ORIGINAL ARTICLE

The Effect of Benson RelaxationTechnique on Anxiety and Aggression in Patients with Thalassemia Major: a Clinical Trial Study

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ABSTRACT

Background: Thalassemia major imposes many undesirable effects on patients' mental health. Thus, most patients experience anxiety and aggression, which affect their lifestyle. Using relaxation as an independent treatment method can have a number of positive consequences, including a reduction in these two complications.
Aim: To explore the effect of Benson relaxation technique on anxiety and aggression in patients with thalassemia major.
Methods: In this interventional trial,60 patients admitted to the Thalassemia Ward of Ali Asghar Hospital in Zahedan were selected through convenience sampling and randomized into the intervention and control groups. In the intervention group, Benson relaxation technique was taught toeach patient in 3 face-to-face sessions of 30-45 minutes with an interval of 2 to 3days; these patients were asked to practice this technique twice a day for 12 weeks. No special intervention was undertaken for the controls and they received only routine care. Data collection tools included a demographic, the Spielberger State-Trait Anxiety Inventory (STAI) questionnaire, and the Buss Perry Aggression(BPAQ) Questionnaire ,which were completed before and 12 weeks after the intervention. The data were analyzed in SPSS 21 using analysis of covariance, paired t-test, independent t-testandChi-squared test.
Results: There was no statistical difference between the mean anxiety scores of patients in the intervention (93.27±12.94) and control(89.83±20.63) groups before the intervention(P= 0.21). After the intervention, a significant difference emerged between the mean scores of anxiety in the intervention(70.90 ±15.98) and the control (88.53±21.04) groups (P= 0.001). Similarly, the mean scores of aggression in the intervention(71.27±10.16) and control (64.10±10.03)groups were not statistically different before the intervention(P=0.32), but this score differed significantly in the intervention (49.33±7.84) and the control (63.30 ±10.68) groups after the intervention (P= 0.001).
Conclusion: Thanks to its positive effects, is strongly recommended as a non-pharmaceutical and non-invasive treatment in which the patient is at the center of attention. Specifically, it is helpful to apply this technique for mitigating anxiety and aggression in patients with thalassemia major.
Keywords: Thalassemia major, Benson relaxation, Anxiety, Aggression

INTRODUCTION

Thalassemia major is a common form of hereditary anemia that occurs due to a defect in the synthesis of one of the globin chains[1]. Around 240 million people around the world are genetic carriers of this condition, and roughly 200,000 babies are annually born with thalassemia[2]. In Iran, thalassemia is known as the most common chronic disease and has affected more than 30,000 individuals[3].With this number of patients, Iran ranks first in terms of the ratio of thalassemia patients to the total world population[4]. Having a population of about 2.700 million and 2700 patients with thalassemia major, Sistan and Baluchestan Province shows the highest proportion of thalassemia major in Iran[5].People with thiscondition receive regular blood transfusions to prevent the adverse effects of anemia and bone changes. They experience psychological complications such as emotional disturbances, frustration, and difficulty in social communication[6], financial burden, as well as limitations in education, work, and occupation[7]. Due to concerns such as uncertain future prospect, limited social activity, facial abnormalities, and limitations at school, these patients are prone to anxiety and aggression[8]. Mansouri et al (2016) found that most patients with thalassemia major suffer from anxiety[9]. Anxiety includes feelings of helplessness, insecurity, and arousal, and is often defined as a diffuse, vague, and unpleasant feeling of fear and apprehension; it is one of the most common psychological and emotional issues that often affect a person's adaptive reactions and can lead to learning, concentration, and memory problems, as well as disruption in interpersonal relationships. If untreated, anxiety can lead to repeated absences from school and drug abuse in children and adolescents, as well as high levels of discomfort and distress and chaotic behaviors in adult patients[10,11]. Hosseini et al (2016) reported that patients with thalassemia major, in addition to anxiety, experience aggression [12]. Aggression is one of the most complex human emotions, and can be considered a defensemechanism to remove a certain barrier and eliminate a threat factor. It is a behavior aimed at harming someone or damaging something.Aggression is often manifested in the form of violence and destructive behaviors against persons or property[13].

Various pharmaceutical and non-pharmaceutical methods have been proposed to deal with and control anxiety and aggression in these patients[14]. Due to the high cost and side effectsinducing drug dependencyof pharmaceutical methods, it seems more effective to adopt non-pharmaceutical methods in order to control anxiety[15]. Nowadays, health systems strongly emphasize the adoption of non-pharmaceutical and complementary therapies[16]. These methods often have few side effects and lower risks and can be used alone or in combination with

other methods[17]. Complementary therapies are comprehensive in nature and are meant to provide the patient's physical and mental comfort[18]. Relaxation, which is growing in popularity, is one of the nursing measures that could be classified under these therapies[19]. In addition, relaxation is a coping technique and could be used to increase the individual's ability to deal with situations that occur following treatment[17].

Various techniques have been introduced for relaxation. In this context, the one introduced by Herbert Benson (1970) is preferable to other relaxation techniques because it can be easily taught and learned[20]. Benson believes that eliminating the causes of tension and stress is key in relaxation. He concludes that four basic elements contribute to this goal: a mental device (a simple word, phrase, or activity to focus on), a passive attitude, a quiet environment, and a comfortable position[21].This technique offers multiple advantages, is easy to practice, involves no side effects, and could be used independently[20]. Meanwhile, it requires the patient's active involvement in the care and treatment process[18]. The results of several studies indicate that Benson relaxation can reduce anxiety in patients with myocardial infarction, candidates for open heart surgery, and dialysis patients[22,23,24].

Given the high prevalence of anxiety and aggression in patients with thalassemia major and the adverse effects of anxiety and aggression, the side effects of medication (e.g., drug resistance and reduced effect of drugs after a short time), and finally the positive effect of Benson relaxation (as a non-pharmaceutical and non-invasive therapy where the patient is the focus of the intervention), this study aimed to explore the effect of Benson relaxation on anxiety and aggression in thalassemia major.

METHODOLOGY

The present clinical trial (IRCT20200918048750N1) was performed on patients with thalassemia major who had referred to the Thalassemia Ward of Ali Asghar Hospital in Zahedan, southeastern Iran, in 2020. A total of 60 patients meeting the inclusion criteria were selected via convenience sampling and then randomized to the intervention (n=30) and control (n=30) groups. Sampling continued for 8 months. The eligibility criteria included being over 18 years old, having an open medical record in the Thalassemia Ward of Ali Asghar Hospital, no intellectual disability, no behavioral and mental disorder, no hearing-speech impairment (according to medical records), not taking anxiolytic drugs, and possibility of monitoring the patient for 3 months. The exclusion criteria were the patient's unwillingness to continue the study, emergence of severe physical complications due to the disease, and the occurrence of a specific disease during the study.

At a confidence interval of 95%, statistical power of 95%, we estimated the sample size at 23 for each group based on the study by Aghakhani et al. (2019) and according to the following formula [22]:

$Z_{1-\frac{\alpha}{2}}$ = 1/96 ،$Z_{1-\beta}$ = 1/64 ،S_1=./24 ،S_2=./23 ،$\overline{X_1}$= 2.41 ، $\overline{X_2}$=2.16 ،n=22.34

However, to ensure the adequacy of the sample size and to consider possible attrition, we recruited 30 individuals for each group (total = 60).

Data collection tools included a demographic form (age, gender, level of education, etc.), the State-Trait Anxiety Inventory (STAI), the Buss Perry Aggression Questionnaire (BPAQ), and Benson Relaxation Technique Self-Report Checklist.

The STAI was introduced in 1970 by Charles Spielberger et al. It has 40 questions, and its minimum and maximum scores are 40 and 160, respectively. The main purpose of this scale is to measure anxiety severity from low to high. More precisely, low scores indicate a sense of calm, moderate scores indicatelow levels of stress and anxiety, and high scores indicate severe fear close to panic. By answering the state-anxiety questions, the subjects report the intensity of their feelings on a 4-degree scale (*Never*, *Somewhat*, *Moderately*, and *Severely*) at a particular time. Regarding trait anxiety, the respondents show how they generally feel on a 4-point scale (*Never*, *Sometimes*, *Often*, and *Always*) [25]. Spielberger et al. reported the reliability of the state and trait subscales of STAI based on Cronbach's alpha of 0.92 and 0.90, respectively. In Iran, Khanzadeh et al. (2013) confirmed the overall reliability of the instrument based on Cronbach's alpha of 0.94[26]. The reliability of STAI was established in the present study based on Cronbach's alpha of 0.93.

The BPAQ is a 29-item scale developed by Buss and Perry (1992) and measures four aspects of aggression (physical aggression,verbal aggression, anger, hostility).The minimum score of BPAQ is 29 and its maximum score is 145. The total aggression score is obtained by summing the scores of the subscales, which show the degree of different types of aggression. It has a very good internal consistency. Buss and Perry (1992) reported the internal consistency coefficient of this questionnaire as 0.89; they also reported its reliability as 0.80 using the test-retest method [27]. In Iran, Khanzadeh et al. (2013) showed the overall reliability of BPAQ based on Cronbach's alpha of 0.89 [26]. The reliability of this scale was reinforced in the present study based on Cronbach's alpha of 0.78.

The required permits were first acquired from the Vice Chancellor for Research and Information Technology and the Ethics Committee of Zahedan University of Medical Sciences. A letter of introduction was also obtained, which was next presented to the hospital officials for receiving their approval to do the research at the Thalassemia Ward. Then, convenience sampling was used, such that we recruited any patient with thalassemia major who met the inclusion criteria. Having been informed about the objectives and process of the study, eligible patients who expressed their willingness to participate in the study provided their written consent. The selected patients were randomized to the control and intervention groups. We first prepared and randomly arranged 60 envelopes containing the name of the intervention or control group (30 envelopes for the intervention group and 30 others for the control group). As patients were gradually admitted and recruited, they received a card in succession, which specified the group to which they were assigned. If the patient was allocated to the intervention group, the demographic questionnaire, STAI, and BPAQ were completed for him/her. Then, Benson relaxation technique was taught to him/her in 3 face-to-face sessions of 30 to 45 minutes with an interval of 2 to 3 days; this was conducted in a training class located in Ali Asghar Hospital at a time arranged in

coordination with the patient. The first session was held in the presence of a family member; in the second session, the patient independently performed the technique in the presence of the researcher; in the third session, the patient's questions were answered. The intervention group was also provided with a compact disc containing step-by-step instructions for Benson relaxation technique. The intervention group was asked to perform the exercises twice a day for 12 weeks at home according to the planned schedule. Each session was supposed to last 15 to 20 minutes. Prior to the intervention, in several stages under the full supervision of a clinical psychologist, the researcher received theoretical and practical training in relaxation techniques. Initially before performing the relaxation technique, the patient took off all additional items such as watch, bracelets, rings, and all other devices that could be detached, and put them next to him/her; then, he/she was taught Benson's relaxation steps, which are as follows:

1) Sit quietly in a comfortable position.
2) Close your eyes.
3) Deeply relax all your muscles, beginning at your feet and advancing to your face. (It keeps the patient relaxed.)
4.) While keeping the previous position, breathe through your nose. Be conscious of your breathing. Concentrate on a peaceful word, phrase, or short prayer. Take deep and regular breaths. Breathe in through your nose and out through your mouth while repeating the chosen word or phrase in your mind.
5) Keep doing this for 15 to 20 minutes and try to relax all your muscles from the tips of your toes to the muscles of the upper body so that all the muscles are fully extended. After 15-20 minutes, slowly open your eyes and do not get up for a few minutes.
6.) Do not worry about reaching a deep level of relaxation; Let the relaxation happen at its own pace. When unpleasant thoughts occur, try to ignore them.

To ensure the implementation of the relaxation technique on the prescribed days during the 12-week period, a checklist was provided to the patients to record the day, exact time, and duration of the technique or the reason for the failure to follow the instructions.During the study period, the researcher telephoned the participants twice a week to ensure that the relaxation technique was performed and the checklist was completed. A training session was also held for patients' families, who were asked to monitor the implementation of the technique at home and to inform the researcher in case of any problems. Finally, after12 weeks, for the second time the researcher filled out the anxiety and aggression questionnaires for thesepatients.

If the patient was assigned to the control group, for the pre-test, the researcher completed the demographic form and the anxiety and aggression questionnaires for him/her. However, these individuals received only routine care.Similar to the intervention group, after12 weeks, the researcher filled out the anxiety and aggression questionnaires for the control group as well. After the data of the intervention group were collected, the patients in the control group were also given a compact disc containing instructions for Benson relaxation technique. Data were analyzed in SPSS version 21using independent t-test, paired t-test, analysis of variance, and Chi-square test. Values below 0.05 were considered statistically significant.

RESULTS

The results of Shapiro-Wilk test demonstrated that the data had a normal distribution; therefore, parametric tests were used. The mean and standard deviation of age in the intervention and control groups were 25.37±4.52 and 26.87±5, respectively; the number of hospital visits for blood transfusion in the intervention and control groups was 1.37±0.49 and 1.47±0.5, respectively. There was no significant difference between the two groups in terms of mean age (P=0.67) and the number of hospital admissions (P=0.18). Neither did the two groups differ significantly in terms of other individual variables (Table 1).

The mean scores of anxiety in patients with thalassemia major before relaxation in the intervention and control groups were 94.27±12.94 and 89.83±20.63, respectively, indicating no significant difference in this regard (P=0.21). After the intervention, however, the mean anxiety score was 70.90±15.98 in the intervention and 88.53±21.04 in the control group, showing a statistically significant difference (P = 0.001).

The mean scores of aggression before Benson relaxation in the intervention and control groups were 71.27±10.16 and 64.10±10.03), respectively, which suggests no significant difference in this regard (P = 0.32). However, after the implementation of Benson relaxation technique, this score was 49.33±7.84 in the intervention group and 63.30±10.68 in the control group, which exhibits a statistically significant difference (P = 0.001) (Table 2).

Analysis of covariance was used to control the effect of any significant difference before the intervention in the two groups.

The required conditions for using analysis of covariance were met according to the results of Levene's test, which supported the normality and consistency of variances, and homogeneity of regression test, which indicated the absence of a significant interaction between the independent variable and the associated variable.

The results of analysis of covariance showed that the mean scores of anxiety and aggression in patients in the two groups differed significantly after the intervention (P=0.001, P=0.001), meaning that Benson relaxation could significantly lower the mean score of anxiety and aggression in the intervention group compared to the control group.

Table 1: Demographic characteristics of the intervention and control Groups

Variable	Intervention N(%)	Control N(%)	Test result
Gender			
Female	16 (53.3)	19 (63.3)	
Male	14 (46.7)	11 (36.7)	P=0.67
Total	30 (100)	30 (100)	
Marital status			
Single	26 (86.7)	22 (73.3)	

Married	4 (13.3)	8 (26.7)	P=0.19
Total	30 (100)	30 (100)	
Patient's education			
Below high-school diploma	8 (26.7)	7 (23.3)	
High-school diploma	12 (40)	16 (53.3)	
University education	10 (33.3)	7 (23.3)	P=0.62
Total	30 (100)	30 (100)	
Father's education			
Below high-school diploma	13 (43.3)	15 (50)	
High-school diploma	5 (16.7)	9 (30)	
University education	12 (40)	6 (20)	P=0.18
Total	30 (100)	30 (100)	
Mother's education			
Below high-school diploma	22 (73.3)	22 (73.3)	
High-school diploma	3 (10)	6 (20)	
University education	5 (16.7)	2 (6.7)	P=0.89
Total	30 (100)	30 (100)	
Patient's occupation			
Housewife	6 (20)	9 (30)	
Student	9 (30)	4 (13.3)	
Employee	1 (3.3)	1 (3.3)	P=0.43
Other	14 (46.7)	16 (53.4)	
Total	30 (100)	30 (100)	
Father's occupation			
Employee	15 (50)	13 (43.3)	
Other	15 (50)	17 (56.7)	P=0.06
Total	30 (100)	30 (100)	
Mother's occupation			
Housewife	26 (86.7)	28 (93.3)	
Employee	4 (13.3)	2 (6.7)	P=0.33
Total	30 (100)	30 (100)	
Family status			
Living parents	24 (80)	23 (76.7)	
Death of one of the parents	5 (16.7)	7 (23.3)	P=0.98
Divorced	1 (3.3)	0 (0)	
Total	30 (100)	30 (100)	
Economic status			
Low	2 (6.7)	4 (13.3)	
Medium	22 (73.3)	18 (60)	
High	6 (20)	8 (26.7)	P=0.96
Total	30 (100)	30 (100)	
Ethnicity			
Fars	11 (36.7)	10 (33.3)	
Balouch	19 (63.3)	20 (66.7)	P=0.73
Total	30 (100)	30 (100)	
Complications of the disease			
Yes	18 (60)	15 (50)	
No	12 (40)	15 (50)	P=0.60
Total	30 (100)	30 (100)	
Mental disorder			
Yes	0 (0)	1 (3.3)	
No	30 (100)	29 (26.7)	P=0.33
Total	30 (100)	30 (100)	

Table 2: Comparison of Mean and standard deviation of anxiety and aggression scores of patients tab with thalassemia

Variable	Group	Stage		Changes	Statistical result
		Before intervention	After intervention		Paired t–test
Anxiety	Intervention	93.27±12.94	70.90±15.98	22.37±3.04	P=0.001
	Control	89.83±20.63	88.53±21.04	1.30±1.41	P=0.57
	Independent t-test	P=0.21	P=0.001	P=0.001	
Aggression	Intervention	71.27±10.16	49.33±7.84	21.94±2.32	P=0.001
	Control	64.10±10.03	63.30±10.68	1.20±0.65	P=0.45
	Independent t-test	P=0.32	P=0.001	P=0.001	

DISCUSSION

The aim of this study was to determine the effect of Benson relaxation technique on anxiety and aggression in patients with thalassemia major.

The results indicated a significant difference between the mean anxiety scores of these patients before and after the intervention, which means the application of Benson relaxation technique significantly reduced the anxiety score of these individuals.

In a clinical trial, Aga Khani et al. (2019) noted that Benson relaxation helps relieve anxiety in patients with myocardial infarction[22]. Yazdani et al.(2012) reported that performing Benson relaxation reduced stress in hemodialysis patients and helped prevent and mitigate psychological problems of these patients [28].

ZakeriMoghadam et al. (2010) conducted a study to determine the effect of Benson muscle relaxation on the level of anxiety of patients waiting for cardiac catheterization, and the results showed that the intervention group had a significantly lower anxiety after relaxation [29], which is in line with our findings.

On the other hand, NajafiGhazaljeh et al. (2016) attempted to compare the effects of Benson muscle relaxation and nature sounds on anxiety in patients with heart failure, and found that the average anxiety score in the three groups of Benson muscle relaxation, nature sounds, and control did not differ significantly. Also, comparing the severity of patients' anxiety before and after Benson relaxation and listening to nature sounds in both morning and evening shifts did not reveal any significant variation in the intervention groups[30].This incompatibility with the present study may be attributed to the kind of disease and patients' characteristics in each research.

The results of this study also suggested a significant difference between the mean score of aggression in patients before and after the intervention, suggesting that the implementation of Benson relaxation significantly reduced patients' aggression.

Alipour et al. (2015) confirmed the effectiveness of training anger management skills in reducing aggression in women with breast cancer[31]. There is evidence that patients with thalassemia major are exposed to stress, which may lead to psychological and social disorders including aggression in their lives. Relaxation is one of the creative therapeutic approaches in stress management. In this regard, the results of studies by Mahdavi et al. (2012) and Yazdani et al. (2012) substantiate that relaxation reduces stress in patients with chronic diseases [15, 28].

Considering the effectiveness of Benson relaxation technique on reducing anxiety and aggression in patients with thalassemia major, it may be proposed that Benson relaxation technique could be learned and practiced as a self-help program. This is in view of the fact that relaxation includes a set of skills that enhance people's adaptation and reinforce their positive and efficient behaviors. As a result, they are enabled to assume responsibilities pertaining to their social roles, and efficiently deal with the challenges and problems of daily life without harming themselves or others [32].

CONCLUSION

Thalassemia major and its treatment could endanger the mental health of patients and lead them to anxiety and aggression. Anxiety and aggression also affect patients' social relationships and other aspects of their lives. Therefore, practicing Benson relaxation technique, which is an easy, inexpensive, and non-invasive method, could be ahelpful step for these individuals to reduce the consumption of anxiolytic and sedative drugs. The limitation of this study is that we examined the effect of Benson relaxation over a short-term (three-month) follow-up; therefore, it is recommended to analyze this effect for longer periods on patients with other chronic diseases.

Acknowledgment: This article is derived from a research project approved by the Vice Chancellor for Research and Information Technology of Zahedan University of Medical Sciences (ethics code: IR.ZAUMS.REC.1399.372.). We would like to thank the staff and nurses of Ali Asghar Hospital in Zahedan, as well as all patients and their families who cooperated in the sampling process.

REFERENCE

1. 1.Cao A, Kan YW. The prevention of Thalassemia. Cold Spring Harb PerspectMed. 2013; 3(2):a011775–a011775.
2. Hassan SME, El AzzabSElHI . Study of the health instructions effect on quality of life and psychological problems among children with thalassemia. 2016;1(1):16.
3. Madmoli Y, Salimi M, Madmoli M, Maraghi E, Pelarak F, Korkini N, et al. The effect of orem self-care model on health-related quality of life of patients with thalassemia major. 2019;7(2):170-6.
4. Babaei Menghari M, Khaleghkhah AJQJOHP. Path analysis model between spiritual Health, quality of life with depression thalasemia major patients. 2017;5(17):119-34.
5. Eshghi P, Sanei Moghaddam E, Hasheini SJSJoIBTO. Prevalence of hemoglobinopathies in Sistan and Balouchistan province in the southeast of Iran. 2013;9(4).
6. Caocci G, Efficace F, Ciotti F, Roncarolo MG, Vacca A, Piras E, et al. Health related quality of life in Middle Eastern children with beta–thalassemia. BMC Blood Disord. 2012;12:6–16.
7. Mohammadi SZ, Tajvidi M. Relationship between spiritual well-being with hopelessness and social skills in Beta-thalassemia major adolescents (2010). 2011;8(3).
8. Haji SeyedJavadi AR, Shafikhani AA. Evaluation of depression and anxiety in patients with thalassemia: a comparative study. J Qazvin Univ Med Sci. 2017;21(2):13–21. (Persian)
9. Poormansouri S, Ahmadi M, Shariati AA, Keikhaei B. Quality of life, depression, anxiety and stress in over-18-year-old patients with beta-Thalassemia major. Scientific Journal of Iran Blood Transfus Organ. 2016 Mar 10;13(1):72-82.
10. 10..Aliloo M, Khanjani, Baiat. Anticipation ofemotional disturbances associated with adolescentanxiety based on emotional regulation, copingstrategies and signs of borderline personalitydisorder. J PsyStudi 2017;7(25): 107-28.
11. Sadooghi, Hesampoor. Relationship between anxiety, depression and perceived social supportwith quality of life in hemodialysis patients.Nurs Mid J 2017;6(3): 56-71.
12. Hosseini SH, Khani Kh, Vahidshahi K. A comparative study of the mental health of patients with beta thalassemia major aged 15 to 25 years referred to Bu Ali Sina Hospital in Sari between 2003-2005 with the control group. Mazandaran University of Medical Sciences2007; 17 (59): 51-6
13. 13.Yaghoubi K, Sohrabi F and Mofidi F (1390).Investigating and comparing the degree of aggression Divorced and ordinary children.Journal of Invalid Studies.2012;14 (1); 97-110(persian)
14. 14.Tahmasbi H, Mahmoodi G, Mokhberi V, Hassani S, Akbarzadeh H, Rahnamai N. The impact of aromatherapy on the anxiety of patients experiencing coronary angiography.Zahedan Journal ofResearch in Medical Sciences. 2012;14 (1): 47-53. (Persian)
15. Sadat Elali E, Mahdavi A, Jannati Y, YazdaniCherati J, SetarehJ. Effects of Benson relaxation response on stress amonghemodialysis patients. (JMUMS). 2012; 22 (91): 61-68. (Persian)
16. MadadkarDehkordi SH, BasiriMoghadam M.The Effect of Jacobson Technique Relaxation on the quality of Life and self-efficacy 0f the Undergoing Hemodialysis Patients. Complementary Medicine Journal,2018 ; 4(25):2090-99.

17. Serin EK, Ovayolu N, Ovayolu Ö. The Effect of Progressive Relaxation Exercises on Pain, Fatigue, and Quality of Life in Dialysis Patients.Holistic Nursing Practice. 2020 Mar 1;34(2):121-8
18. 18.Far NH, Salari M, Rakhshani MH, Borzoee F, Sahebkar M. The effects of Benson relaxation technique on activities of daily living in hemodialysis patients; A single-blind, randomized, parallel-group, controlled trial study. Complementary therapies in clinical practice. 2020 May 1;39:101133
19. BasiriMoghadam M, MadadkarDehkordi SH, Mohammadpour A, Vaezi AA. Effect of Progressive Muscle Relaxation Technique on Fatigue in Patients Undergoing Hemodialysis. Preventive Care in Nursing and Midwifery Journal; 2013: 3(2): 24- 32. (Persian)
20. Monahan F, Sands J, Nighbors M, Marek J, Green C. Complementary and Alternative Therapies, Textbook of Phipps medicalsurgical nursing. Philadelphia: Lippincott Williams and Wilkins; 2007
21. 21.Ghezeljeh TN, Kohandany M, Oskouei FH, Malek M. The effect of progressive muscle relaxation on glycated hemoglobin and health-related quality of life in patients with type 2 diabetes mellitus. 2017;33:142-8.
22. aghakhani N, seyyedakbarii V, khademvatan K, alinejad V. Study of The Effect of Benson Relaxation Method on The Anxatiy Levelof Patients With Myocardial Infarction Admited to CCU Wards of Educational and Treatment Centerof SeyyedoshohadaS, Urmia, Iran, 2017. Nursing And Midwifery Journal. 2019 Jun 1;17(3):239-50.
23. 23.Malmir M, Teimouri F, Pishgooie A, Dabaghi PJMCSJ. The Role of Benson´ s relaxation on reducing state anxiety on candidate of open heart surgery patient's .2015;2(3):182-90.
24. Elsayed EB, Radwan EH, Elashri NI, El-Gilany H. The effect of Benson's relaxation technique on anxiety, depression and sleep quality of elderly patients undergoing hemodialysis. International Journal of Nursing Didactics. 2019 Feb 21;9(02):23-31.
25. Fathieashtiani A, Dastani M. Psychological test, estimation of personality and psychotichealth.Tehran, Besat Publications. 2009.
26. HosseinKhanzadeh AA, Rashidi N, Yeganeh T, Zareimanesh Q, Ghanbari N. The effects of life skills training on anxiety and aggression in students.Journal of Rafsanjan University of Medical Sciences. 2013;12(7):545-58.
27. Buss AH. Perry M. The Aggression questionnaire.J PersSoc 1992; 63: 452-9.
28. Yazdani J, Setareh J. Effect of benson relaxation response on stress among in hemodialysis patients. Journal of Mazandaran University of Medical Sciences. 2012 Aug 15;22(91):61-8.
29. Zakerimoghadam M, Shaban M, Mehran A, Hashemi S. Effectof muscle relaxation on anxiety of patients undergo cardiaccatheterization. Hayat. 2010; 16 (2): 64-71. (Persian)
30. Seifi L , NajafiGhazaljeh T ,Haghani H. The Effects of Benson Relaxation Technique and Nature Sounds on Anexity in Patients With Heart Failure. Journal Of Urmia Nursing And Midwifery Faculty.2017 May;15.2(91):147-158.(Persian)
31. Alipour A, AliAkbariDehkordi M, Sharifi-Saki S. Effectiveness of teaching anger management skills using cognitive-behavioral approach in the reduction of aggression among women suffering from breast cancer. Feyz. 2015 Jun;19(2):127-34.
32. 32.Feyzi H, Hadadian F, Rezaie M, Ahmadi M, KhalediPaveh B. Investigating the Effects of Benson's Relaxation Technique on Quality of Life Among Patients Receiving Hemodialysis. J Crit Care Nurs 2015;8(1).