

## The Comparison Between Effectiveness of Teach-Back Method and Accompany Person on Anxiety in Women Undergo Cesarean Section

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**Abstract:** One of the most important problems in surgical patients is anxiety before surgery. So, this study was done to compare the effectiveness of the teach-back method and accompany person with anxiety in women undergo cesarean section. This study is a randomized clinical trial that was done on women undergo cesarean section who referred to Taleghani hospital in Abadan. Ninety patients, according to inclusion criteria were selected and randomized to three groups: 2 intervention group and 1 control group. Group 1 was educated on teach-back method, group 2, partners were present in the ward for the night before their surgery until 15 min to start their surgery and control group were received usual care. Anxiety scores before and after intervention were assessed by using the Spiel Berger State-Trait Anxiety (STAI) inventory and data were analyzed by SPSS: 19. The results of the comparison between anxiety mean difference scores in the three group shows that in teach-back group (2/4) and group (11/7) were decreased in comparison with control group (-1 2/4) ( $p = 0/001$ ). Also in comparison between two teach-back and accompany person, group, results show that accompany person is more effective to reduce anxiety in subjects ( $p = 0/0001$ ). With this regard that teach-back method and accompany person can be effective in reduce anxiety before cesarean section so that use of these two methods can be suggested to control anxiety among women undergo cesarean section.

**Key words:** Anxiety, accompany person, teach-back, operating room, suggested

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### INTRODUCTION

Surgery as a stressful condition can be intimidating and can provoke anxiety for any patient (Davis-Evans, 2013). The environment inside the OR (Operating Room) also has an effect on patient anxiety. Factors such as the sound of alarms on machinery and the noise from surgical instruments being unpacked can have a significant effect on increasing anxiety (Haugen *et al.*, 2009). Anxiety can increase the need for anesthesia and it has been shown to increase postoperative pain medication requirements which can affect postoperative recovery (Stirling *et al.*, 2007). Nevertheless, while preoperative anxiety has been widely studied in many pre-surgical populations, the potential impact of anxiety on the experience of cesarean section has not been thoroughly explored, though it has been identified (Wyatt *et al.*, 2001). It is also the case that relatively little research has focused on elective or

planned caesarean section. This may be particularly important because it has been suggested that fear of labor is a key element in women's requests for elective caesarean. If this is the case, then the sample undergoing this procedure is likely to be already biased towards more anxious women. In other medical areas where people are anticipating a potentially stressful experience, the provision of adequate information and availability of social support from others has been key issues (Hobson *et al.*, 2006). Thus, it is crucial for health care providers to examine and understand the mental health of patients who are undergoing surgical procedures (Haugen *et al.*, 2009). There are pharmacological and non-pharmacological interventions that can be implemented to help decrease anxiety and panic disorders experienced by patients during the perioperative process. One of the non-pharmacological interventions is preoperative education. Studies have shown that 40-80%

of the medical information patients receive is forgotten immediately and nearly half of the information retained is incorrect (Kessels, 2003; Anderson *et al.*, 1979). One of the easiest ways to close the gap of communication between clinician and patient is to employ the “teach-back” method also known as the “show-me” method or “closing the loop” (Schillinger *et al.*, 2003). The National Quality Forum has endorsed the teach back as a safety practice (Paasche-Orlow *et al.*, 2006) and researchers have pronounced it a proven way to evaluate understanding of health teaching (Villaire and Mayer, 2006). This method of education involves asking patients to restate information that has been presented to them. This technique allows the educator to check for lapses in recall and understanding, reinforce and tailor messages and engage in an open dialogue with patients (Schillinger *et al.*, 2003). One of the other ways of reducing anxiety is using of social support. While the patient is irrefutably the primary client, a patient’s surrounding environment includes significant others who may have a profound impact on his or her physical and mental health. The people who the patient knows and trusts may influence adherence to medical therapy. These “significant others” or APs (Accompanying Person) may also be seen as secondary clients. Including these APs in part of any medical intervention may help to achieve successful outcomes by leveraging their presence and role to help reduce the stress and anxiety of the patients undergoing medical interventions (Lachter and Bluen, 2013).

Although, the teach-back method has been widely used with a variety of patients, we found only limited research using the teach-back and AP for controlling acute medical conditions such as surgical anxiety and the researchers are unaware of any research study that examines the teach-back method of educating and AP before surgery; therefore, this present randomized study is designed to evaluate “the comparison between effectiveness of the teach-back method and accompany person on anxiety in women undergo cesarean section”.

## MATERIALS AND METHODS

We carried out a randomized controlled trial to compare the effect of teach-back educational plan and AP with anxiety level in women undergoing cesarean section. The participants in this study were women scheduled to receive a cesarean section between July and September 2014 in the gynecology wards of Taleghani hospital in Abadan, Iran. The following inclusion criteria were used for the study: complete orientation and able to speak Persian and writing, don’t have pregnancy complication (preeclampsia, bleeding and infection) and be term, don’t have acquaintance the medical and health systems

working, having the general anesthesia, the moderate or severe anxiety score according to Spiel Berger State-Trait Anxiety (STAI) inventory have the cesarean section for first time, don’t have the previous surgery, having the age between 20-30 years, having the alive and one fetus with cephalic presentation and be in pre-operative room for at <2 h before surgery. Exclusion criteria included presence the on time surgery such as hysterectomy and tubectomy, substance abuse (opioids, anti-anxiety drugs), emergency cesarean section and complication such as vaginal bleeding, epilepsy, psychological illness, cardiovascular and diabetes disease, use of corticosteroids, beta adrenergic and beta-agonist drugs, the presence of effective crisis in their life in the past 6 months ago, hypertension and severe pain. Women eligible for inclusion was sequentially recruited into the study and randomly allocated to three group: two intervention group and one control group. At the first a pilot study consisting of 15 subjects was carried out in three groups of study which had the requirements of the main groups. Then, the main study was done in which three 30-subject groups that were qualified to join in this study were randomly assigned. In this study demographic information questionnaire and Spiel Berger State-Trait Anxiety (STAI) inventory were used. State anxiety is defined as a transitory state that varies in intensity and fluctuates over time. It explores how the person is feeling right now and is measured on a 4 point scale from “not at all to very much so”. These measures are widely used and demonstrate good psychometric properties in terms of high reliability and validity. It takes about 5 min to complete. The STAI was validated for use during pregnancy in a study by Grant *et al.* (2008). To achieve the objectives, after protocol was approved by the research Ethics Committee of the University with regard to moral considerations, the researcher referred to the Taleghani hospital and after permission from the hospital authorities and 90 subjects were selected using block random sampling method and after giving the necessary explanation about research objectives, a written consent informed was obtained from all the participants. Then for random assignment of the subjects to three groups, we used 6 blocks A, B, C (ABC, ACB, etc.) of Balanced Blocked Randomization Method. The first intervention group seemed as teach-back group, the second one as AP group and the third one as control group (n = 30 in each group). For first group, we used organized educational plan based on teach back method after determining the educational women needs. The content of this educational plan were approved by 10 nursing professors of Abadan School of Medical Sciences. In this method of education, the provider can tailor teaching and reassess comprehension until the patient has mastered the information. In general, in the night before surgery, the

provider refer to the patient room and explain the educational plan with simple words in a session that lasted an average 30-45 min. At the completion of education session, participants were asked to teach-back the information that had been presented to them at that time or with this question: “please explain in your own words what I just taught you about....” for assessing the effectiveness of education, the women were asked 4 questions based on their educational content that be varied according to their educational needs. Correctly answering teach-back questions was defined as correctly answering 75-100% or 3-4 of the self-care teach-back questions (Prabhu *et al.*, 2009). We should point that the educational plan in this research had the organizes structure and included the whole item about cesarean surgery (cesarean cases, the care of women with cesarean and the expectance factors in operating room...) and was flexible based on women requirement. Figure 1 shows the

rial profile about women educational requirements in this study. In second intervention group (AP), the nurse provided the routine care for women and allowed to the AP to be with patient from the night to start the surgery. There was not performing any intervention for the control group except the routine care. In the surgery day, researcher was presented in OR and spoken again with the women in teach-back group and answered to their questions in pre-operative room. Also, in the second intervention group, the AP was present besides the patient and been in pre-operative room until 15 min before surgery. The control group were admitted in pre-operative room, according to routine care in hospital. The demographic data questioner and Spiel Berger State-Trait Anxiety (STAI) Inventory were completed by all of women before transition to OR. Statistical analysis was conducted using SPSS, Version 19. Associations were tested using Tuckey-HSD.

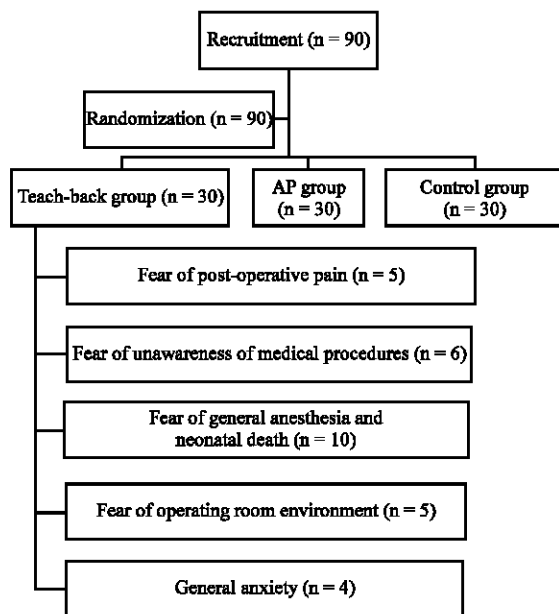


Fig. 1: The trial profile about women educational requirements

**RESULTS**

Ninety women fulfilled the criteria and no one declined to participate that randomized to three groups (2 intervention groups, 1 control group). The mean age of group 1 and 2 was 25/2±2/90 and 25/2±3/58, respectively and for the control group was 25/5±2/68 that there was not seen statically difference between the three groups according to ANOVA analysis (p = 0/910). About the level of education and living conditions, the ANOVA analysis showed that the three groups were homogeneous and there is no significant difference between them (p = 0/335).

In general, before intervention based on the STAI, 81/1% of the women had moderate and 18/9% had severe anxiety. The level of anxiety in three groups before and after intervention are shown in Table 1. In the first intervention group (teach-back), 20%, the second intervention group (AP), 30% and in the control group 6/7% of participants had severe anxiety on the night before surgery. These anxiety scores were calculated 10% in teach back group, 30% in AP and 43/7% in control

Table 1: Anxiety levels before and after interventions

	Teach-back group (n = 30)		AP group (n = 30)		Control group (n = 30)		p-value
	Pre-test	Post-test	Pre-test	Post-test	Pre-test	Post-test	
<b>Surgical anxiety</b>							
Mild anxiety (0-20)	0	0	0	9	0	0	0/001
	-	-	-	30%	-	-	
Moderate anxiety (21-40)	24	27	21	21	28	16	
	80%	90%	70%	70%	93/3%	56/3%	
Severe anxiety (41-60)	6	3	9	0	2	14	
	20%	-	30%	-	6/7%	43/7%	
	10%	-	-	-	-	-	
Mean	50/8		43/93		59/43		
SD	6/15		7/26		7/27		

Table 2: Comparing the mean and standard deviation of anxiety before and after intervention

Variables (n = 30)	Mean±SD		Mean differences±SD	p-value
	Pre-test	Post-test		
Teach-back group	53.20±7.70	50.80±6.15	2.4±11.49	0/001
AP group	55.63±7.49	43.93±7.26	11.7±8.360	
Control group	47.03±6.64	59.43±7.27	-12.4±7.930	

groups. There was seen significant differences in anxiety level between groups based on the ANOVA analysis ( $p = 0/001$ ) while there was not seen statically differences between them before intervention ( $p = 0/362$ ) (Table 1). The comparison of anxiety levels between teach-back and control groups shows that the level of anxiety is lower than control group based on Tukey HSD test ( $p = 0/001$ ), this test also showed that there are significantly differences between the AP group and control group and mothers in AP group have lower anxiety in comparison with control group ( $p = 0/001$ ). The comparison between teach-back group and the AP group based on Tukey HSD test shows that mothers in AP group have lower anxiety ( $p = 0/0001$ ) as in this group, 30% of mothers have mild anxiety while in teach beck group most of the mothers have moderate anxiety and no one have anxiety at mild levels. The mean scores of anxiety in three groups before and after intervention are shown in Table 2. The results of the comparison between anxiety mean difference scores in the three group shows that in teach-back group (2/4) and AP group (11/7) were decreased in comparison with control group (-12/4) ( $p = 0/001$ ).

### DISCUSSION

Anxiety can be described as a normal physiological reaction to stress, mediated via the amygdala and hippocampal areas of the brain. This reaction comprises several emotional, behavioral, somatic and cognitive components. Although, anxiety in relation to a surgical procedure is normal in patient and partner, preoperative anxiety can significantly influence the patient's mood, communication and family dynamics. Patient anxiety is believed to be associated with greater postoperative pain and possibly decreased postoperative coping skills (Clement, 2001).

The etiology of preoperative anxiety in patients undergoing elective surgery is multifactorial that one of them is separation of patients from their families that can provoke a large amount of preoperative anxiety among partners. In a study by Taylor *et al.* (2002) that examined partner anxiety, over 70% expressed the view that visiting the preoperative anesthesia clinic or having written information available would reduce their anxiety. Further,

58% of partners responded via questionnaire that being present in the operating room with the patient through the procedure would be of benefit. Interestingly, these researchers found that partners believed they would be less anxious if they were present in the operating room for neuraxial anesthetic placement. In this study, our data also showed that the presence of an AP can be useful for reducing anxiety level among women undergoing cesarean section ( $p = 0/001$ ). Lachter and Bluen (2013) in a study that was performed aimed to measure the effects of allowing an AP to be present in the endoscopy suite during Esophagogastro Duodenoscopy (EGD), offered to permit the presence of an AP during EGD to improve patient and family satisfaction with the endoscopy center and reduce patient anxiety, especially for high-anxiety patients and first-timers. In regards to OB-GYN (Obstetrics and Gynecology) practice, it was demonstrated by Afaneh *et al.* (2010) that although a majority of patients (65%) felt no need for an AP, a small but significant group of patients requested accompaniment regardless of the gender of the examiner. Therefore, patients should be offered the option of having an AP with their opinion respected and documented (Afaneh *et al.*, 2010). However, in contrast to our results, Prabhu *et al.* (2009) in a study that aimed to ascertain whether the partner's presence in the operating room during neuraxial anesthesia for cesarean delivery reduces patient anxiety, demonstrated that although patients whose partners were present in the operating room at the time of neuraxial anesthesia placement reported less anxiety over the time of the study than did patients whose partners were not present, there was no significant difference in the patient anxiety level with the presence or absence of the partner in the operating room during neuraxial placement ( $p = 0/344$ ). May be the cause of this contrast is correlated to types of anesthesia that used. As while in neuraxial anesthesia patients are aware in OR, this can lead to more anxiety but in general anesthesia, patients are not awake during the procedure and their anxiety is limited to the time duration before the start of their surgery. Also in their study, the sample was mixed including women who had previous neuraxial anesthesia and those who had not and important determinants that may have reduced patient anxiety such as adequate information and preparation for neuraxial anesthesia placement were not measured while in our study we excluded those who had general anesthesia experiences. About teach-back educational method that we used in this study, our data indicates that it's a useful method for educating women undergoing cesarean sections and can reduce women anxiety before surgery as a useful educational method ( $p = 0/001$ ). However, the teach-back method was mentioned as a useful method of

education in literatures but there is only limited study about teach-back method and we were unaware of research about the effect of this method on acute situations such as surgical anxiety. For example, White *et al.* (2013) in their study with this topic: "Is "Teach-Back" Associated with Knowledge Retention and Hospital Readmission in Hospitalized Heart Failure Patients?" also demonstrated that the teach-back method is an effective method of providing HF education and it provides a tool to assess learning in hospitalized HF patients. Patients educated longer retained significantly more information than did patients with briefer teaching that demonstrated patients correctly answered 3 of 4 or 75% of self-care teach-back questions 84.4% of the time while hospitalized and 77.1% of the time during a follow-up telephone call (White *et al.*, 2013). In regard to teach back efficacy, Wilson *et al.* (2012) that using teach-back method to increase maternal immunization literacy among low-income pregnant women in Jamaica, pointed that for mothers with low literacy, the ability to communicate about immunizations indicates better understanding and knowledge that could lead to higher participation in child immunization programs (Wilson *et al.*, 2012). About the purpose of this study that is "the comparison between effectiveness of teach-back method and accompany person on anxiety in women undergo cesarean section", according to Table 2, Mean Differences $\pm$ SD in teach-back and AP group is 49/11 $\pm$ 4/2 and 36/8 $\pm$ 7/11, respectively. Also, as its seen in Table 1, 30% of women have mild anxiety after intervention while there is not seen in other groups and no one has anxiety in mild level in the other two groups. This means that the presence of an AP is more effective than teach-back method to reduce anxiety in women undergo cesarean section. We should point that this result is limited only to this study and testing the effectiveness of both teach-back method and AP, warrants further study in the future.

### CONCLUSION

As conclusion teach-back method is an effective educational method that can be used in surgical wards for women undergo cesarean section to reduce their anxiety. Allowed an AP to present in the operating room before surgery can be useful to reduce anxiety among women undergo cesarean section, too. The presence of an AP is more effective than teach-back method to reduce anxiety in women undergo cesarean section.

### LIMITATIONS

This study probably was the first research that assesses efficacy of teach-back method on anxiety in women undergo cesarean section so there was only

limited literature and studies that allow us to more discusses about it. Also, this small sample size of the study involves one culture of people and one kind of surgery, so we can't popularization our results to other cultures and surgery fields.

### ACKNOWLEDGEMENTS

This is a part of a nursing students thesis (Ms. Nasim Hatefi Moadab) graduated from Ahvaz Jundishapur university of medical sciences though grant no B-9344. The researchers would like to thank the Vice-chancellor for Research at Ahvaz Jundishapur University of medical sciences for financial support of this research. Also the researchers would like to thank the participants and their families for taking part in the trial and the staff in the operating room of Taleghani hospital, Abadan, Iran.

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