

## Clinical Research

# The Satisfaction of the Patients Living in the Province of Erzincan Concerning Anaesthesia Administrations and the Associated Factors

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### ABSTRACT

**Objective:** Postoperative opinions and comments of the patients give us important information related to improvement of quality of anaesthesia care and quality of healthcare services. We aimed to identify the satisfaction of the patients, undergoing surgical procedures in the province of Erzincan, concerning anaesthesia administrations and the factors associated with this satisfaction.

**Material and Method:** A questionnaire involving 14 questions and 2 parts was conducted on 6220 of 7986 operated patients. The patients, whose phone numbers were reached from the hospital records, were called by phone one week after their discharges, and those who agreed to participate in the questionnaire were included in the study.

**Results:** Totally 6220 patients participated in the study; 3105 (49.9%) of these patients were female and 3115 (50.1%) were male. Ninety-eight point four percent of the patients stated that they were "satisfied with the anaesthesia". It was determined that the patients, who were of male gender, administered with peripheral nerve blocks, informed before anaesthesia administration, asked about their pain status after the operation, who remembered their doctors and had confidence in the anaesthesia team, were satisfied with the anaesthesia (p <0.05).

**Conclusion:** It was concluded that people living in the province of Erzincan were highly satisfied with administered anaesthesia; and the factors affecting this satisfaction were gender, type of anaesthesia administered, informing the patients about anaesthesia to be administered, taking care of the patients in the postoperative period, and having confidence in anaesthesia team.

**Keywords:** Anaesthesia, Patient Satisfaction, Satisfaction-Associated Factors.

### ÖZET

#### Erzincan İli Genelinde Hastaların Anestezi Uygulamalarından Memnuniyet Durumları ve Etki Eden Faktörler

**Amaç:** Ameliyat olan hastaların ameliyat sonrası düşünceleri ve yorumları bize anestezi bakım kalitesi ve sağlık hizmet kalitesinin artırılması lehine önemli bilgiler vermektedir. Erzincan ilindeki ameliyat olan hastaların, yapılan anestezi uygulamalarından memnuniyet durumlarını ve bu memnuniyete etki eden faktörleri tanımlamak amaçlanmıştır.

**Gereç ve Yöntem:** Operasyona alınan 7986 hastanın 6220 sine 14 soru ve iki bölümden oluşan anket uygulanmıştır. Hastane kayıtlarından telefon numaralarına ulaşılan hastalar, taburculuklarından bir hafta sonra, telefon ile aranarak ankete katılmayı kabul eden hastalar çalışmaya dahil edilmiştir.

**Bulgular:** Çalışmaya 3105 (%49.9) kadın, 3115 (%50.1) erkek olmak üzere toplam 6220 hasta katılmıştır. Olguların %98.4'ü "anesteziye memnun olduklarını" belirtmişlerdir. Erkeklerin, periferik sinir bloğu uygulananların, doktorunu hatırlayanların, kendilerine anestezi öncesi bilgi verilenlerin, ameliyat sonrası ağrı durumları sorulanların ve anestezi ekibine güvenenlerin anesteziye memnun oldukları saptanmıştır (p <0.05).

**Sonuç:** Erzincan ili halkının, uygulanan anesteziye yüksek oranda memnun oldukları ve bu memnuniyete etki eden faktörlerin cinsiyet, uygulanan anestezi tipi, hastalara uygulanacak anestezi hakkında bilgi verilmesi, ameliyat sonrası dönemde de hastalar ile ilgilenilmesi ve anestezi ekibine güven olduğu kanısına varılmıştır.

**Anahtar Sözcükler:** Anestezi, Hasta Memnuniyeti, Memnuniyeti Etkileyen Faktörler.

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In our day, the concept of "patient satisfaction" related to anaesthesia administrations has been a subject of research as much as anaesthesia administration techniques and anaesthetics; and in all anaesthesia administrations high level of patient comfort and patient satisfaction is aimed (1).

Level of patient satisfaction, which leads hospitals to revise and reorganize their operations, is an important indicator of healthcare quality. Postoperative opinions and comments of the patients undergoing operation give us important information related to improvement

of quality of anaesthesia care and quality of health services (2, 3).

This can be optimally determined by the results of reports of the patients, evaluation of experiences and the personal perspectives of patients (4).

The aim of this study was to identify the satisfaction of the patients who underwent operation at the training and research hospital located in the province of Erzincan in the first half of 2015, concerning anaesthesia administrations and the factors affecting this satisfaction.

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## MATERIAL AND METHOD

After receiving approval of ethics committee of Erzincan University, the patients, who were electively operated at the Mengücek Gazi Training and Research Hospital in the first half of 2015, older than 18 years old, and voluntary to participate, were included in the study.

The patients, who were younger than the age of 18 and older than the age of 65, had a history of psychiatric disorder, were discharged from the hospital in the same day after the surgical operation, underwent open heart surgery, were operated urgently and rejected to participate in the study, were excluded from the study. Sample size did not calculate. Our sample was identified as all patients who underwent surgery in the first half of 2015. The questionnaire was conducted on 6220 of 7986 operated patients. 524 of 1766 patients could not be reached and 1244 refused to participate in the questionnaire. This study was completed with 6220 patients who agreed to participate in the questionnaire. The questionnaire consisted of 2 parts and 15 questions (Table 4).

**Table 4. Questionnaire (in Turkish).**

### Hastaların anestezi Sonrası Memnuniyet anketi

#### Operasyon türü:

1. Cinsiyet:	Kadın	Erkek
2. Yaşınız:		
3. Eğitim durumunuz:	Ortaöğretim Lise	Yükseköğretim Fakülte
4. Anestezi doktorunu hatırlıyor musunuz? (Dr. hatırlama)	Evet	Hayır
5. Size ne tür anestezi uygulanacağı konusunda bilgi verildi mi? (Bilgi ver)	Evet	Hayır
6. Ameliyat için uyutulduktan sonra ameliyat esnasında olanları hatırlıyor musunuz*?	Evet	Hayır
7. Ameliyattan sonra bekleme odasına alındığınızda size ağrınız olup olmadığı soruldu mu?(Ağrı-soru)	Evet	Hayır
8. Ameliyat sonrası sedyeden yatağınıza alındığınız anı hatırlıyor musunuz? (Sedye hatırlama)	Evet	Hayır
9. Ameliyat sonrasında bulantınız oldu mu? (Bulantı)	Evet	Hayır
10. Ameliyattan sonra boğaz ağrınız oldu mu ?* (Boğaz ağrısı)	Evet	Hayır
11. Anestezi ekibinden sizi rahatsız edecek herhangi bir davranış gördünüz mü? (Rahatsız davranış)	Evet	Hayır
12. Anestezi ekibine güvenciniz mi? (Güven)	Evet	Hayır
13. Bir daha ameliyat olsanız ve anestezi yöntemini belirleyecek olsanız hangi anestezi yöntemini tercih edersiniz? (Yöntem tercih)	Evet	Hayır
14. Bir daha ameliyat olursanız bu hastanede ameliyat olmak ister misiniz? (Bir daha istek)	Evet	Hayır
15. Anestezi ekibinden memnun kaldınız mı? (Memnuniyet)	Evet	Hayır

\*sadece genel anestezi grubuna sorulacak

The first part consisted of demographic data including age, gender, educational status and the method of anaesthesia administered. The second part involved the satisfaction related to anaesthesia and the factors affecting satisfaction. It took 1-3 minutes to answer all the questions in the questionnaire. A standard

questionnaire was prepared for this study by using the data of similar questionnaires (5, 6).

The patients whose phone numbers were recorded from hospital records were called by phone 1 week after their discharges and informed that they were called by an anaesthetist, the questionnaire would be conducted for purpose of research, they were free to participate in the questionnaire, and that their names would be kept confidential if they participate. The questionnaire was conducted on patients who agreed to participate in the study.

Primary outcome of the study was to determine if the patients were satisfied with anaesthesia administrations and its secondary outcome was to find out the reasons of their dissatisfaction in case if there are any.

### Statistical Analysis

While numerical data were presented as mean and standard deviation; categorical data were presented as number and percentage. Chi-square test was used for between-group comparison of categorical data. All data were analysed by using 21.0 version of Statistical Package for Social Sciences (SPSS Inc., Chicago, IL) program. Statistical significance level was accepted as  $p < 0.05$  in all analyses.

## RESULTS

The questionnaire was conducted on 6220 of 7986 patients undergoing any operation. Five hundred twenty-four of 1766 patients could not be reached and 1244 patients refused to participate in the questionnaire.

This study was completed with 6220 patients who agreed to participate in the questionnaire. The demographic data of the patients were presented in Table 1. General anaesthesia was administered on 42.9% of the patients, regional anaesthesia was administered (spinal/epidural/combined spinal epidural anaesthesia) on 50.8%, and peripheral nerve block was administered on 6.4% (Table 1).

**Table 1. Demographic data.**

		Patient Number (n)	Patient Number (%)
Sex	Female	3105	49.9
	Male	3115	50.1
Mean Age	Female (Year ± SD)	40.21	15.0
	Male	40.06	14.7
Education	Middle	95	1.5
	High	1881	30.2
	College	2292	36.8
Anesthesia	University	1952	31.4
	General	2667	42.9
	Regional	3158	50.8
	Per. Nerv. Block	395	6.4
Total		6220	100

Table 2 shows the answers given by the patients to the questionnaire. Eight point four percent of the patients stated that they could not remember their anaesthetists. Only 1.4% (89 patients) stated that they were not informed about the anaesthesia method to be

administered to them. All the patients answered the question “Do you remember the procedures performed during the operation?”, which was asked only to the patients who were administered with general anaesthesia, as “I did not remember”. 124 patients (2%) answered the question “Did you experience throat ache after the operation?”, which was also asked only to the patients who were administered with general anaesthesia, as “Yes”. In the postoperative care unit, 197 patients (3.2%) answered the question: “Were you asked whether or not you had pain?” as “No”. Only 49 patients (0.8%) answered the question “Do you remember being taken from the stretcher to the bed?” as “I did not remember”. Two hundred seventy-two patients (4.4%) experienced postoperative nausea. All of the patients stated that they did not see disturbing behaviours in the anaesthesia team. 99. One percent of the patients (6161 patients) stated that they had confidence in anaesthesia team and 98.4% stated that they were satisfied with the anaesthesia (Table 2).

**Table 2.** The Answers Given By the Patients to the Questionnaire.

	yes (n (%))	No (n (%))	Total
Remember Anaesthetist	5699 (91.6)	521 (8.4)	6220 (100)
Giving Information About Anesthesia	6131 (98.6)	89 (1.4)	6220 (100)
Remember During Surgery*	0 (0)	2667 (42.9)	2667 (42.9)
The Question Postoperative Pain	6023 (96.8)	197 (3.2)	6220 (100)
Remember the Transition From Stretcher to Bed	6171 (99.2)	49 (0.8)	6220 (100)
Postoperative Nausea	272 (4.4)	5948 (95.6)	6220 (100)
Throat Ache *	124 (2)	2543 (40.9)	2667 (42.9)
Disturbing Behaviours in the Anaesthesia Team	0 (0)	6220 (100)	6220 (100)
Confidence in Anaesthesia Team	6161 (99.1)	59 (0.9)	6220 (100)
Satisfaction with the Anaesthesia	6119 (98.4)	101 (1.6)	6220 (100)

\*This question was asked only to general anesthesia group.

Table 3 shows the factors affecting the anaesthesia satisfaction of the patients. According to Table 3, the anaesthesia dissatisfaction of the women was significantly found to be 2 times higher than the men’s dissatisfaction (2.2% & 1.1%) (p <0.05). When the age groups were compared, it was observed that age did not affect satisfaction (p >0.05). According to Table 3, it was determined that method of anaesthesia administered had a statistically significant effect on anaesthesia satisfaction (p <0.05), and it was observed that all the patients who underwent peripheral nerve block were satisfied with the anaesthesia. Educational status did not affect anaesthesia satisfaction (p >0.05). It is observed that the anaesthesia satisfaction of those who remembered their anaesthetists was significantly higher compared to those who could not remember (p <0.05). Likewise, anaesthesia satisfaction of the patients who were informed about the anaesthesia method to be administered were significantly higher than those who were not informed (p <0.05). Dissatisfaction of the patients who were not asked whether or not they had pain in postoperative care room among the factors affecting satisfaction was significantly higher (p <0.05). No significant different was found when the satisfaction of those who remembered being transferred from the stretcher to bed after they were taken to the clinic was compared with the satisfaction of those who did not remember (p >0.05). As is seen in Table 3, presence of nausea did not have any effect on satisfaction (p >0.05). When the effect of having confidence in anaesthesia team was examined, satisfaction of the patients who had confidence in anaesthesia team was significantly higher than the patients who did not have confidence in anaesthesia team (p <0.05) (Table 3).

**Table 3.** Factors Affecting Anaesthesia Satisfaction.

	Satisfaction with the Anaesthesia		p	
	Yes (n (%))	No (n (%))		
Sex	Female	3037 (97.8)	68 (2.2)	<0,05
	Male	3082 (98.9)	33 (1.1)	
Age(Year)	20-40	3374 (98.3)	60 (1.7)	>0.05
	41-60	1930 (98.8)	23 (1.2)	
	>61	815 (97.8)	18 (2.2)	
	General	2639 (99.0)	28 (1.0)	
Method of Anaesthesia	Regional	3085 (97.7)	73 (2.3)	<0,05
	Per.Nerv.BI.	395 (100)	00 (0)	
	Middle	93 (97.9)	2 (2.1)	
Education	High	1851 (98.4)	30 (1.6)	>0.05
	College	2253 (98.3)	39 (1.7)	
	University	1922 (98.5)	30 (1.5)	
Remember Anaesthetists	Yes	5676 (99.6)	23 (0.4)	<0,05
	No	443 (85.0)	78 (15.0)	
Giving Information About Anesthesia	Yes	6106 (99.6)	25 (0.4)	<0,05
	No	13 (14.6)	76 (85.4)	
The Question Postoperative Pain	Yes	5943 (98.7)	80 (1.3)	<0,05
	No	176 (89.3)	21 (10.7)	
Remember the Transition from Stretcher to Bed	Yes	6071 (98.4)	100 (1.6)	>0.05
	No	48 (98)	1 (2)	
Postoperative Nausea	Yes	269 (98.9)	3 (1.1)	>0.05
	No	5850 (98.4)	98 (1.6)	
Confidence in Anaesthesia Team	Yes	6110 (99.2)	51 (0.8)	<0,05
	No	9 (15.3)	50 (84.7)	

None of our patients stated that they observed any disturbing behaviour in anaesthesia team. Only 1 of 124 patients who experienced throat ache stated that he was not satisfied with anaesthesia.

## DISCUSSION

In the present study investigating the satisfaction of operated patients living in the province of Erzincan and the factors affecting this satisfaction; it was determined that 98.4% of the patients were satisfied with the anaesthesia, and the satisfaction was affected by gender, method of anaesthesia to be administered, remembering the anaesthetist, being informed about anaesthesia before the administration, showing concern for the pain status in the postoperative period and having confidence in anaesthesia team.

Patient satisfaction is an important indicator for health outcome and evaluation of the quality of services in anaesthesiology (7). It is hard to evaluate this outcome since satisfaction is a multidimensional concept with its determinants which have not been defined yet (8). Even though anaesthesia and the role of patient satisfaction have been increasingly investigated, numerous studies have been using simple and general questions which result in high rates to evaluate satisfaction. According to these studies, the anaesthesia satisfaction rates of the patients were generally reported to be very high (between 80% and 100%) (1, 5). In the study of Süren et al. (9), the anaesthesia satisfaction was found to be 99.2%. Likewise, in the study conducted by Uysal et al. (10) in Tokat concerning anaesthesia satisfaction, the satisfaction was found to be 99%. In accordance with the literature, the anaesthesia satisfaction was found to be 98.4% in the present study.

The factors affecting the anaesthesia satisfaction have been investigated by limited number of previous studies (5, 11). In the study conducted by Capuzzo et al. (11), to investigate the factors affecting the anaesthesia satisfaction, it was found that the dissatisfaction of the women was higher compared to the men but this difference was not significantly significant. On the other hand, in the present study, dissatisfaction of the women was two times higher than men's dissatisfaction. This situation was associated with the fact that the women had a higher rate of stress and anxiety than men and their comfort expectations were higher (9, 12, 13). In our literature review, limited number of studies indicating that age affects satisfaction were found. According to a study (11), while the patients over the age of 70 had higher rates of satisfaction, the patients under the age of 50 were more dissatisfied. In the present study, similarly, the satisfaction of those between the ages of 20-40 was found to be very lower than those over the age of 60; however, this difference was not significantly significant. The high satisfaction in elderly people was

associated with their high beliefs and high sense of fatalism.

The effect of the method of anaesthesia administered on satisfaction was previously investigated by Montenegro et al. (14), but no correlation was determined. In the present study and in the study of Capuzzo et al. (11), it was found that the type of anaesthesia administered significantly affected satisfaction. According to that study, those administered with regional anaesthesia were more satisfied; whereas, in the present study those administered with regional anaesthesia were less satisfied, and the highest satisfaction was obtained from those, who received peripheral nerve block, at the rate of 100%. The dissatisfaction of regional anaesthesia was associated with the fact that we did not administer any sedation on some patients due to their medical conditions.

In parallel to the literature, in the present study it was observed that educational status did not affect satisfaction(11).

Preoperative informing and preoperative doctor visits are known to be decreasing anxiety (15) and it was observed in the present study that this situation increased also the satisfaction. 85% of the patients who were not informed about the anaesthesia to be administered and 15% of the patients who could not remember their doctors were dissatisfied, which was in correlation with the literature (11).

In the study conducted by Myles et al. (5), on 10811 patients to determine the reasons of postoperative patient dissatisfaction, they determined that 0.1% of the patients remembered the procedures performed during the operation in the first postoperative day and reported that this situation was an important reason of dissatisfaction. In the present study, all the patients who were administered with general anaesthesia stated that they did not remember the procedures performed during the operations.

In the present study, being asked about having pain in the postoperative care room was determined to increase the satisfaction significantly, similar to the study of Capuzzo et al. (11), who stated that postoperative visits had positive effects on satisfaction as well as preoperative visits. This situation was thought to be related to patients' high expectations of attention especially in postoperative period.

Additionally, in the present study, association between having confidence in anaesthesia team and high satisfaction rates was remarkable. Feeling of confidence brings along positive thoughts.

In the present study investigating the anaesthesia satisfaction of the patients in the province of Erzincan and the factors affecting this satisfaction; it was concluded that 98.4% of the patients were satisfied with anaesthesia; and the factors affecting this satisfaction were gender, type of anaesthesia administered, informing the patients about anaesthesia to be administered, taking care of the patients in the

postoperative period, and having confidence in anaesthesia team.

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