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ARAŞTIRMA / RESEARCH

Effect of calming conversation on anxiety levels in Cesarean section

Sezaryen operasyonlarında sakinleştirici konuşmanın kaygı düzeyine etkisi

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Abstract

Purpose: The purpose of this study was to determine the level of anxiety of patients undergoing elective Caesarean section under spinal anesthesia to ascertain the factors related to anxiety and the effect of calming conversation on the anxiety level.

Materials and Methods: The study included a total of 156 patients as Group 1 (96) and Group 2 (60). The patients in Group 1 were distracted with calming conversationting during the surgery and in Group 2, the patient's questions were answered but the surgical team did not calming conversation. All patients completed the the State-Trait Anxiety Inventory (STAI) questionnaire preoperatively and postoperatively.

Results: The preoperative STAI scores were similar in both groups. Although midazolam administration was higher in Group 2, the postoperative STAI scores were significantly lower in Group 1. In both groups, the anxiety scores decreased significantly in the postoperative period. Smoking was found to be related with higher STAI scores. Nausea was related with higher preoperative and postoperative STAI scores. Patients who were employed related lower STAI scores.

Conclusion: Calming conversationting with patients, which is easy, has no cost and does not harm the infant or mother, decreased the STAI scores better than midazolam.

Key words: Calming conversationt, anxiety, spinal anesthesia, Caesarean section

Öz

Amaç: Bu çalışmanın amacı spinal anestezi altında elektif sezaryen uygulanan hastaların anksiyete düzeylerini, anksiyete ile ilişkili faktörleri ve hastayla sakinleştirici konuşmanın kaygı düzeyi üzerine olan etkisini belirlemektir.

Gereç ve Yöntem: Çalışma, Grup 1 (96) ve Grup 2 (60) olmak üzere toplam 156 hasta içermektedir. Grup 1'de cerrahi sırasında hastalara ile sakinleştirici konuşma yapılarak dikkatleri dağıtıldı, Grup 2'de ise hastanın sadece soruları olduğunda yanıtlandı ancak cerrahi ekip hasta ile sohbet etmedi. Tüm hastalardan preoperatif ve postoperatif dönemde durumluk-sürekli kaygı envanteri (STAI) anketini doldurması istendi.

Bulgular: Preoperatif STAI skorları her iki grupta da benzerdi. Grup 2'de midazolam verdiğimiz hasta sayısı daha yüksek olmasına rağmen postoperatif STAI skorları Grup 1'de anlamlı olarak daha düşüktü. Postoperatif dönemde anksiyete skorları her iki grupta da anlamlı olarak azaldı. Sigara içenlerde STAI skoru daha yüksek bulundu. Bulantı, preoperatif ve postoperatif yüksek STAI skorları ile ilişkiliydi. Rejyonel anestezi korkusu ve bebek sağlığı ile ilgili kaygı belirtenlerde STAI skoru daha yüksek ve bir işte çalışanlarda ise STAI skoru daha düşük olarak gözlemlendi.

Sonuç: Hastalarla sakinleştirici konuşmanın kolay, maliyeti olmayan, bebeğe veya anneye zarar vermeyen bir yöntem olup STAI puanlarını midazolamdan daha iyi düşürdüğünü gözlemledik.

Anahtar kelimeler: Sakinleştirici konuşma, anksiyete, spinal anestezi, sezaryen

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INTRODUCTION

Patients scheduled for surgery experience varying levels of anxiety, due to factors such as cultural beliefs, type of surgery, previous anesthesia experience and preoperative information[1,2]. Furthermore, the experience of patients interacting with their staff is often short and fragmented, and the effects of these contacts can be incomprehensible, confusing, or worrying for the patient[3]. The most common reasons for anxiety are fear of complications, postoperative pain, not waking up from general anesthesia, being paralyzed and being apart from family members[4]. It has been accepted that pharmacological sedation does not reduce or eliminate fear[5]. It is clear that both specialist and patient, anxiety must be seen as a dilemma requiring treatment[6]. Pre-operative information has been shown to reduce patient anxiety[7]. Sedating patient concerns provides a good recovery from surgery[8]. Conversation with medical staff is the most popular coping strategy[9]. Previous studies suggest that a conversation does not have to convey very detailed information about a problem in order to reduce stress and anxiety least. In fact, just talking can have a calming effect. That is calming convesation[10,11].

Previous studies have reported the anxiety of being awake during surgery as one of the most common reasons for choosing general anesthesia[12]. Studies have reported a higher level of preoperative anxiety in obstetric patients compared to the general surgical population[13]. Caesarean section (CS) is one of the most common surgical procedures performed on obstetric patients, and regional anaesthesia (RA) is the preferred technique of anesthesia in terms of risk and benefits for both mother and fetus. In modern obstetric anesthesia practice, the percentage use of RA for CS has become a marker of quality[14]. The purpose of this study was to determine the level of anxiety of patients undergoing elective caesarean section under spinal anesthesia, to ascertain the factors related to anxiety and to determine the affect of calming communication with the patient on the anxiety level.

MATERIALS AND METHODS

After obtaining Institutional Research and Ethics Committee of Sanko University approval (No: 2017/05-04), the study was conducted between June 2017 and January 2018 in Sanko University Medical Faculty Training Hospital.

Patients, scheduled for elective CS under regional anesthesia, were approached on the day before surgery, a verbal explanation of the study and an information sheet were provided and written consent was obtained. Details were not provided in this study information but patients were told that some sedation methods would be usedwith no interventions. Participants who accepted these conditions were included in the study.

Procedure

The patients were randomly divided into two groups. Patients who came on Monday and Wednesday were included in Group 1, and those on Tuesday and Thursday were Group 2. All the patients included in the study were aged 18-45 years. Exclusion criteria were a history of psychiatric or neurological disorders, any comorbidities, a history of serious head trauma, drug abuse, alcohol abuse, or negative events in the previous 6 months such as death of a close relative, accident, or psychological trauma. Women who presented at hospital in labor, or those with medical complications (e.g., preeclampsia or hypertension, multiple fetuses),with infants with life-threatening problems and those with a preference for general anesthesia were also excluded.

The Group 1 patients were requested to complete the State-Trait Anxiety Inventory(STAI) in the preoperative waiting room, with the help of an anesthesiology nurse. After completion of the form, the anesthesiologist started to calming conversation with the patient and continued until the end of the surgery. One and the same anesthesiologist made calming conversation. The patients have already been informed pre-operation so we answered questions about surgery briefly than patients were supported to positive thinking or distracting. Questions to the patients were like; what will be the name of baby? What does this name mean? Who decided? What is your job? Who came with you today, who will help you after dischagre, your mother or mother-in-law? Where are you from? Do you have sister or brother? Where do you live? What will be the horoscope of baby and yours? and etc. In Group 2, the patients completed the STAI and were then admitted to the operating room, where the nurse and anesthesiologist did not calming conversation with the patient but only gave short

answers to all the patient's questions. All patients were requested to complete the STAI again in PACU (Postoperative Anesthesia Care Unit) with the help of another anesthesiology nurse.

State-Trait Anxiety Inventory (STAI)

Anxiety levels are assessed with the STAI15, which is composed of two 20-item self-report inventories. 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". Examples of items are "I feel tense" and "I am worried." Positive items are scored in the opposite direction, e.g. "I feel content." Trait anxiety is a more enduring and stable aspect of personality. This scale asks how the person generally feels. Again, a 4-point scale is used ranging from "almost never" to "almost always". Examples of items are "I feel nervous and restless" and "I worry too much over something that doesn't really matter." Again, these are balanced by positive items scored in the opposite direction, such as "I am a steady person." These measures are widely used and demonstrate good psychometric properties in terms of high reliability and validity. The STAI avoids the inclusion of physical aspects of anxiety and is therefore not confounded by symptoms related to pregnancy.

In addition, a record was made for each patient of age, hemoglobin values, educational level, occupation, number of pregnancies, smoking, anesthesia experience (spinal, general, both general and regional, none), knowledge of spinal anesthesia (from doctors, from internet database, from friends, experience), infant gender, reason for anxiety (infant health, spinal anesthesia, operation, own health, none), intraoperative nausea and vomiting, patient and surgeon satisfaction (1:none, 2:medium, 3: high),infant APGAR score, operating time, infant delivery time and administration of midazolam.

Anesthesia procedure

A 20G i.v. line was inserted and patients received 500 ml of Ringer's lactate during the first hour immediately before surgery. Patients were taken to the operating theatre and received a further bolus of 500 ml of Ringer's lactate over the next 30 min, during positioning and during and immediately after spinal anaesthesia administration. Spinal anaesthesia was performed in the sitting position in the L3–4 or L4–5 interspace using 12 mg hyperbaric bupivacaine with 20 mg fentanyl. Immediately after spinal anaesthesia, parturients were placed in the supine position with a wedge placed under the right hip. Supplemental nasal oxygen was administered if necessary. Surgery was allowed to begin when the sensory level was confirmed by pinprick to be at least T4 level bilaterally.

Statistical analysis

SPSS 23.0 programs were used for the analysis of data. Conformity to normal distribution of the univariate data was evaluated with the Shapiro-Wilk test, and of multivariate data with the Mardie test. The Dornieden and Hansen Omnibus test was applied for the evaluation of homogenenity of variance. The Mann-Whitney U test was used to compare two independent groups, the Kruskal-Wallis H test was used to compare two groups more than once, and Dunn's test was used for Post Hoc analysis with the Monte Carlo simulation technique. The Wilcoxon Signed Rank Test was used for two replicate measurements of dependent variables with the Monte Carlo Simulation technique. Spearman's rho tests were applied to examine the correlations of the variables. Categorical data were compared with each other in the Pearson Chi-Square test, Linear-by-Linear Association and the Fisher Exact test (Exact). Quantitative data values were expressed in the tables as mean ± standard deviation (SD), median ± interquartile range (IQR) and the median range (maximum-minimum). Categorical data were expressed as number (n) and percentage (%). Data were examined at a 95% confidence interval and a value of $p<0.05$ was considered statistically significant.

RESULTS

A total of 167 women fulfilled the criteria and 11 were excluded; 9 who were administered propofol because of panic attack after spinal anesthesia and 2 patients who delivered an infant with severe neonatal complications. The final sample of156 patients included in the study comprised Group 1 (Calming conversationt group, n=96) and Group 2 (conrtol group, n=60). No statistical differences were determined between the groups in respect of age, hemoglobin level, operation duration, birth duration, number of pregnancies and infant APGAR score at1 and 5 minutes (Table 1).

Table 1. Demographic data and obstetric characteristics

	Group 1 (Calming conversation)	**Group 2 (Control)**
	Median (Max-Min)	Median (Max-Min)
Age	28 (41-18)	26 (39-19)
Hemoglobin (mg/dl)	12.1 (13.8-10.6)	12.1 (13.3-9.1)
Number of Pregnancies	2 (6-1)	2 (4-1)
Operation Duration (min)	26 (45-4)	26 (31-22)
Infant Birth Duration (min)	7 (16-4)	7 (9-4)
APGAR		
1	9 (10-3)	0.383
5	10 (10-9)	0.533

No statistical differences were determined between the groups in respect of educational level, occupation, infantgender, reason for anxiety, nausea and vomiting incidence, patient and surgeon satisfaction, or smoking status (Table 2). Anesthesia experience and knowledge of regional anesthesia was found to be similar in both groups. The experience of regional anesthesia was significantly higher in both groups. The reasons for anxiety were seen to be similar in the two groups with "fear of regional anesthesia" and "infant health" stated at significantly higher rates in both groups (Table 2).

Table 2. Sociodemographics and baseline characteristics

n(%)		**Group 1 (Calming conversation)**	**Group 2 (Control Group)**
Infant Gender	Female	44 (45.8)	28 (46.7)
	Male	52 (54.2)	32 (53.3)
Educational Level	None-Elementary	22 (22.9)	11 (18.3)
	High School	36 (37.5)	21 (35.0)
	University	38 (39.6)	28 (46.7)
Anesthesia Experience	None	35 (36.5)	18 (30.0)
	Spinal Anesthesia	48 (50.0)	34 (56.7)
	General Anesthesia	8 (8.3)	5 (8.3)
	Spinal+General Anesthesia	5 (5.2)	3 (5.0)
Anxiety Reason	Spinal Anesthesia	44 (45.8)	27 (45.0)
	Infant Health	35 (36.5)	27 (45.0)
	Own Health	3 (3.1)	1 (1.7)
	Operation	9 (9.4)	5 (8.3)
	None	5 (5.2)	0 (0.0)
Employed	Yes	34 (35.4)	25 (41.7)
Smoking	Yes	10 (10.4)	5 (8.3)
Knowledge of Spinal Anesthesia	Relatives-Friends	23 (24.0)	9 (15.0)
	Internet	9 (9.4)	7 (11.7)
	Doctor-Nurse	10 (10.4)	6 (10.0)
	Experience	54 (56.3)	38 (63.3)
Patient Satisfaction	None	0 (0.0)	0 (0.0)
	Medium	22 (22.9)	15 (25.0)
	Very Much*	74 (77.1)	45 (75.0)
Surgeon Satisfaction	Non	0 (0.0)	0 (0.0)
	Medium	0 (0.0)	1 (1.7)
	Very Much	96 (100.0)	59 (98.3)
Nausea	Yes *	35 (36.5)	24 (40.0)
Vomiting	Yes	10 (10.4)	11 (18.3)

*$p<0.05$

No statistically significant difference was determined in nausea and vomiting incidence with no vomiting seen in either group. Surgeon satisfaction levels were similar and the response of "none" was not observed in either group (Table 2). Although midazolam administration was higher in Group 2, patient satisfaction was higher in Group 1, but not at a statistically significantlevel (Table 2).

After examination for normal distribution, the STAI scores were transformed into ordinal groups corresponding to high, medium, and low anxiety; low 40, medium 40–55, high 55. Low anxiety was observed in 4 (2.6 %) cases, medium in 59 (37.8 %) and high in 93(59.6%). No difference was determined in the preoperative STAI scores of the groups (56-58). The postoperative STAI scores were close to each other but statistically significantly lower in Group 1 (29-30 , $p<0.05$). In both groups the STAI scores decreased significantly postoperatively. A statistically significantly higher rate of midazolam administration was recorded in Group 2 but the STAI scores of Group 1 were lower (29-34, $p<0.05$] (Table 3).

Table 3. Differences betweenthe State-Trait Anxiety Inventory (STAI) score and midazolam administration

Median (Max-Min)		**Group 1 (Calming conversation) (n=96)**	**Group 2 (Control) (n=60)**
STAI score			
	Preoperative (I)	56 (73-23)	58 (64-48)
	Postoperative (II)	29 (57-20)*	30 (41-23)
	Difference (I-II)	26 (43- -1)**	25.5 (36-15)**
Midazolam			
	Yes	29 (30.2)	34(56.7)*

*p<0.05 **p<0.01

Table 4. Comparison of baseline characteristics and the State-Trait Anxiety Inventory (STAI) scores

Variable	**Preoperative STAI score**	**Postoperative STAI score**
Infant gender		
Female	56 (73-23)	30 (57-20)
Male	56.5 (67-42)	30 (42-20)
Employed (Yes)	56 (66-38)*	29 (37-20)
Smoking (Yes)	59 (65-48)*	29 (39-21)
Nausea (Yes)	58 (73-48)*	31 (57-21)
Educational level		
None-Elementary	58 (64-46)	30 (57-23)
High school	58 (73-40)	30 (42-21)
University	56 (66-23)	29 (37-20)
Anesthesia experience		
None	56 (66-23)	29 (57-20)
Spinal Anesthesia	57.5 (73-32)	30 (41-21)
General Anesthesia	56 (62-48)	27 (39-20)
Spinal+General Anesthesia	54.5 (62-49)	27 (34-23)
Anxiety Reason		
Spinal Anesthesia	58 (73-47)	30 (42-21)
Infant Health	56 (62-38)	29 (41-20)
Own Health	57 (62-50)	29.5 (57-26)
Operation	56 (64-40)	31.5 (39-23)
None	44 (66-23)	23 (37-20)

*p<0.05

Table 5. Correlation between State-Trait Anxiety Inventory (STAI) and number of pregnancies and age

STAI Score		**Number of Pregnancies**	**Age**
Preoperative	r	0.087	-0.113
	P	0.282	0.160
Postoperative	r	0.106	-0.101
	P	0.189	0.211

Spearman's rho Test r: Correlation Coefficient

Smoking was found to be related with higher STAI scores but educational level and infant gender were not related with preoperative STAI scores. Nausea was related with higher preoperative and postoperative STAI scores. The reasons for anxiety of regional anesthesia and infant health were related with higher STAI scores, and patients who were employed recorded lower STAI scores (Table 4). Those with a higher educational level mostly stated the reason for anxiety to be infant health, and those with a lower educational status reported "regional anesthesia fear" at a higher rate (Table 4). The number of pregnancies and age were not related with preoperative or postoperative STAI scores (Table 5).

DISCUSSION

As noted previously, patients mostly reported high preoperative anxiety levels. A significant proportion of patients (40.4%) needed midazolam after regional anesthesia. Many of the study population had previous experience of caesarean section under regional anesthesia and similar to the findings of Thorp et al[16], but in contrast to those of Maheshwariet al[17], these women with previous experience did not report lower levels of preoperative anxiety.

Specifically, the patientsto whom the anaesthiologist calming conversationted during the cesarean section procedure reported an increase in positive emotions and a decline in negative emotions, compared with those where there was no calming conversation. Distraction is a possible explanation for the potential of calming conversationting as an effective stress reducing method.

In study by Kushnir et al, patients who listened to music before a cesarean section had a significant increase in positive emotions and a significant decline in negative emotions and perceived threat of the situation when compared with women in the control group, who exhibited a decline in positive emotions, an increase in the perceived threat of the situation, and had no change in negative emotions. Those who listened to music also exhibited a significant reduction in systolic blood pressure compared with a significant increase in diastolic blood pressure and respiratory rate in the control group. Anxiety was evaluated with a Mood States scale and vital signs. In the current study, vital signs were not examined for anxiety evaluation but the STAI was used. In a similar way to the use of music in the studies by Fredrickson et al. And Kushnir et al, calming conversationting may divert the patient's attention away from negative stimuli to something familiar and soothing, thus promoting relaxation and decreased STAI scores[18,19].

Maternal anxiety and psychosocial factors have been linked to complications during pregnancy and birth[20]. In addition, a previous related study that evaluated the effects of an information-based preparatory intervention on prenatal maternal anxiety and recovery from cesarean delivery revealed aquicker recovery and fewer medical complications among women receiving this intervention[21].

In the current study, midazolam was used as an anxiolytic because of its fast-acting and short-term character. In a study by Senel et al, evaluation was made of midazolam 0.025 mg/kg for premedication and it was concluded that midazolam resulted in significantly low anxiety scores, without any adverse effects on the newborns and can therefore safely be used as a premedicative agent in C/S surgery[22]. In the current study, recovery or postoperative complications were not evaluated, but the incidence of intraoperative nausea and vomiting was recorded. No difference was seen between the groups but nausea was related with higher STAI scores. Jabalameli et al.[23] reported that the combination of midazolam and ondansetron prevented nausea better than ondansetron or midazolam alone. In line with that conclusion, preventing anxiety can be considered to decrease nause incidence. As nausea and vomiting can also be caused by hypotension and tachicardia, preventing anxiety decreases nausea and vomiting as a result of reduced hypotension and tachicardia[24].

Similar to the findings of many other studies, it was observed in the current study that educated patients were less anxious compared to those who were less educated but the difference was not statistically significant. Reports in literature also show high levels of anxiety among educated patients due to an increased awareness of complications. However, other studies contradict the association between anxiety and education. Some study findings and literature state that nulliparous patients tend to have a high level of anxiety[25,26], while others such as Thorp et al.have stated that previous experience did not diminish preoperative anxiety[16].

Misinformation could also be a source of anxiety

influencing patients' decisions, whereas patients who receive information from the anesthetist are less anxious, and the majority select RA. Studies have shown that the source of information being family or friends and misconceptions related to anesthesia are leading reasons for patients refusing RA27. In the current study, patients receiving information from someone other than the anesthetist were more anxious, and the majority of themstated "spinal anesthesia fear" as the reason for anxiety and requested GA. Patients who selected general anesthesia were excluded from the study if they could not be persuaded to have spinal anesthesia.

In line with the findings of a study by Caumo et al, in the current study, smoking was related to higher preoperative anxiety scores28. Patients who were employed had lower anxiety levels and these current findings were compatible with those of Thang Vov Vu et al. In that study which investigated postpartum depressive symptoms and associated factors in maried women, it was concluded that having a stable job was associated with lower Edinburgh PostpartumDepression Scale (EPDS) scores29.

The limitations in our study, we have concentrated on the preoperative period in the clinical setting, whereas anxiety is multidisciplinary in the perioperative period. We focus on the impact of communication with the patient to learn about possible supportive coping to help with future work. Second, we have not looked at other methods related to the list of efforts to coping with anxiety. Third it's important that medical staff hasn't been trained in professional conversation technique.

In conclusion, patients undergoing caesarean section under spinal anesthesia have high levels of anxiety, and previous experience or a higher educational level was not related to lower anxiety levels. Patients experience anxiety for various reasons, and the results of this study demonstrated that calming conversationting with patients, which is easy, has no cost and does not harm the infant or mother, decreased anxiety scores better than midazolam.

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