

**Research Article**

## **Effect of the presence of Accompanying Person in the operating room on Surgical Anxiety in Primiparous Cesarean Section Women**

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**Background:** One of the most important problems in surgical patients is anxiety before surgery. The aim of this study is survey the effect of the presence of accompanying person in operating room on surgical anxiety in primiparous cesarean section women.

**Methods:** this study is a randomized clinical trial that was performed on 60 primiparous cesarean section women. Participants were randomized into two groups as intervention and control group. In intervention group, accompanying persons were allowed to presence in the operating room from the night before surgery to 15 minute before the beginning of surgery. Their anxiety scores were assessed by using Spiel Berger Trait Anxiety Inventory (STAI).

**Results:** According to paired T-test, the results showed significant statically differences in the opposite direction between pre and post intervention mean scores anxiety in the control group ( $p < 0/001$ ). Whereas, this comparison showed significant statistical differences in intervention group ( $p < 0/001$ ). In comparison between two groups, Independent T-test results rely on that there were significant statistical differences and the mean preoperative anxiety score in the intervention group was significantly less than control group ( $p < 0/001$ ).

**Conclusion:** the results of this study shows that the presence of Accompanying Person in the operating room has a positive effect on reducing anxiety in the women before cesarean section.

**Keywords:** anxiety, social support, operating room

### **BACKGROUND:**

the word "anxiety" refers to human response to any unknown condition. Anxiety reasons are different that is a reason for fear making anxiety situation, including surgery that people's compatibility with it may be difficult for all ages groups and it was always along with a poor to an extreme anxiety(1,2). However, Pre-surgery anxiety is a natural response because of surgery experiencing but it will be considered as a usual

issue with late consequences at the moment. Anxiety can postpone improvement of wound by stimulating the stress mental consequences (3). It also can cause hemorrhage postoperative outcome by increasing heart beating and elevating blood pressure. Continuing anxiety mode led to increase the body metabolism and more oxygen consumption, too (4). Studies have shown pre-surgery anxiety has a negative effect on vital signs

in recovery after operation (5-7). The Association of Preoperative Registered Nurse (AORN) has claimed in their recent instruction to control preoperative anxiety that needing for surgery alone has a role in increase of patient's anxiety and stress and the extent of the way of surgery doesn't have any important role in it (8). A kind of operations that happens commonly is caesarean section (9). Caesarean section outbreak in most countries of world has significant difference with announced facts (15%-10%) from Iran's Ministry of health (10). In 1381 in Iran, 37 % of parturitions had been taken place by cesarean section (11) and up to 1383 this number got on 39/2 (12). Also increase in cesarean section process in recent years was in such a way that as the WHO announcement, Iran was in second place with 42% (13). Cesarean section has potential dangers like infection, emergency hysterectomy from uncontrollable hemorrhage, Deep Vein Thrombosis, and following that pulmonary embolism and brain dangers, wound dehiscence and even death (14). Anxiety in gestation and giving birth has a harmful effects ; from anxiety, the autonomous nervous system is stimulated and cause to increase contraction of smooth muscle like arterial system and this led to decrease oxygenating the Uterus and increase unnatural Fetus heart beating patterns and preterm delivery (13). Although nowadays in health care system the physicians traditionally use drug methods for reducing anxiety of patient under surgery, however, noticing to alternative cures is increasing day by day. These alternative or supplementary cures include using peaceful Audio tape, hypnotism, music therapy, therapeutic touch, massage and ... (15,16). One of methods that recently got the attention of researchers for preoperative anxiety control is to accompany the patients in surgery room to do social support before surgery (17). Loss of social support in time of requirement can be stressful. People who get social support has less issues during gestation and giving birth; it may be possible that social support is more effective in reducing pain and stress than preventing illness. Social support accelerates healing of illness, too. This claim has been proved

from coronary arteries surgery, romathoidarterithis, leukemia, children and shock. Also there are reports on mortality decrease from Myocardial Infarction, better diabetes control, less pain in arterithoid patients and depression and disappointment in AIDS patients. Although, social support has an independent effect on health, impressed the health treats directly; like the people who get more social support face their drug regimen better and more adaptive and also there's more possibility for using health care centers (18). Since in countries hospital the patient companion often not allowed to be beside their patient and to accompany them except certain visiting days and hours and this restriction gets more difficult in surgery room and by considering this fact the importance of mental-social condition isn't less than medical factors and everyone's support is a mental-social intervention basically, so the researcher decided to do a study with aim of survey the effect of accompaniment on anxiety rate and homodynamic changes before cesarean section surgery in volunteered women.

There is hope that results of this research become even a little bit handy to improve quality of presented nursing care to patients under surgery.

#### **METHOD:**

This research is a kind of random controlled clinical trial that was done in 1393 at Taleghani Medical Educational Center of Abadan city. Research society includes singleton nulliparous women that were under cesarean section in Taleghani Hospital of Abadan. Inclusion criteria the research included of people's interest in participating in this study, full awareness and ability for writing and reading and realizing Persian language, not having after giving birth consequences like Preeclampsia, hemorrhage and infection based on patient case, no work or educational experience in health center, General anesthesia, have a moderate (21-40) or extreme (41-80) anxiety scale based on Spiel Berger State-Trait Anxiety Inventory, no medical history of surgery and being in an age of 20-30 years old. Exclusion criteria included simultaneous surgeries like hysterectomy and Tubectomy(tubal ligation),

drug addiction and using anti-anxiety drugs and sedative, emergency cesarean and revealing obstetric consequences like vaginal hemorrhage during experiment, epilepsy affection, mental disorders, cardiovascular and respiratory diseases and diabetes, usage corticosteroid drugs,  $\beta$  -adrenergic  $\beta$  - antagonist, effective crisis of life during last 6 months (spouse or relative's death, unemployment of husband and...), high blood pressure and severe pain. For sampling, by reference to research area and after determining the patient under cesarean section based on next day surgery list, eligible persons available had been chosen based on inclusion criteria, then stayed on to intervention groups and controls in method of selectively blocks. To determine the volume of research sample, a comparison of average formula was used in both sides, as it was in intervention group average  $9.4 \pm 10$ , and in controls  $3 \pm 5.5$  with  $\alpha = 0.05$  and  $\beta = 0.15$  in pilot study on each 15 person from each sides, and sample volume was calculated in every 30 person groups.

$$n = \frac{(Z_1 - \frac{\alpha}{2} + Z_2 - \beta)^2 (s_1^2 + s_2^2)}{(\bar{x}_1 - \bar{x}_2)^2}$$

In intervention group, chosen one companion were permitted from people to be in surgery room from last night before operation day in time of hospitalization in unit until next morning, 15 minutes before starting surgery. There wasn't any intervention in controls except unit routine attention (pre-operative attention, get patient ready for cesarean section, checking vital signs and clinical status and...). To get information, demographic informational (age, educational level, housing situation) and Spiel Berger State-Trait Anxiety Inventory form were fulfilled people of both sides before intervention. For getting info after intervention, in surgery day and 15 min before starting anesthesia in a time that patient is

waiting for surgery, by researcher at surgery room of both groups were fulfilled. It should be noted Spiel Berger State-Trait Anxiety Inventory includes 20 items about state-trait anxiety. This inventory contains 20 multiple choice question and it was done through interviewing patients. Answers were based on 4-point Likert scale (at all, barely, medium, much) and each choices contains 1 to 4 respectively and in reverse statement were 4 to 1. In this way, score domain of this inventory will be among of 20 and 80. 20 and 40 for barely, 40 and 60 for medium and 60 and 80 for much anxiety. Spiel Berger State-Trait Anxiety measurement tools have a high profile credit and it's known as the standard test. Stability of this inventory in Tiedeman research was considering as 87% (19). Validity and stability of this inventory in Iran is confirmed in Tal and et al ( $\alpha = 0.97$ ) (20). After completion of questionnaires, data were analyzed by usage of SPSS statistics software 19 edition and descriptive statistics (average, variance, standard deviation) and analytical (Bigeminal T, independence T, square T). Meaningful statistical level had been considered as  $P < 0/05$ .

**RESULTS:**

This paper is retrieved from MA proposal that to regard moral consideration has been registered in Iran IRCT with number IRCT2014041417270N1. After confirming this plot in Research Ethics Committee and Research Council of Ahvaz JondiShapoor University of Medical Science, researcher was introduced to do study with coordination of Abadan Taleghani Hospital authorities. As well as all the participants, purposes, confidentiality, voluntary to participate and determent of research for any cause, essential explanations had been given and written contest had been gotten.

**Table 1** frequently distribution of studying people anxiety rate in both groups, before and after intervention

Demographic features	Intervention group n = 30		Controls n = 30		All people n = 60		p-value
*Age groups	Num.	Per.	Num.	Per.	Num.	Per.	0.605
20-25	17	56.7	15	50	32	53.3	
26-30	13	43.3	15	50	28	46.7	

*Educational level							0.432
Under high school diploma	19	63.3	16	53.3	35	58.3	
Upper high school diploma	11	36.7	14	46.7	25	41.7	
*Housing situation							0.174
Urban	26	86.7	21	72.4	47	79.7	
Rural	4	13.3	9	27.6	13	20.3	

**Table 2** frequently distribution of studying people anxiety rate in both groups, before and after intervention

Anxiety score difference before and after intervention		After intervention	Before intervention	Studying groups	
p-value				Average	Standard deviation
P<0.001	11.7	43.93	55.63	Average	intervened
	8.36	7.26	7.39	Standard deviation	
	-12.4	59.43	47.03	Average	Controlled
	7.93	7.27	6.64	Standard deviation	

**Table 3** frequently distribution of studying people anxiety rate in both groups, before and after intervention

p-value	controls		intervened		Anxiety before intervention
	Per.	Num.	Per.	Num.	
0.153	0	0	0	0	Slight (0-41)
	93.3	28	70	21	Medium (41/60)
	6.7	2	30	9	Extreme (61-80)
P<0.001	Per.	Num.	Per.	Num.	Anxiety after intervention
	0	0	30	9	Slight (0-41)
	56.3	16	70	21	Medium (41/60)
	43.7	14	0	0	Extreme (61-80)

60 nulliparous mother had been participated in this study that had been divided into intervened and controls groups random. Average age of our studying people in intervention group was 25.2±2.9 and in controls was 25.5±2.6, using of K square statistical test had shown that there is not any significant between them (P<0.68). As term of educational level and housing situation too, using of K square statistical test had shown that both groups under study are homogenous and there is not any significant between them (P<0.05)(Tab1). Generally, participants' anxiety level before intervention in 93.3% of women was medium and in 6.7% was extreme. In intervened group, anxiety level of medium and extreme were 70% and 30% and in controls it was, 93.3% and 6.7%, respectively; this rate was 43.7% and 56.3% in controls after intervention. In intervened after intervention, it became 30% had slight anxiety and

remaining 70% had medium anxiety. Using of K square statistical test had shown that after intervention there is significant statistical difference between two side (P<0.001) while as before intervention there was not any significant statistical difference between them (p=0.13) (tab2).

Anxiety level average and standard deviation in a day before surgery in intervened, was 55.63±7.39 and in controls was 47.03±6.64 that this rate after doing intervention in intervened and in controls, got to 43.93±7.26 and 59.43±7.27, respectively. Also average and standard deviation of anxiety score difference after and before intervention in intervened and in controls, were 11.7±8.36 and -12.4±7.93 that based on K square statistical test, between anxiety score difference before and after intervention in both groups of study there was a significant statistical difference (p<0.001)(Tab3).

Based on Bigeminal T statistical test, between anxiety level before ( $47.03 \pm 6.64$ ) and after intervention ( $59.43 \pm 7.27$ ) in controls, there is a significant difference statistically ( $p < 0.001$ ) and increase in anxiety average after intervention is obvious. However, between anxiety level before ( $55.63 \pm 7.39$ ) and after intervention ( $43.93 \pm 7.26$ ) in intervened by using Bigeminal T Test, no statistical difference had been revealed ( $p = 0.326$ ).

#### DISCUSSION:

In this research, most people in a night before surgery had medium-level anxiety, so that in companion group 70% and in controlled 93.3% were in a medium level anxiety (Tab3). After intervention and a while close to anesthesia induction – 15 min before surgery – anxiety level was so that in companion group 70% and in control 56.3% of people were in medium level anxiety and it is notable that in intervened 30% of people with anxiety score 21-40 estimated their anxiety level slight; whereas in controlled 43.7% of people, consumed their anxiety level, extreme (as score of 61-80). Based on results of deferent study, anxiety level of patient in 24 hours before surgery reaches its climax (21), and even may cause to reveals behaving changes after their surgery (9). As Ghane'ee et al (2013) 50% of patients had a high state trait anxiety approximately (22). In Ghardashi (2007) 35% morning surgery patients had a medium state trait anxiety, too (23). During gestation and giving birth several factors led to reveal anxiety statement in mother that these factors reduce largely by suitable educations(24). Results of this study shows that accompanying in surgery room could be caused to reduce anxiety in volunteer cesarean women ( $p = 0.001$ ). this fact is a great hope in usage of non-drug Anxiety tranquilizer methods. In the other hand, patient social support by companion before surgery was able to make a sedative and anti-stress effect and be effective in anxiety reduction of patients (Tab1). Using anxiety reducer methods like Therapeutic Touch, teaching the patient, prescription  $\beta$ blockers led to

reduction in autonomous system stimulation (25) and sympathetic system suppression or parasympathetic system activation led to anxiety reduction (26). Study of Saisto et al shows that psychological methods have a positive effect on parturition anxiety reduction so that is been confirmed by this study results. Buras claims that we must provide for mothers enough support so they have positive and satisfactory experience from giving birth (27). Nicholas and et al expressed that a person, who pay his/her all attention to pregnant; it's so worthy in helping her to face parturition (28). For this reason childbirth unit must be design so patient companion could accompany her better and various support during giving birth such as physical attention or inactive support spend by uneducated or educated, husband, friends, midwives and nurses or anybody that constantly accompany pregnant person be applied. Unfortunately however 20<sup>th</sup> century led to increase medical intervention in giving birth so that progress at the moment provide more physical health for mothers and children but most of this improvements concentrate on women physical health but ignore the traditional, cultural, social and psychological perspectives of parturition. One of the most serious results of this ignorance was to remove the pregnant companions (29). In study of Lachter and et al (2013) it has been revealed that presence of someone during esophagogastroduodenoscopy surgery cause to significant reduction of anxiety ( $p < 0.05$ ) compared with Test group. According to Lachter, presence of companion during surgery may cause people benefit emotional support. Also Lachter expresses who experience esophagogastroduodenoscopy surgery for the first time and someone who have a higher level of anxiety before operation, require more emotional support by companion during surgery (31). Afaneh states in a study that although majority of patients (65%) don't feel to need accompaniment, a small but certain group of patients require presence of a companion despite of gender. Therefore, patients must have the right to choose

to have a companion in therapeutic units (32). Javad Noori in 1378 showed that in a supported group (by a lady from friends and relatives of parturient by emotional and physical support) the parturition active phase length ( $p < 0.002$ ), require parturition resonance with oxytocin ( $p = 0.0058$ ), parturition pain severity ( $p = 0.028$ ), is less and also satisfaction rate of parturition experience ( $p = 0.0001$ ) is more (18). Khavandi in 1385 earned similar results and he knows the constant support in parturition by companion as a factor to improvement of parturition results (33). Taylor (2012) claims that accompaniment in surgery room during operation can useful (34). However, Prabhu and et al (2009) in their research for determining effect of presence of companion in surgery room on anxiety of women under cesarean section, who are under Neuroaxial anesthesia, claims that although presence of someone in surgery room can reduce anxiety in women but this rate isn't significant or meaningful statistically ( $p = 0.34$ ) (17). Perhaps reason of this difference be result of that in mentioned study, people resolution from surgery experience wasn't happened whereas in this study, only persons became inclusion that will have their first experience of surgery.

#### **CONCLUSION:**

Results of this study revealed that notifying patients emotional support in surgery room by being a companion there can cause less anxiety before surgery in volunteer nulliparous women for cesarean section. Since so far in Iran, there has been no similar study in order to survey the effect of companion in surgery room on anxiety rate before operation, so it suggested to do more study in order to check influence of this supportive method.

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