	29.143	2.124	<0.001	11.315	2.214	<0.001
Medical care difficulty score	7.029	1.62	0.010	19.758	2.124	<0.001	8.050	2.214	0.001
Emotional distress frequency score	10.066	1.62	0.002	16.594	2.124	<0.001	8.247	2.214	0.002
Emotional distress difficulty score	8.856	1.62	0.004	44.183	2.124	<0.001	12.988	2.214	<0.001
Role function frequency score	11.836	1.62	0.001	23.122	2.124	<0.001	5.165	2.214	0.010
Role function difficulty score	11.212	1.62	0.001	15.682	2.124	<0.001	5.651	2.214	0.007
Total frequency scores	10.897	1.62	0.002	33.768	2.124	<0.001	10.551	2.214	<0.001
Total difficulty scores	9.598	1.62	0.003	37.554	2.124	<0.001	11.488	2.214	<0.001

and control groups did not show a significant difference ($P=0.356$) and ($P=0.424$). However, immediately and two months after the intervention, the average score in the intervention group was significantly lower than the control group ($P<0.001$) and ($P<0.001$), ($P=0.002$) and ($P<0.001$) (Tables 2 and 3).

Repeated Measure Analysis of Variances showed that the average score of the Role Function domain at the frequency and difficulty in the intervention group is significantly lower than the control group ($P<0.01$), and it shows a significant difference in the investigated times, respectively ($P<0.001$). Tukey's posthoc test showed that the average score of the Emotional Distress domain in the frequency and difficulty level immediately and two months after the intervention was significantly lower than before the intervention ($P<0.001$) and in the intervention and control groups, shows a significant difference during the investigated times ($P<0.05$) and ($P<0.01$). Before the intervention, the average score of the Emotional Distress domain in the frequency and difficulty in the intervention and control groups did not show a significant difference ($P=0.159$) and ($P=0.092$). However, immediately and two months after the intervention, the average score in the intervention group was significantly lower than the control group ($P=0.020$) and ($P<0.001$), ($P=0.006$) and ($P<0.001$) (Tables 2 and 3).

Discussion

This investigation aims to examine the effect of virtual training programs for managing fever and seizure on the stress of mothers of children who have febrile seizures. The results of the current study demonstrate that mothers in both the experimental and control groups had high average stress scores before the intervention in two levels of frequency and difficulty, and it is almost more than half of the maximum total stress score reported in the PIP questionnaire. The total stress score in the PIP questionnaire varies between 42 and 240 on frequency and difficulty.

The high levels of stress reported by mothers who have a child with febrile seizures match the findings of Golfenshtein and colleagues' study. This study's conclusions demonstrate that parents of sick children experience more parental stress than those of healthy children (29). Compared to caring for a healthy child of the same age, tending to a sick child demands more time and energy for special circumstances, including hospitalization, doctor visits, and numerous therapeutic and diagnostic processes. These conditions make parents of sick children more stressed.

Also, the current study's findings are in line with those of Operto and colleagues' investigation on the parents' stress of children with both forms of epilepsy. The study's findings demonstrated that, despite the kind and severity of epilepsy, the stress score of fathers and mothers of children with epilepsy has been high and at the level of damage (30). Seeing a child with seizures causes a whole

lot of stress for parents, especially mothers, because of the primary caregivers (2).

Immediately after the intervention, the average total stress score in the frequency and difficulty level in the experimental group was significantly lower than in the control group. Also, the average stress score in the four investigated areas (medical care, role Function, emotional distress, and communication) in the frequency and difficulty level in the intervention group immediately after the intervention shows a significant decrease compared to the control group.

Frasconi et al stated in the results of their study that the presentation of educational materials in the form of a workshop had been associated with a significant reduction in post-traumatic stress of parents who saw their child's first febrile seizure in the intervention group (31). Considering the effectiveness of face-to-face and group training in this study and taking into account the benefits of virtual training in minimizing costs and commuting problems, as well as the effectiveness of virtual training in reducing the stress of mothers with a child suffering from febrile convulsions, it is possible to train considered virtual as a suitable alternative to face-to-face training in providing training to mothers with sick children.

Also, Farsar and Kolahi, in the results of their study that investigated the effect of the educational program on the anxiety of mothers following the first febrile convulsion in their child, stated that the average anxiety score of the parents in the intervention group after receiving educational materials during three hours of face-to-face training along with a pamphlet about seizures in the hospital and as a result of increasing awareness was reduced (28). The results of the present study have reduced mothers' stress by using virtual education as in Farsar and Kolahi's study, so considering the advantages of virtual education, such as being independent of time and place, this method can be considered a suitable alternative to face-to-face education.

In the current study, the average score of mothers' total stress in the levels of difficulty and frequency was lower in the experimental group than in the control group two months after the intervention ended.

The findings of Westin and Sund Levander's study, which described parents' experiences with a child having febrile convulsions, are consistent with the current investigation. Mothers who have been interviewed have said that their stress becomes better over time. According to the author, in certain instances, the absence of seizures in the child causes a decrease in anxiety. In other circumstances, the reduction in fear is because the child has experienced multiple febrile seizures; thus, seeing the child experience a seizure no longer looks as terrifying to them (5). According to Shibeb and colleagues' study, parents perform better regarding their child's frequent seizures. Mothers' improved performance lessens parents' fear and worry (32).

Educating mothers with children suffering from febrile

seizures through WhatsApp messengers virtually reduces the stress of mothers, and the consequences of this stress reduction become more pronounced over time. This shows the importance of increasing mothers' awareness and then reducing the stress caused by ignorance and lack of knowledge.

Considering the small number of children with febrile convulsions in Shahrekord, it was not possible to separate mothers with one child and several children or separate children who had a family history of febrile seizure from those who did not have a family history of febrile seizure. However, mothers with only one child are more sensitive in caring for their children than mothers with several children. They also have less childcare experience, which can affect their stress levels if their child becomes ill. This issue can affect the generalizability of the study results to some extent. Regarding the implementation of the educational intervention in this research, it is recommended that the effect of supportive, cognitive, and psychological interventions alone or together with educational interventions on the stress of mothers with children suffering from febrile convulsions. Fathers also experience some stress due to their child's illness when their child has a seizure, so it is recommended to design and implement studies to measure the stress level of fathers and carry out interventions to reduce their stress.

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Competing Interests

The authors declare that there is no conflict of interest.

Ethical Approval

Ethical considerations in this study included obtaining permission from the Ethics Committee of Shahrekord University of Medical Sciences (IR.SKUMS.REC.1400.105) and obtaining written consent from the participants to participate in the study.

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