Original Article

The Effect of Mothers' Psycho-education on Tendency to Indirect Self-Destructive Behavior Among Female Adolescents Attempting Suicide

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Abstract

Background: Indirect self-destructive behaviors have attracted the attention of many researchers in recent years. This study explored the effectiveness of mothers' psycho-education in reducing indirect self-destructive behaviors in suicidal female adolescents.

Methods: Totally, 42 Iranian girls aged 12-17 years who attempted suicide during the period of September 2014 till March 2015 and their mothers were selected from pediatric emergency ward of Nemazee Hospital affiliated to Shiraz University of Medical Sciences and randomly divided into experimental (n=21) and control (n=21) groups. Both groups received the usual psychiatric treatment and a psycho-educational program was arranged for mothers of experimental group. The psycho-educational program consisted of four 45-*min* sessions held for two weeks. The Chronic Self-Destructive Scale (CSDS) and the Strengths and Difficulties Questionnaire (SDQ) (Parent and self-report forms) were used to assess subjects' indirect self-destructive behaviors and emotional and behavioral problems at baseline, post-test, and 3 months later.

Results: The scores of CSDS and SDQ (Parent and self-report) decreased significantly during the trial ($p<0.001$). The trend of decrease in the two groups was statistically significant ($p<0.001$). Compared with the control group, the experimental group showed significantly reduced mean score in CSDS and SDQ in self and parent report both in post-test and after 3 months' follow-up.

Conclusion: These results suggest that psycho-educational intervention for mothers can reduce the tendency to indirect self-destructive behaviors in Iranian female adolescents who had attempted suicide.

Keywords: Attempted, Psychotherapy Self-injurious behavior, Suicide

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Received: Apr 3 2020
Accepted: June 20 2020

Citation to this article:
Mani A, Rahimi M, Dastgheib SA, Chohedri E. The Effect of Mothers' Psycho-education on Tendency to Indirect Self-Destructive Behavior Among Female Adolescents Attempting Suicide. *J Iran Med Counc.* 2020;3(3):139-47.

Introduction

Indirect self-destructive behaviors have attracted the attention of many researchers in recent years (1-3). In the classification of the Diagnostic and Statistical Manual of Mental Disorders (DSM-5), self-destructive behaviors are a certain category that include behaviors that a person performs without the intent to commit suicide, which leads to injuries and damages to the surface of his or her body (4). Studies in this area show that in addition to this type of destructive behavior that hurts the person severely and acutely, there is another type of destructive behavior that damages the person indirectly and over time. These behaviors are usually named "indirect or chronic self-destructive behaviors" (5). Indirect self-destructiveness is a combination of behaviors with severe tendency to engage in activities that increase the possibility of experiencing negative consequences and/or reduce the possibility of gaining future positive ones (6). Indirect self-destructiveness syndrome is often defined as "lingering" or "slow suicide". Persons with this syndrome have a special predisposition to undertake suicide attempts (3). Indirect self-destructive behaviors can be a predictor of forthcoming suicide. With respect to the relationship between self-destructive behaviors and suicide, studies show that these kinds of behaviors can even predict the method chosen by the person to commit suicide and the severity of the behaviors can determine the risk of committing suicide (6). People with medium self-destructiveness intensity are at a greater risk of recurrent suicide attempts than those with high indirect self-destructiveness intensity (3).

Indirect self-destructive behaviors often begin in early adolescence and may last for many years (2). Studies carried out in different countries show that about 13-45% of adolescents have reported that they have been engaged in self-harm at least once during their lives (7). Empirical research indicates that as much as 40% of those who engage in indirect self-destructive behaviors have thoughts about suicide while inflicting the injury and approximately 50-85% of people who injured themselves have attempted suicide at least once during their lifetime (6).

The family as the first system in which one belongs to, plays a considerable role in adolescents' suicide attempts. There is strong evidence that suicidal behaviors are familial as a result of genetic factors and can be transferred in the family independent of other psychological disorders. They may also take place due to environmental factors such as imitation or inappropriate parent-child relationships (8). Family conflict is one of the most common predisposing factors for suicide and suicidal behaviors (9). A study on Iranian adolescents showed that the family played a major and decisive role in adolescents' suicide. In most cases, suicide attempts by adolescents happened after a family dispute at home. These results are in contrast with those obtained in other countries, which showed that suicides occurred more in schools rather than at home. Therefore, these findings seem to indicate the key role of Iranian families in the development of suicidal behaviors (10).

Gledhill and Hodes assume that suicidal behaviors are probably associated with some mental disorders such as depression, feelings of despair, and frustration. They also indicated that in these cases, there may also be a stressor such as problems in family relations, friendships or adjustment problems (11). Since the family provides the means for a safe relationship for the patient, family psycho-education plays a key role in treatment protocols. This training can include skills such as listening empathetically to a teenager or making decisions about the right time to reconnect with the therapist (9).

Psycho-education is among the most effective evidence-based practices according to clinical trials and community studies. Due to model flexibility, that combines both illness-specific information and tools for managing related situations, psycho-education has a wide potential for many forms of illnesses and different life challenges (12). Nevertheless, mental health professionals have not incorporated psycho-education into their clinical work, and they think these types of interventions require adaptation to culturally diverse populations (13). There are few studies on Iranian populations with an emphasis on patients and family interaction. Therefore, it is unclear whether family psycho-education, which is effective in European and American populations, can be applied successfully in Iranian families.

Considering the lack of practical studies, an attempt was made to investigate the effect of mothers' psycho-education on indirect self-destructive behaviors of female adolescents who have attempted suicide.

Materials and Methods

This randomized controlled trial study was conducted on 12-17 year-old girls in Shiraz, Iran. The study was registered in the Iranian Registry of Clinical Trials

(Code number: IRCT2014100819456N1). Moreover, this project was approved and confirmed by the Ethics Committee of Shiraz University of Medical Sciences (Code: CT-9371-7151) and all the mothers completed the written informed consent before the study.

Sixty girls aged 12 to17 who had attempted suicide between September 2014 till March 2015 and referred to pediatric emergency ward of Nemazee Hospital affiliated to Shiraz University of Medical Sciences were selected using convenience sampling and divided randomly according to the random number generator into experimental and control groups. As the research was done on the mothers of patients, the following inclusion criteria were used 1) Mothers' intention to cooperate in the study; 2) Mothers and patients completed all the assessments until the end of the study; 3) Patients attempting suicide during the past six months; 4) Patients aged between 12 and 17 years old and; 5) Mothers had at least 6th class education. During the intervention, some of the participants were excluded from the research because of their medical condition or relapse, mother's disagreement to participate in the study and being absent in the therapy sessions. Thus, the study was carried out on 42 patients (21 patients in each group). All the patients were visited by psychiatrist, received routine medical intervention for suicide attempt. The mothers of the experimental group participated in group psycho-education sessions. The program consisted of four 45-*min* sessions held during 2 weeks (Two sessions per week), in groups of 7 to 8 mothers. The content of psycho-education sessions was similar for all groups and the program was conducted by the same psychologist for each group. The goals and contents of each session are summarized in table 1.

All the mothers and patients completed the Strengths and Difficulties Questionnaire (SDQ), parent and self-report version, respectively. This scale was designed by Goodman (1997) and evaluates 5 subscales of emotional problems, conduct problems, hyperactivity, peer problems and prosocial scale, on a three-point Likert scale. Although most studies conducted in European countries have supported the 5 factors of this scale, the survey conducted in Iran on this questionnaire only supported a three-factor structure consisting of emotional symptoms, hyperactivity and conduct problems and altruistic behavior. Cronbach's alpha for these scales was 0.65, 0.75 and 0.68, respectively. Ghanizadeh *et al* found that this scale was a reliable screening tool to detect signs of emotional and behavioral problems in Iranian children and adolescents (14).

Table 1. Goals and contents of psycho-education sessions

Session	Goals	Content
1	- Introduction for the families - To understand the importance of the family's role in the current situation of adolescents	-Describing the objectives of the research and educational titles -Explaining the role of the family in self-destructive behavior and suicide attempts -Filling ethical consent forms and questionnaires
2	- To enhance parents' knowledge in the field of adolescent suicide and self-destructive behaviors	- Providing a summary of the previous session -Explaining the underlying causes, risk factors, warning signs and methods to cope with suicide - Explanation of self-destructive behaviors and the importance of diagnosing and treating these behaviors - Providing pamphlets containing expressed content
3	- To learn about problem-solving, coping skills and assertiveness skills	-Brief check on previous session and answering probable questions - Explanation of problem-solving and decision-making skills - Explanation of efficient methods of coping - Teaching assertiveness skills - Assigning homework
4	- To improve the parents' communication skills	- Providing a summary of the last session - Checking homework and answering the probable questions - Communication skills training - Explaining the importance of healthy patterns of parent-child relationships - Providing pamphlets containing the expressed content

All patients completed the Chronic Self-Destructiveness Scale (CSDS) which measures the general tendency of the individual to behave in a way that leads to self-destruction. This scale consists of 4 categories of behaviors, including carelessness, poor health maintenance, evidence of transgression and lack of planning, answered on a five-point Likert scale. The CSDS has some reverse-score items and unlike most of the newer self-harm measures, there are several health-related items and surprisingly, there are no suicide-attempt items. The scoring key is gender specific and in the end, 73 items responded by each person were converted to 52 items for obtaining a final score (15). Cronbach's alpha for this scale was 0.79 to 0.81 in Tsirigotis *et al* study (6). However, in the present study, the Cronbach's alpha for these scales was between 0.74 and 0.83 for the subscales. In addition, the test was evaluated by the researchers in Iran and they reported the acceptable reliability and validity for Persian language (15). All mothers and patients completed the pre- and post-test questionnaires and those related to the follow-up three months later. Also, only total scores of each scale were used in the analysis.

Statistical analysis

All data were analyzed using SPSS software, version 15.0. The results are reported as descriptive indices such as frequency (Percentage) and mean±standard deviation. The repeated measure analysis was used to determine score changes of the CSDS and SDQ between the two groups. $P<0.05$ was considered statistically significant.

Results

Among the 60 patients, 50 (25 in each group) agreed to participate in the study. However, only 21 patients in the experimental group and 21 patients in the control group remained during the trial. Four patients in each group refused to take part in the post test and follow-up (Figure 1).

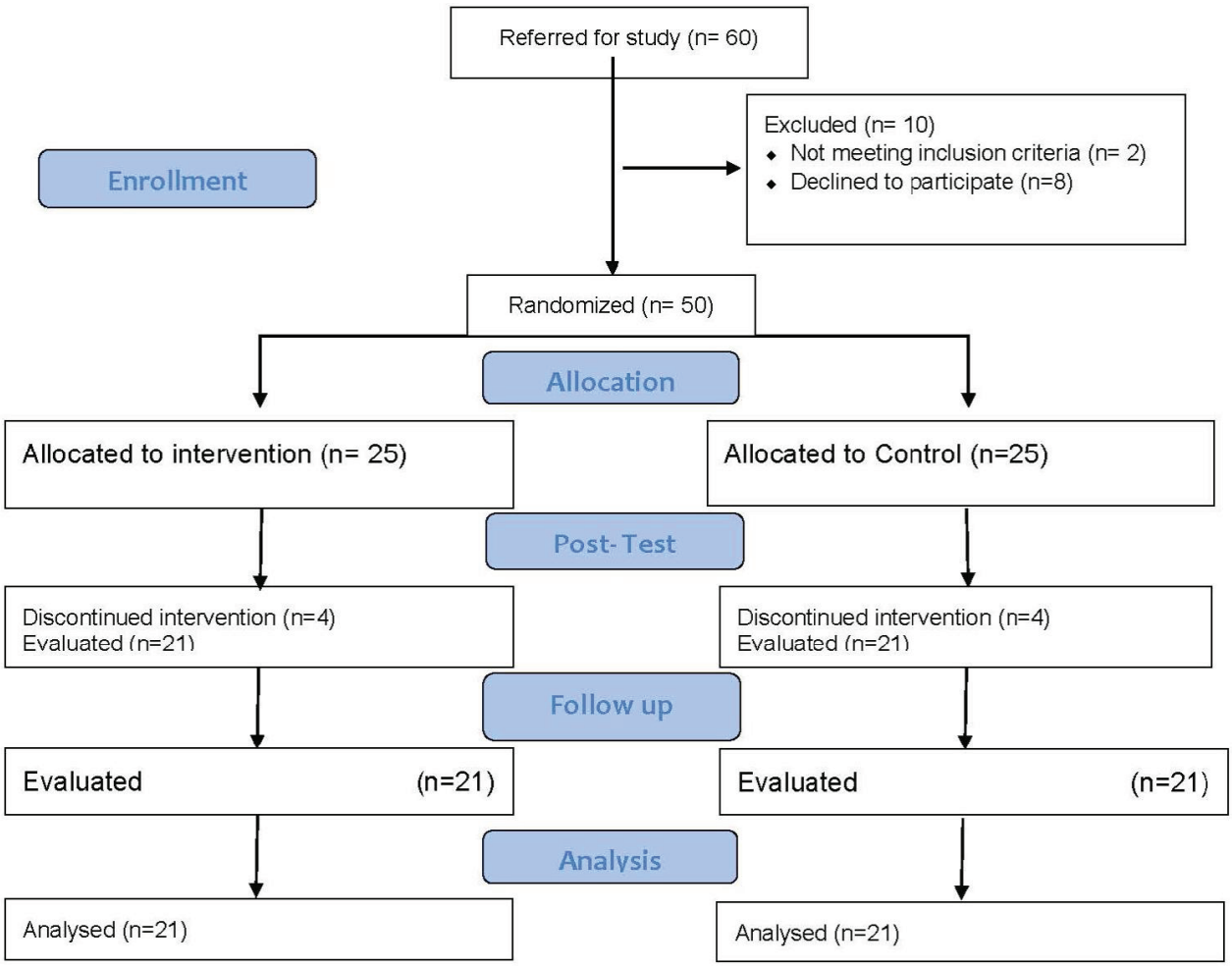

Figure 1. CONSORT flow diagram of the study.

The mean±SD of age of the mothers was 42.9±4.8 years and all of them were housewives. With respect to educational status, 20% had high school education, 68% had diploma and the rest had college education.

The mean±SD of ages of the adolescents in the experimental and control groups were 14.38±1.4 and 14.47±1.3 years, respectively (p=0.4). Moreover, all of the patients in the experimental and control were students and single, and the two groups were homogeneous in terms of demographic characteristics.

At baseline, CSDS scores did not differ significantly between the experimental and control groups (143.3±23.0 versus 144.1±26.3; p=0.92). The total self-report SDQ score was not different between the two groups at baseline (18.5±5.2 versus 18.7±4.0; p=0.88). The total parent report SDQ score was not different between the two groups at baseline (21.6±5.4 versus 20.6±3.3; p=0.44). Finally, there was no significant difference between the two groups regarding the mean score in the pre-test.

The mean score in CSDS, self-report SDQ, and parent report SDQ decreased significantly during the trial (p<0.001). The trend of decrease was statistically significant in the two groups (p<0.001).

The CSDS scores decreased significantly in the experimental group from pre-test (143.3±23.0) to post-test (118.2±33.1), and after 3 months' follow-up (111.4 ±22.5) (p<0.001). However, this decreasing trend was not significant from pre-test (144.1±26.3) to post-test (140.7 ±24.9) and after 3 months' follow-up (139.1 ±31.6) in control group (Figure 2) (p=0.12).

The mean self-report SDQ score decreased significantly from the pre-test (18.5±5.2) to post-test (13.0±6.9), but it showed a slight increase after 3 months' follow-up (14.3±3.7) compared to the post-test (p=0.003). Moreover, no significant change was seen in this scale in the control group during the trial and mean score in pre-test (18.7±4.0), post-test (18.9±2.8) and after 3 months' follow-up (18.4±3.3) was the same (Figure 3) (p=0.89). The mean parent report SDQ score showed a similar trend to the self-report. In the experimental group, the pre-test, post-test and follow-up mean scores were 21.67±5.5, 14.5±7.4, and 17±5.4, respectively (p=0.005). In the control group, the mean scores of pre-test (20.6±3.3), post-test (20.7±2.7) and follow up (21.0±3.2) were the same (Figure 4) (p=0.92).

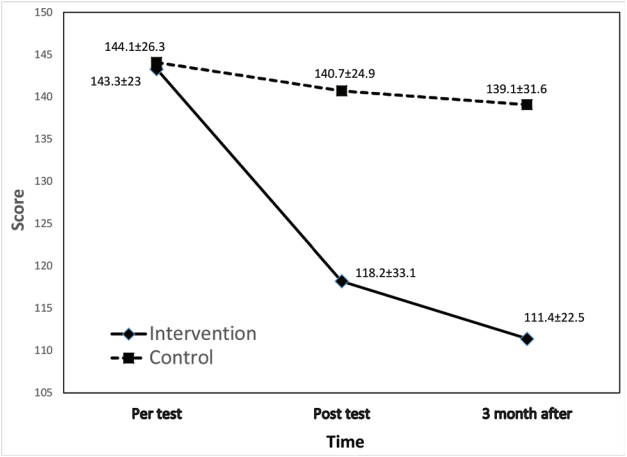

Figure 2. Mean score in the experimental and control groups on Chronic Self-Destructiveness Scale.

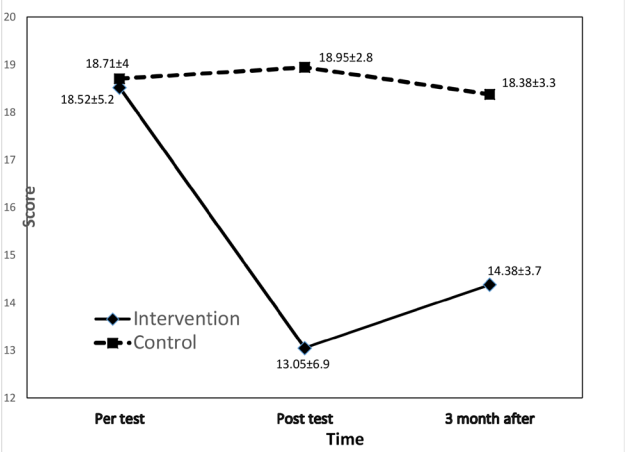

Figure 3. Mean score in the experimental and control groups on the scale of the Strengths and Difficulties, self-report form.

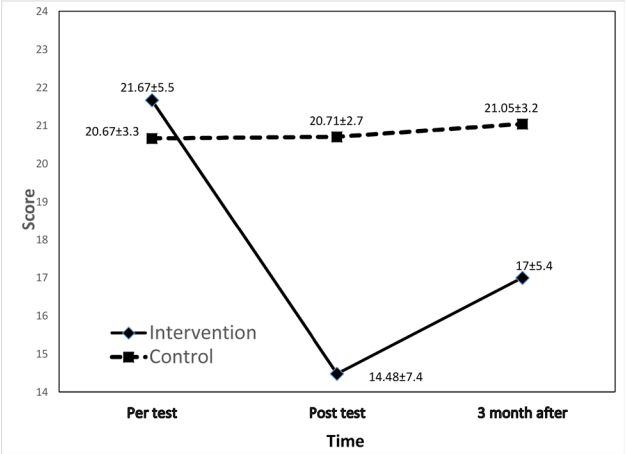

Figure 4. Mean score in the experimental and control groups on the scale of the Strengths and Difficulties, parent-report form.

Discussion

It was found that family psycho-education significantly decreased the tendency to indirect self-destructive behaviors in adolescent suicide attempters. Since

there are no similar studies related to indirect self-destructive behaviors in adolescents attempting suicide, comparison between the results of this study and the others cannot be made. Hence, studies which have used psycho-education as an intervention were merely reviewed.

The results of this study generally indicate the effectiveness of mothers psycho-education programs for female adolescents who had attempted suicide which is in line with findings of previous studies (16-20) regarding the effectiveness of psycho-education. In another study (21) on the effectiveness of group psycho-education program on reducing the mental distress of mothers of children with high functioning pervasive developmental disorders, the researchers found similar findings. These researchers believe that parents' psycho-education does not reduce their psychological distress, children's abnormal behaviors or care givers' burden.

Systematic reviews and meta-analyses on psycho-education methods have also shown their effectivity (22-24). On the other hand, some of these meta-analyses have concluded that it is impossible to compare these studies because of their different methods and having many variables requiring control (25). Lucksted *et al* studied family psycho-education as an empirically supported method and reported this method on children and adolescents with mood disorders revealed its positive impact compared with usual care (26).

Consoli *et al* addressed family conflict and inappropriate relationship with parents in association with increased risk of suicide and depression and believe that efforts to improve these relations are necessary in order to prevent suicidal behaviors (27). A common theme that most participants of the present study had expressed was the parents' inability to understand them; they unanimously said: "My parents do not understand me." Therefore, teaching communication skills to parents through psycho-education programs would enhance their skills in communicating with their children. After attending psycho-education sessions, parents would be able to understand expressed concepts through verbal and non-verbal communications or properly declare the concepts that must be received by the adolescent. Consequently, when family problems disappear in the communication context, the risk of self-destructive behaviors in individuals would be less. DeVore and Ginsburg believe that an open parent-child relationship, monitoring teen's behaviors, and relationship quality between parents and children reduce the possibility of adolescents' engagement in risky behaviors (28). Teaching parents how to cope with stress, communicate clear expectations, eliminate coercive parenting and reward positive behaviors are effective factors for preventing high-risk behavior, which is an example of indirect self-destructive behavior (22). These reports are consistent with the results of this study on reducing self-destructive behavior in adolescents through parental psycho-education.

According to learning theories, destructive behaviors can be learned by observing the behavior of others. The family as the first system to which individuals belong can play a crucial role in the occurrence of these behaviors. Many people who attempted suicide or self-destructive behaviors have reported that such behaviors were observed in family members or friends (7). It seems that parents' training about self-destructive and suicidal behavior can increase parents' awareness about their behavior and reduce the risk of adolescent's observational learning. Moreover, teenagers indirectly receive feedbacks from family and friends after attempting self-harm that can reinforce or diminish these behaviors. Therefore, becoming familiar with such behaviors and distinguishing them at a proper time could play a key role in preventing these behaviors and avoiding their reinforcement.

Low self-esteem is one of the determining factors affecting the occurrence of self-destructive behaviors. It is said that people with high but unstable and unrealistic self-esteem would experience a drop in their self-esteem upon negative feedback received from people and this situation is a threat to their self which in turn results in engagement in self-destructive behaviors (29). Teenagers with low self-esteem often face situations and problems they cannot solve. Problem solving methods and efficient coping methods are the choices that can help a person overcome such situations (30). It is thought that teaching efficient coping techniques and problem solving methods to parents through psycho-education sessions will help them become role models for their children. They can therefore instruct their children on how to deal with critical situations instead of using inefficient methods

like self-destructive behaviors, thereby reducing the stress associated with solving such problems. In this manner, adolescents can increase their self-esteem in solving problems and feel that they are capable and successful of overcoming such difficulties which could be a potential threat against their ego.

Another issue in this study was the lack of significant difference between the scores in the post-test and follow-up. It was found that indirect self-destructive behaviors, emotional symptoms and conduct problems in adolescents decreased after parents' psycho-education program compared to pre-test. Such results are probably due to a short and compact form of psycho-education program. After the resolution of crisis such as adolescent's suicide, some parents questioned the usefulness of treatment and considered it as an indicator of a problem in their child (16). Hence, they abstained from assigning the right time to practice skills learned or using them after the end of the intervention. Accordingly, psycho-education program held as continuous and long-term meetings could possibly be more effective.

There were some limitations in this study, such as single-sex and the small sample size. It is suggested to perform further studies with larger sample sizes and in both sexes. It is also recommended to investigate the effectiveness of psycho-education on chronic self-destructive behaviors in patients with other disorders such as chronic diseases.

Conclusion

Indirect self-destructive behaviors are behaviors which are not taken into consideration because of their intangible and chronic nature. Adolescents are more likely to engage in such behaviors for various reasons and their families play a dual damaging-supportive role in this condition. Parents' psycho-education can be very important in supporting their children and improving the family function. It can be concluded that parents' psycho-education reduces adolescents' indirect self-destructive behaviors as an empirically supported and inexpensive intervention.

Limitation

The present study had some limitations to be generalized to other population; first of all, gender of the participants was a restrictive factor since this research was conducted among girls in a specific age. Second, the research was run in a single center (Pediatric emergency ward), so the sample might not represent all types of suicidal attempts. Third, suicidal attempt is culture bound and this research was run in Shiraz, as the city represents a specific culture.

Acknowledgments

The authors thank the patients and their families for their active contribution and participation in this research. We thank Dr. Ekramzade (MD) at Nemazee Hospital for referring the patients. This article is extracted from a thesis by Mahshid Rahimi. We also thank the Vice-Chancellor for Research of Shiraz University of Medical Sciences for providing the financial support (Code number: 7151) for this research.

Conflict of Interest

None declared.

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