Original Article

The Effect of Benson's relaxation on pre-operative anxiety in Cesarean section in Nulliparus Women

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ABSTRACT

Introduction: Anxiety is one of the most prevalent psychiatric symptoms before cesarean section in women, and as providing comfort and convenience for patients is of paramount importance in nursing, the researcher sought to examine the effect of Benson relaxation on anxiety before cesarean section in nulliparous women. Materials and Methods: In this -experimental study pretest-posttest control group, 60 nulliparous women who were candidate for cesarean section were selected using purposive sampling, and were then randomly assigned into two groups of intervention (n = 30) and control (n = 30). The data collection tools were demographic information questionnaire and Spielberger State Anxiety Inventory. In the intervention group, Benson's relaxation was performed twice, each with a duration of 15 minutes and at intervals of 2 hours. In the control group, routine therapeutic care was performed without any relaxation intervention. Data were analyzed using SPSS 21 and Kolmogorov-Smirnov tests, paired t-test and independent t-test. Results: The resulting data showed that there was no significant difference between the intervention and control groups before the intervention in terms of anxiety level. The anxiety level after the intervention in the intervention group was lower than the control group, which was statistically significant ($p < 0.001$). Conclusion: The results of this study showed that Benson relaxation method alleviated the anxiety before cesarean section in nulliparous women of cesarean section. Therefore, it is suggested that this method be used to reduce the pre-cesarean anxiety in nulliparous women.

Keywords: Anxiety, Relaxation, Benson, Caesarean section, Nulliparous women, Nurse

Introduction

Cesarean section is the surgical procedure by which the baby is born through a cut on the abdominal wall and the uterus [1, 2]. The use of this method of delivery has grown dramatically in recent years throughout the world, and statistics show that cesarean rates have tripled since the 50s, and that this rate of increase is higher than expected [3]. When a mother is admitted to the maternity hospital, her anxiety and nervousness increases [4]. In a study by Zafarghandi, the prevalence of fear of delivery was reported to be 59%, and anxiety and distress of giving birth were higher in women who requested cesarean section than those who requested normal delivery [5]. Anxiety in the preoperative stage is one of the most spiteful conditions that most women experience during cesarean section surgery [6]. Anxiety is an unpleasant state or stress that arises due to fear of illness, hospitalization, anesthesia, or surgery [7].

Women who are in line for cesarean section are afraid of and anxious regarding the manner of adaption to the conditions. The belief that the mental state of the mother can affect her fetus is present in most societies [8]. The incidence of fetal strangulation at birth has been found mainly in anxious women. Other possible side-effects of fear include abnormal patterns of fetal heart rate, low Apgar score [9], increased mortality at delivery, and birth of infants with low weights due to increased resistance of the uterine artery caused by mother's anxiety [10]. Nulliparous women experience greater fear, anxiety, and stress than multiparous women, and the consequences of labor in the first birth can affect subsequent childbirths [11].

Access this article online	
Website: www.japer.in	**E-ISSN:** 2249-3379

How to cite this article: Akram Salmanzadeh, Abolfazl Rahgoi, Masoud Fallahi-Khoshknab, Farahnaz Mohammadi-Shahbelaghi, Mehdi Rahgozar. The Effect of Benson's relaxation on pre-operative anxiety in Cesarean section in Nulliparus Women. J Adv Pharm Edu Res 2018;8(S2):194-200.
Source of Support: Nil, Conflict of Interest: None declared.

Among the factors that can contribute to anxiety in patients are preoperative complications, surgery day complications and concerns about its results, concerns about lack of control, the risk of death, unfamiliar situations, unpleasantness and anticipation of adverse outcomes [12, 13]. In the cesarean section, frailty and decreased self-esteem, stress and anxiety have been abundantly reported [14]. Preoperative anxiety stimulates Sympathetic Nervous System (SNS), Parasympathetic Nervous System (PNS) and the Endocrine System, which itself leads to increased heart rate, blood pressure and cardiac stimulation, ultimately result in cardiac arrhythmia [15]. Side-effects due to preoperative anxiety include increased postoperative pain, higher demand for painkillers, delayed recovery and discharge, higher cost and prolonged duration of hospitalization [16].

Since the patient's anxiety before every surgery is of utmost importance, the nurse should be able to examine and evaluate the anxiety in the patient and provide medical care with appropriate measures to prevent and reduce the complications [17]. Due to the constant presence by the patient's bedside and the proper relationship with the patients, nurses are best fitted to identify and understand their problems [18].

Anxiety control methods include pharmaceutical and non-pharmacological methods [19-22]. Of the commonly used drugs, benzodiazepines are used more often, yet due to their temporary effect and their side effects, more recent studies have mainly focused on non-pharmacological methods. One of these interventions is alleviation of anxiety using complementary medicine [23]. Usually, the treatment of anxiety in non-pregnant women involves pharmacological procedures, but in pregnant women, these interventions are usually prohibited [24]. Among non-prescriptive complementary methods are aromatherapy, meditation, massage therapy (or Massotherapy), muscular relaxation, music therapy and guided imagery. The benefits of complementary therapies include cheapness, simplicity of implementation, non-invasiveness and being non-pharmaceutical, and also they lack the chemical effects of their prescriptive counterparts [20-22, 25, 26]. Research shows that anxiety-reducing interventions in pregnant women - such as yoga, progressive muscle relaxation and massage - can help improve pregnancy outcomes [27, 28].

Of the nursing interventions that has been frequently introduced in many studies as a complementary therapy and in some cases as an alternative to drug therapy is relaxation [29]. Relaxation is used as an effective treatment for stress disorders [30] and anxiety [31]. Relaxation is a behavioral therapy that is simple, feasible and useful and does not require special equipment [32, 33] and is applicable after brief training [34].

One of the relaxation methods frequently used is Benson's relaxation. Benson believes that de-stressing is a key component in meditation. In his study on various stress relief methods, he concluded that four elements increase de-stressing effect, namely: a relaxed environment, a comfortable state, a mental device such as a term that one's mind can focus on, and a passive attitude [22]. In Benson's relaxation method, when the patient relaxes his or her own muscles and focuses on the senses, he/she is able to overcome an extensive array of physical and mental symptoms such as anxiety, depression, stress, and pain [35]. Malmir et al. studied the effect of Benson's relaxation method on the level of state anxiety in patients in line for open heart surgery. The result of this study was that Benson's relaxation reduces the anxiety of patients undergoing cardiac surgery [36]. According to the high frequency of cesarean deliveries [3] and with the emphasis on the fact that anxiety is one of the most prevalent psychological symptoms, and as providing comfort is of utmost importance in the practice of nursing, the researcher sought to determine the effect of Benson's muscle relaxation method on anxiety of nulliparous women in line for caesarean section.

Materials and Methods

This research is a semi-experimental study pretest-posttest with control group (Randomized clinical trial). The research population in this study was Primiparous women who were candidates for cesarean section in Imam Hossein Hospital affiliated to Shahid Beheshti University of Medical Sciences in 2016-2017. The sampling was only initiated after obtaining permission from the Ethics Committee in the field of research and submitting an introduction letter from University of Social Welfare and Rehabilitation to the research environment and obtaining consent from women candidates for cesarean section surgery in the wards of obstetric delivery. In this study, the sampling was done through convenience sampling method, and the samples were randomly assigned to ~~a~~ two 30-patients groups of intervention (relaxation) and control (without intervention) group, the process of which was undertaken using heads and tails of a coin and even/odd dates: those who were hospitalized in even dates were assigned to the intervention group, while those who were hospitalized in odd dates were assigned to the control group. There was no difference between the two groups in terms of the provided medical care, and the sampling was gradually carried out over a period of 6 months from December 2016 to early June 2017 to accumulate 60 patients for the sample.

The data collection tool was a two-part questionnaire. The first part of the questionnaire related to the demographic information of the study subjects which included 13 items in two sections: personal information and health history. There were 4 items in the personal information section, namely: age, insurance, average monthly income, and the presence of companion. The health history part included 9 items: history of previous surgery, presence or absence of abortion, hospitalization history, number of admissions in the hospital, and the history of taking medication, the name of the medication used, the week of pregnancy and the reason of candidacy for cesarean section. The second part was the Spielberger's state anxiety inventory, which included 20 items. This questionnaire validity has been approved by Nazemian (2008). Nazemian noted that the validity of this questionnaire abroad was confirmed by Taktaki (2005) 93% [37, 38]. The

reliability of the questionnaire has been confirmed in numerous studies both inside and outside the country. In Nazemian's study (2008), the reliability of the instrument was confirmed by test-retest method in hemodialysis patients in Mashhad (r = 89%) [39]. Moreover, in the standardization of Spielberger's state anxiety inventory by Behrouz Mohammad et al. (1994), the reliability of the inventory was calculated to be 0.9451 using Cronbach's alpha and its validity was considered significant at two levels (0.05 and 0.01) [40].

The method of intervention was that at first, for selecting women for the two groups, nulliparous women completed the questionnaires in the afteoon of the day before the caesarean section. In this study, Benson's relaxation was performed as such that the researcher taught the relaxation method to the intervention group and was present at the bedside of the subjects during the intervention and provided them with educational pamphlets on the relaxation process. Due to the limited time before the surgery (the interval between admission and the duration of the cesarean section was one day), the intervention was repeated twice for each person, each with a duration of 15 minutes, and 2 hours' interval in between. In this way, the person shut her eyes in the best condition in which she felt relaxed in the bed, in which case she chose the word that always reminded her of calmness and began to breathe deeply and systematically. She inhaled through nose and exhaled through mouth, and repeated the word in each breath at each exhalation. At the same time, she relaxed the muscles of the toes and continued to reach the upper muscles of the body, so that all the muscles would reach full expansion. The individual retained this mode for 20 to 10 minutes. Then, the person was advised to refrain from changing position and displacement immediately after the end of the technique. In the control group, routine care was performed without relaxation. Then, the day of surgery before the patient was transferred to the operating room, her anxiety severity was measured and recorded using questionnaires again. After data collection, data analysis was performed using Kolmogorov-Smirnov tests, paired t-test, independent t-test and SPSS-21 software.

Findings

After collecting data and performing statistical analyses, the following findings were obtained in relation to the objectives and research hypothesis. The data of the study showed that the mean and standard deviation of the age of the intervention group and the control group were 25.37 ± 4.42 and 25.53 ± 4.87, respectively. The most common cause of cesarean section in the control group was maternal causes such as high blood pressure, diabetes, poor pelvic delivery and abortion due to embryo-related reasons. In the intervention group, the most common causes of cesarean delivery were high percentages of high blood pressure, poor pelvic organs for normal delivery, diabetes, heart disease and history of seizure, and for the reasons related to the fetus, the percentage of bridged delivery was the highest. Also, the average weekly gestational age in the intervention group was 37.93 (with 36 and 39 as the lowest and highest, respectively) and 38.10 in the control group (with 37 and 40 as the lowest and highest, respectively). Most of the subjects in the intervention and control group (66.7% and 73.3%, respectively) had no monthly income, (96.7% and 93.3%) were insured, (83.3% and 73.3%) had a companion, (96.7% and 90%) were without a history of disease, (76.7% and 86.7%) had no history of admission, (80% and 90%) had no history of surgery, (86.7% % 93.3%) were without any abortion history, and (83.3% and 76.7%) had a history of drug use, which (80% and 73.3%) were of users of vitamins and supplements during pregnancy. Based on the results of the t-test, the two groups of intervention and control did not have a significant difference in the distribution of the frequency of demographic characteristics (Table 1).

The results of Kolmogorov-Smirnov test showed that the distribution of variables was normal in both intervention and control groups. Accordingly, independent t-test was used to compare the anxiety state before and after the intervention between the two intervention and control groups, while paired t-test was used for comparing the level of anxiety before and after the intervention in each group (Table 2).

Mean and standard deviation of anxiety before intervention in the control group and the intervention group were 43.63±4.97 and 44.07±7.41, respectively, that according to independent t-test, before the intervention, there was no significant difference between the two groups in terms of anxiety level. Based on independent t-test, after the intervention, the mean and standard deviation of anxiety in the control group was 43.07 ± 5.225 and in the intervention group was 34.75 ± 5.99, showing a decline in the level of anxiety after the intervention in the intervention group compared to the control group, a finding which was statistically significant ($p < 0.001$) (Table 3).

Based on the paired t-test results, the mean and standard deviation of anxiety for the control group before and the intervention were 43.63 ± 4.7 and 43.37 ± 5.22, respectively, which showed no significant difference. Also, based on paired t-test, the mean and standard deviation of anxiety before intervention was 44.07 ± 3.414 and after intervention 34.47 ± 5.59, which showed a significant difference ($p < 0.001$) (Table 3)

Discussion

The aim of this study was to determine the effect of Benson's relaxation on pre-operative anxiety in cesarean section in nulliparous women. To this end, the anxiety levels of the subjects were evaluated and compared before and after the study. In this study, the mean and standard deviation of the anxiety scores of the research units before the intervention in the two groups indicated that the research units in the intervention and control groups before the beginning of the study were based on the Spielberger's state anxiety scale in the medium to high anxiety level.

According to the findings of this study, the mean and standard deviation of anxiety score after the intervention in both groups showed anxiety reduction in the intervention group compared to the control group. According to Spielberger's state anxiety scale, the level of anxiety decreased to a moderate level after an intervention in the intervention group, but the level of anxiety remained moderate to high in the control group.

The findings of this study are consistent with PourAjal et al. (2014), in that Benson's relaxation has reduced the anxiety of patients undergoing cardiac surgery [41]. In this respect, the Study of Henduyan and colleagues (2011), "The effect of relaxation on patients' perception of anxiety, pain and consequences after an interventional electrophysiological procedure", has revealed a decrease in mean and standard deviation of anxiety score in patients [42].

The results of this study are also consistent with the results of Mahdavi et al. (2013) research on the effect of Benson's relaxation technique on anxiety, stress and depression in hemodialysis patients [43], Mokhtari Noori et al. (2008) study on the effect of foot reflexology Benson and relaxation on the anxiety of women before surgery [20], Malmir et al. (2015) study, "the effect of Benson relaxation on the level of state anxiety of patients in line open heart surgery [36], and Taghlili and colleagues (2004), "a comparative study of the effect of two methods of Benson relaxation and saying repeated Dhikrs on the anxiety state in the patients in line for the abdominal surgery [44].

However, the results of this study are not consistent with the study of Anisa Nori Kornisari et al. (2016), "the effect of Benson relaxation on the anxiety of hemodialysis patients." According to their results, Benson's relaxation has no effect on the anxiety of hemodialysis patients, the results of which may be due to lack of number of samples and failure to set the same circumstances for dialysis in the two groups in their study [45].

Based on the findings of this study, women generally experienced a moderately high level of anxiety during hospitalization for cesarean section. This may be due to pregnancy mothers due to hormonal changes during pregnancy and changes in the mental and psychological status of pregnant mothers, which is one of the causes of mental retardation during pregnancy [46]. Pregnancy is a stressful situation for women, and the level of stress and anxiety in the third trimester increases with the approaching delivery time and worries [47]. Pre-operative stages, surgery day, and worries about their outcomes, concerns about lack of control, risk of death, unfamiliar situations, unpleasantness and anticipation of undesirable results can all contribute to anxiety in patients [12, 13].

With anxiety, the level of blood catecholamines, adrenocorticoid hormones, prolactin, cortisol and prostaglandin rises, all of which negatively affect the patient's physiological responses such as respiratory rate, heart rate, oxygen consumption, plasma concentration of epinephrine and norepinephrine. It also affects cardiac output and blood pressure [48]. Benson's relaxation method lessens anxiety by reducing heart rate and respiratory rate, lowering blood pressure and decreasing oxygen consumption [49].

Conclusion

The findings of this study showed that Benson's muscle relaxation in nulliparous pregnant women moderates anxiety and can be used as part of a care-taking protocol to alleviate the anxiety of female candidates for cesarean section. Also, Benson's relaxation is completely possible and easily practicable by pregnant women, and can be easily instructed by health care personnel, including nurses. On the other hand, due to critical role that nurses bear as one of the most important members of the treatment team in maintaining and supporting the body and mental state of patients, they can use non-pharmacological interventions to control the state of anxiety in pregnant women, especially before cesarean section. Relaxation is a simple, feasible and useful method which does not require special equipment, yet it is applicable after a brief instruction. Therefore, the findings of this research can be used in nursing education, nursing services and nursing services management. Moreover, the findings of this research can provide the basis for future studies on the effect of Benson's relaxation on pre-surgery anxiety. The limitations of this study were the limited availability of nulliparous pregnant women in line for cesarean delivery, which led to a prolonged period of intervention and sampling within 6 months. Moreover, one of the most important pre-conditions of Benson's relaxation method is the complete quietness of the environment. In this research, this technique was performed as much as possible in the lactation training room, but it was not possible to provide the very quiet environment required for this method due to the admission of other patients and environmental factors (noise caused by equipment, telephone, and patient relocation), which may have affected the study outcomes that were beyond the control of the researcher. Regarding the results of this study, the researcher recommends using Benson's muscle relaxation on all candidates for cesarean mothers, intervention with longer duration compared to the present study, and on the satisfaction of patients undergoing cesarean delivery in nulliparous women.

Acknowledgments

This article is based on the master's thesis with Ethics code of IR.USWR.REC.1396.280 and the Clinical Trials Control Record of IRCT20170819035775N2 within Iranian Center for Clinical Trials in University of Social Welfare and Rehabilitation Sciences. The authors are hereby grateful of the honorable professors of the Nursing Department of University of Social Welfare and Rehabilitation Sciences, the honorable authorities of Imam Hossein Hospital, nurses and pregnant mothers who have helped us in this research.

References

1. Mohammadbeigi a, Mohammadsalehi n, Yazdani M. Factors Influencing Cesarean Delivery Method in Shiraz Hospitals. Iran Journal of Nursing (Nursing Care Reasearch Center). 2009;21(56):37- 45.
2. Saeedi R, Mamouri Gh, Aiati S, Rahmai SH, Gholami M. comparison of neonatal complications amonge cesarean and vaginal delivery mode. Journal of Sabzevar University of Medical Sciences. 2009;16(2):108-13.
3. Preethi Jazna ms, Reeta Jebakumari p, Santha DNJ. A Study to Assess the Effectiveness of Benson Relaxation Therapy on Blood Pressure and Stress among Women with Pregnancy Induced Hypertension in Selected Hospitals, Madurai. Asian J Nursing Edu and Research. 2016;6(2):167-70.
4. Rostampey z, Khakbazan Z. The effect of trained female relative on active phase length during labor among low risk pregnancies. Journal of Medical Faculty Guilan University of Medical Sciences. 2010;19(75):79-85.
5. Zafarghandi n, Hadavand sh, Torkestani f, Zaeri f, Variji M. Evaluation of anxiety and fear of labor in postpartum period. Journal of medical council of Islamic Republic of Iran. 2005;2(23):155-60.
6. Heiser Rm, Chiles k, Fudge m, Gray S. The use of music during the immediate postoperative recovery period. AORN j. 1997;65(777):85.
7. Nancymarie Fortunato Ph, berry, cohns. Operating room technique. 13, editor. Lakeland Community College2004. 345-62 p.
8. Hofberg K, Ward M. Fear of pregnancy and childbirth. Postgraduate Medical Journal. 2003;79(935):505-10.
9. Dechernery AH, Nathan L, Goodwin TM, Laufer N. Current Diagnosis & Treatment Obstetrics & Gynecology. 11, editor. USA: McGraw-Hill Companies,2007.
10. Teixeira JM, Fisk NM, Glover V. Association between maternal anxiety in pregnancy and increased uterine artery resistance index: cohort based study. BMJ. 1999; 318(7177):153-7.
11. Melender H. Fears and coping strategies associated with pregnancy and childbirth in Finland. J Midwifery Womens Health. 2002;47(4):256-63.
12. McRee LD, Noble S, Pasvogel A. Using massage and music therapy to improve postoperative outcomes. AORN J. 2003;78(3):433-47.
13. Mirbagher N, Aghajani M. Comparing the effect of holy Quran recitation and music on patient anxiety and vital signs before abdominal surgeries. Islamic lifestyle centered on health. 2012;1(1):66-84.
14. Punthmatharith b, Buddharat u, Kamlangdee T. Comparisons of needs, need responses, and need response satisfaction of mothers of infants in neonatal intensive care units. Pediatr Nurse 2007,22(6).498-506.
15. Barnason s, Zimmerman l, Nieveen J. The effect of music intervention on anxiety in the patient after coronary artery bypass grafting. Heartlang. 1995; 24:24-32.
16. Rene A, Ine P, Beverly W. Brunner and Suddarth's Textbook of Canadian Medical-Surgical Nursing. 2, editor. Hardcover: Boshra; 2009.
17. Potter PA, Perry A. Fundamentals of Nursing. 9, editor. Elsevier Health Sciences2016.
18. Moradi A. Effect of music on anxiety managementin patients undergoing mechanical ventilation. Pouyesh. 2012; 3:11-4.
19. Asadi noghabi AA, Keighobady S, omidi S. Psychiatric Nursing, Mental Health. Tehran: Boshra-naghshe andishe2011.
20. Mokhtari Noori J, Sirati nayer M, Sadeghi Shermeh M, Haji Amini Z, Javadinasab M. Effect of foot reflexology massage and Bensone relaxation on anxiety. Journal of Behavioral Sciences. 2009;3(2):159-65.
21. Tahmasbi H, Mahmoodi G, Mokhberi V, Hassani S, Akbarzadeh H. The impact of aromatherapy on the anxiety of patients experiencing coronary angiography. Zahedan Journal of Research in Medical Sciences. 2012;14(1):47-53.
22. Torabi M, Salavati M, Ghahri Sarabi A, Pourismail Z, Akbarzade B. Effect of foot reflexology massage and Benson relaxation techniques on anxiety and Physiological indexes of patients undergoing coronary heart angiography. Nasim-danesh (Scientific Journal of Hamadan Nursing and Midvifery Faculty). 2012;1(20):63-71.
23. Memarian R. The effect of Benson relaxation technique on patients' preoperative anxiety in men ward. Daneshvar Science-Research Scholar. 2000; 34:8-30.
24. Gleeson PB, Pauls J. Obstetrical Physical Therapy Review of the Literature. Physical therapy. 1988;68(11):1699-702.
25. Mirbagher Ajorpaz N, Shahshahani M, Dianati M. The effects of music on the anxiety and some physiological indices of patients before general surgery. Journal of Kermanshah University of Medical Sciences. 2011;15(2):90-5.
26. Sadat Elali E, Mahdavi A, Jannati Y, Yazdani Cherati J, Setareh J. Effects of Benson relaxation response on stress among hemodialysis patients. JMUMS. 2012. 22(91)47-61.
27. Field T, Diego MA, Hernandez-Reif M, Schanberg S, Kuhn C. Massage therapy effects on depressed pregnant women. J Psychosom Obstet Gynaecol. 2004;25(2):115-22.
28. Narendran S, Nagarathna R, Narendran V, Gunasheela S, Nagendra H. Efficacy of yoga on pregnancy outcome. J Altern Complement Med. 2005;11(2):237-44.

29. Dixhoorn v. Cardio respiratory effects of breathing and relaxation instruction in myocardial infarction patients. B PJ. 1998(49):123-35.
30. Everly JG, Lating J. A Clinical Guide to the Treatment of the Human Stress Response 2012. 186-9 p.
31. Apóstolo J, Kolcaba K. The Effects of Guided Imagery on Comfort, Depression, Anxiety, and Stress of Psychiatric Inpatients with Depressive Disorders. Arch Psychiatr Nurs. 2009;6(3):411-30.
32. Alwan M, Zakaria A, M ،A, AbdulHamid N, Fuad M. Comparison between Two Relaxation Methods on Competitive State Anxiety Among College Soccer Teams During Pre-Competition Stage. International Journal of Advanced Sport Sciences Research. 2013;1(1)90-104.
33. Hamid N. The Effect of Relaxation and Mental Imagery and Relaxation Therapy on Anxiety and Hopefulness in Women with Breast Cancer in Ahvaz. Asian J Med Pharm Res. 2012;2(1):5-10.
34. A Jorm, A Morgan, Hetrick S. Relaxation for Depression. US National Library of Medicine National Institutes of Health. 2008;8(4):42-60.
35. Hanifi N, Ahmadi F, Memarian R, Khani M. Effect of benson relaxation techniques on hemodynamic variables of patient undergoing coronary angiography. J Shahid Sadoghi Univ Med Sci. 2005;12(4):78-86.
36. Malmir M, Teimouri F, Pishgooie SA, Dabaghi P. The Role of Benson′s relaxation on reducing state anxiety on candidate of open heart surgery patient's. Journal of Military Care. 1394;2(3):182-90.
37. Rees B. Effect of relaxation with guided imagery on anxiety, depression, and self-esteem in primiparas. Journal of Holistic Nursing. 1995;13(3):255-67.
38. Urech C, Fink N, Hoesli I, Wilhelm F, Bitzer J, Alder J. Effects of relaxation on psychobiological wellbeing during pregnancy: A randomized controlled trial. psychoneuroendocrinology. 2010;35(9):1348-55.
39. Nazemian F, Ghafari F, Poorghaznein T. Evaluation of Depression and Anxiety in Hemodialysis Patients. Medical Journal of Mashhad university of Medical Sciences. 2008;3(51):171-6.
40. Mahram B. Standardization of the Spillbugger's Clear and Concealed Anxiety Test. Thesis for Master Degree, Faculty of Education Sciences and Psychology, Ferdowsi University of Mashhad. 1373:104.
41. Poorolajal J, Ashtarani F, Alimohammadi N. Effect of Benson relaxation technique on the preoperative anxiety and hemodynamic status: A single blind randomized clinical trial. Artery Research. 2017; 17:33-8.
42. Hindoyan A, Cao M, Cesario DA, Shinbane JS, Saxon LA. Impact of Relaxation Training on Patient-Perceived Measures of Anxiety, Pain, and Outcomes after Interventional Electrophysiology Procedures. Pacing and Clinical Electrophysiology. 2011;34(7):821-6.
43. Mahdavi A, Gorji MAH, Gorji AMH, Yazdani J, Ardebil MD. Implementing benson's relaxation training in hemodialysis patients: Changes in perceived stress, anxiety, and depression. North American journal of medical sciences. 2013;5(9):536.
44. Taghlili F, NIKbakht Nasrabadi AR, Taghavi Larijani T, Mahmoodi M. The effect of relaxation and repeat the procedure recommended recitals on the state of anxiety Patients before abdominal surgery. Journal of Life. 2004;10(23):29-37.
45. Anisa Nuri Kurniasari, Anita Kustanti, Harmilah. The Effect Benson Relaxation Technique with Anxiety In Hemodyalisis Patients In Yogyakarta. NURSING PRACTICE. 2016;1.
46. Cunningham F, Leveno K, Bloom S, Hauth J, Rouse D. Wiliams Obstetrics. Ghazijahani B, Ghotbi R. 23P rdP ed. Tehran: Golban. 2010:49-54.
47. Alipour Z, Lmyyan M, Hajizadeh E. Sleep Quality in Late Pregnancy and Postpartum Depression. IJOGI. 2011 (40):39-47.
48. Turton MB, Deegan T, Coulshed N. Plasma catecholamine levels and cardiac rhythm before andafter cardiac catheterization. Br Heart J.1977.39(12):307-11.
49. Hazrati M, Hoseini M, Dejbakhsh T, Taghavi SA, Rajaee-fard A. The effect of Benson relaxation therapy on anxiety level and severity of symptoms in patients with irritable bowel syndrome. Arak Medical University Journal. 2006;9(4):1-9.

Table 1: Comparison of the research subjects in terms of individual-clinical characteristics (age-caesarean section-week of pregnancy)

Group / Variables			Intervention group (n=30)				Control group (n=30)				Sig. level
Mathematical statistical measures			Mean	SD	Min.	Max	Mean	SD	Min.	Max	0.890
Age			25.37	4.42	20	37	25.53	4.87	17	39	
Cause of Caesarean		Cause	Count		Percentage		Count		Percentage		
	Maternal causes	High blood pressure (pre-eclampsia)	9		30		10		33.3		0.591
		Diabetes	4		13.3		5		16.7		
		Heart disease	1		3.3		0		0		
		Inappropriate Pelvis	5		16.7		4		13.3		
		History of seizure and epilepsy	1		3.3		0		0		
		Abortion	0		0		1		3.3		
		Infertility	1		3.3		0		0		
	Fetus-related causes	Bridged delivery	9		30		7		23.3		
		Placenta Previa	0		0		2		6.7		
		umbilical cord around the embryo	1		3.3		0		0		
Cumulative causes		Maternal causes	66.7 %				66.7%				0.591
		Fetus-related causes	30%				33.3%				
		Both	3.3%				0%				
Gestation week			Mean	SD	Min.	Max	Mean	SD	Min.	Max	0.432
			37.93	0.868	36	39	38.10	0.759	37	40	

Table 2: Normal distribution of samples based on Kolmogorov-Smirnov test

Variable	Group	Kolmogorov-Smirnov test		
		Test measure	Degree of freedom	Probability
Anxiety before the intervention	Control	0.138	30	0.149
	Intervention	0.143	30	0.120
Anxiety after the intervention	Control	0.141	30	0.133
	Intervention	0.124	30	0.200

Table 3: Comparing the mean of anxiety before and after the intervention between two groups and within each group

Group / Interval	Control			Intervention			Comparison between groups using independent t-test
	Mean	SD	Min - Max	Mean	SD	Min - Max	P value
Before the intervention	43.63	4.07	35 – 52	44.07	3.741	37 - 54	0.669 t(58)=-0.429
After the intervention	43.7	5.225	31 – 51	34.70	5.059	26 – 48	<0.001 t(58)=6.301
Intra-group comparison with paired t-test	0.461 t(29)=0.746			<0.001 t(29)=11.105			