

EVALUATION OF PREOPERATIVE ANXIETY LEVEL IN PATIENTS WITH FIRST AND SECOND EYE CATARACT SURGERY

BİRİNCİ GÖZ VE İKİNCİ GÖZ KATARAKT CERRAHİSİ PLANLANAN HASTALARDA PREOPERATİF ANKSİYETE DÜZEYİNİN ARAŞTIRILMASI

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SUMMARY

Introduction: To investigate the preoperative anxiety level of patients undergoing phacoemulsification cataract surgery and to compare the preoperative anxiety level in patients with first and second eye cataract surgery.

Material and Method: One hundred cataract patients undergoing phacoemulsification surgery (50 patients with first eye cataract surgery and 50 patients with second cataract surgery) under local anesthesia were included in the study. Age-matched healthy 100 subjects were included as control group. Preoperative anxiety level was measured by the Spielberger State-Trait Anxiety Inventory.

Results: Mean state anxiety score was 45.56 ± 5.6 in study group and 43.65 ± 6.3 in control group ($p=0.02$). In first eye cataract surgery group, mean state anxiety score was 47.12 ± 5.0 and higher than in second eye cataract surgery group (44.00 ± 5.7), ($p=0.08$). The mean state anxiety scores were higher in female patients, in patients with systemic diseases, and patients with living alone in first eye cataract surgery group compared to second eye cataract surgery group ($p=0.04$, for all).

Conclusion: Patients with cataract express more anxiety before surgery compared to subjects undergoing only ophthalmic examination. Preoperative anxiety level may be affected by several demographic features including sex, living alone or presence of a systemic disease, specially in patients with first eye cataract surgery.

ÖZ

Giriş: Fakoemülsifikasyon yöntemiyle katarakt cerrahisi uygulanacak hastaların preoperatif anksiyete düzeylerini araştırmak, birinci ve ikinci göz katarakt cerrahisi uygulanacak hastaların preoperatif anksiyete düzeylerini karşılaştırmak.

Gereç ve Yöntem: Lokal anestezi ile fakoemülsifikasyon cerrahisi yapılması planlanan 100 katarakt hastası (birinci göz katarakt cerrahisi olacak 50 hasta, ikinci göz katarakt cerrahisi olacak 50 hasta) çalışmaya dahil edildi. Yaşça eşleştirilmiş sağlıklı 100 hasta kontrol grubu olarak alındı. Preoperatif anksiyete düzeyleri Spielberger Durumluk-Süreklilik Anksiyete Envanteri kullanılarak ölçüldü.

Bulgular: Çalışma grubunda ortalama durumluk anksiyete skoru 45.56 ± 5.6 , kontrol grubunda 43.65 ± 6.3 idi ($p=0.02$). Birinci göz katarakt cerrahisi grubunda ortalama durumluk anksiyete skoru 47.12 ± 5.0 olup ikinci göz katarakt cerrahisi grubundan (44.00 ± 5.7) yüksekti ($p=0.08$). Ortalama durumluk anksiyete skoru birinci göz katarakt cerrahisi grubundaki kadın hastalarda, sistemik hastalığı olanlarda ve yalnız yaşayan hastalarda ikinci göz katarakt cerrahisi grubundaki hastalara göre daha yüksekti ($p=0.04$, hepsi için).

Sonuç: Katarakt hastalarında cerrahi öncesinde, yalnızca oftalmolojik muayene olan hastalara göre daha yüksek anksiyete gelişmektedir. Preoperatif anksiyete düzeyi özellikle birinci göz cerrahisi olan hastalarda başlıca cinsiyet, yalnız yaşama ve sistemik hastalık varlığı gibi demografik faktörlerle ilişkilidir.

INTRODUCTION

Anxiety is an emotion that can often occur without an identifiable triggering stimulus and is related to situations perceived as uncontrollable or unavoidable. Anxiety is considered to be a normal reaction to a stressor. Surgery is a stressor that produces both physiological stress and psychological stress reactions. It occurs in the preoperative phase as the patient anticipates the surgery or during postoperative experiences such as pain and discomfort, changes in body image or function, increased dependency, loss of control, family concerns, or potential changes in lifestyle. The prevalence of anxiety symptoms in the general hospital population is 10-30% (1).

Anxiety is an emotion that can be divided into two dimensions: state and trait anxiety. State anxiety is specifically triggered by a threatening situation and fluctuates over time. Trait anxiety is a stable natural anxiety disposition, and may influence the state anxiety levels experienced during anxiety provoking situations (2). It is reported that state anxiety is preoperatively increased whereas trait anxiety is not changed during hospitalisation period (3,4). The State-Trait Anxiety Inventory is accepted as the gold standard method in measurement of preoperative anxiety levels (5).

Cataract surgery is also one of the most common operations performed worldwide (6). Former studies indicated that cataract patients can experience anxiety preoperatively, peroperatively, and postoperatively (7,8). Cataract surgery patients who have severe anxiety may move during the operation which can lead to serious perioperative complications such as intraocular haemorrhage or posterior capsule rupture (9).

Cataract is predominantly seen bilateral and if surgery is not performed for the second eye

cataract, significant functional problems persist (10,11). It has been shown that patients who underwent cataract surgery in both eyes at different times had greater improvement in subjective visual function than those who underwent surgery in one eye (12). Cataract surgery is generally performed at different time for each eye. Therefore, patients with cataract experience same surgery procedures twice.

In this study, we aimed to investigate the preoperative anxiety level in cataract patients and to compare the preoperative anxiety level in patient with first and second eye cataract surgery.

MATERIAL AND METHOD

The study was conducted in Afyon Kocatepe University Department of Ophthalmology and 100 cataract patients (50 patients with first and 50 patients with second eye cataract surgery) undergoing phacoemulsification surgery under local anesthesia were included in the study. Control group consisted of 100 age-matched healthy subjects whose refractive errors were detected in eye exam. Patients were selected according to the following inclusion criteria: having cataract and suitable for outpatient surgery according to American Society of Anesthesiology (ASA) physical status I-II. Patients with ocular co-morbidity, dementia, psychological disorders were excluded from the study. Afyon Kocatepe University ethics committee approved the study, and written informed consent was obtained from all patients.

Sociodemographic characteristics e.g. age, gender, education, marital status, systemic disease and living status were recorded in both groups. Education levels were graded as low (none and elementary groups); middle (middle

and high school groups) and high (above high school). Data were collected using interviewer-administered questionnaires. Questionnaires were performed one day before surgery in the study group and at the day of examination in the control group. Anxiety was measured by the edited Turkish version of the Spielberger State-Trait Anxiety Inventory (STAI), which distinguishes between state anxiety and trait anxiety (13). The inventory consists of two forms, one to measure state anxiety (STAI-S) and one to measure trait anxiety (STAI-T), were used. Both STAI-S and STAI-T consists of 20 items, with scores ranging from 1 to 4 for each question. The patient indicates to what extent a given motion is representative of his or her state. A score of 1 means 'not at all', while 4 denotes 'very much'. To control for respect set, half of the questions are formulated in terms of positive emotions, whereas the others state negative emotions. The scaling of the positively formulated questions is reversed when computing the total score.

Data were expressed as the mean $\pm$ standart deviation. Statistical Analysis was performed using SPSS software for Windows (version 13.0, Statistical Package for Social Sciences Inc,

Chicago, IL, USA). Sociodemographic datas were compared statistically by chi-square, and independent t test between groups. Anxiety scores were analyzed using independent t test, Mann Whitney U test and one way ANOVA test. The correlation between the state and trait anxiety level was statistically analyzed by using Pearson's correlation test. Differences were considered statistically significant when the p value was less than 0.05.

RESULTS

The mean age of the patients was 64.53 ± 11.2 (range, 32-84) years in study group, 61.90 ± 11.9 (range, 32-82) years in control group ($p=0.11$). Sociodemographic characteristics of the study and control groups are listed in Table 1. There was no statistically significant difference in sociodemographic characteristics between the two groups. Sociodemographic characteristics in first and second eye cataract surgery groups are presented in Table 2. There was no statistically significant difference in sociodemographic characteristics except having information about cataract surgery ($p=0.01$) between the first and second eye cataract surgery groups.

Table 1. Sociodemographic characteristics of the study and control groups.

Sociodemographic characteristics		Study group (n=100)	Control group (n=100)	p value*
Age (years)				
	>50	89	82	0.22
	<50	11	18	
Sex				
	Female	45	43	0.88
	Male	55	57	
Education				
	Low	42	32	0.27
	Middle	44	48	
	High	14	20	
Marital status				
	Married	82	80	0.85
	Unmarried	18	20	
Systemic disease				
	Yes	59	52	0.39
	No	41	48	
Living status				
	Alone	14	6	0.09
	Family	86	94	

*chi square test

Table 2. Sociodemographic characteristics of the first and second eye cataract surgery groups.

Sociodemographic characteristics		First eye group (n=50)		Second eye group (n=50)		p value*
		n	%	n	%	
Age (years)						
	>50	45	90	44	88	0.75
	<50	5	10	6	12	
Sex						
	Female	23	46	22	44	0.84
	Male	27	54	28	56	
Education						
	Low	22	44	20	40	0.84
	Middle	20	40	24	48	
	High	8	16	6	12	
Marital status						
	Married	43	86	39	78	0.43
	Unmarried	7	14	11	22	
Systemic disease						
	Yes	24	48	35	70	0.10
	No	26	52	15	30	
Living status						
	Alone	6	12	8	16	0.77
	Family	44	88	42	84	
Having information about cataract surgery						
	Yes	16	32	34	68	0.01
	No	34	68	16	32	
History of cataract surgery in family						
	Yes	8	16	15	30	0.15
	No	42	82	35	70	

*chi square test

Mean state anxiety score was 45.56 ± 5.6 in study group and 43.65 ± 6.3 in control group. The difference between the mean state anxiety scores were statistically significant ($p=0.02$). There was no statistically significant difference in mean trait anxiety scores between study and control groups ($p=0.84$). In first eye cataract surgery group, mean state anxiety score was higher than second eye cataract surgery group (47.12 ± 5.0 and 44.00 ± 5.7 , respectively), and the difference between the mean state anxiety scores was not statistically significant ($p=0.08$). There was no statistically significant difference in mean trait anxiety scores between the first and second cataract surgery groups ($p=0.34$). Mean anxiety scores of the groups are presented in Table 3 and Table 4.

The mean state and trait anxiety scores for the study and control groups by age, sex, education, marital status, systemic diseases, and living

status are listed in Table-5. Patients with middle education level in study group demonstrated higher mean state anxiety scores compared to patients with middle education level in the control group ($p=0.02$). The patients with high education level in the study group had higher mean trait anxiety scores than the patients with high education level in the control group ($p=0.04$). In the control group, both mean state and trait anxiety scores were higher in the low education group compared to the middle and high education groups ($p=0.01$). Married patients in the study group had higher state anxiety scores than the married patients in the control group ($p=0.04$). The patients living alone in control group had higher trait anxiety scores compared to the patients living with family ($p=0.02$). For the others, no significant differences in state and trait anxiety scores were found.

Table 3. Mean State-Trait Anxiety Inventory scores (mean $\pm$ SD) in study and control groups.

Anxiety Inventory	Study group (n=100)	Control group (n=100)	p value*
STAI-S	45.56 $\pm$ 5.6	43.65 $\pm$ 6.3	0.02
STAI-T	49.75 $\pm$ 5.7	50.10 $\pm$ 6.2	0.84

STAI-S: State-Trait Anxiety Inventory-State, STAI-T: State-Trait Anxiety Inventory-Trait

* independent t test

Table 4. Mean State-Trait Anxiety Inventory scores (mean $\pm$ SD) in first and second eye cataract surgery groups.

Anxiety Inventory	First eye group (n=50)	Second eye group (n=50)	p value*
STAI-S	47.12 $\pm$ 5.0	44.00 $\pm$ 5.7	0.08
STAI-T	48.96 $\pm$ 4.5	50.52 $\pm$ 6.6	0.34

STAI-S: State-Trait Anxiety Inventory-State, STAI-T: State-Trait Anxiety Inventory-Trait

* independent t test

Table 5. Mean State-Trait Anxiety Inventory scores (mean $\pm$ SD) in study and control groups according to sociodemographic characteristics.

	STAI-S			STAI-T		
	Study group (n=100)	Control group (n=100)	p value*	Study group (n=100)	Control group (n=100)	p value*
Age (years)						
>50	45.24 $\pm$ 5.3	43.93 $\pm$ 6.3	0.15	50.19 $\pm$ 5.8	50.10 $\pm$ 6.4	0.93
<50	43.18 $\pm$ 6.6	42.33 $\pm$ 6.2	0.73	49.38 $\pm$ 7.9	50.00 $\pm$ 5.0	0.79
p value**	0.39	0.32		0.57	0.89	
Sex						
Female	45.09 $\pm$ 6.1	43.03 $\pm$ 6.7	0.09	50.98 $\pm$ 6.7	50.38 $\pm$ 6.3	0.63
Male	44.93 $\pm$ 4.6	44.46 $\pm$ 5.7	0.67	49.02 $\pm$ 4.9	49.69 $\pm$ 6.1	0.57
p value**	0.87	0.30		0.17	0.57	
Education						
Low	45.02 $\pm$ 5.3	46.31 $\pm$ 5.6	0.32	51.19 $\pm$ 6.1	52.18 $\pm$ 6.5	0.51
Middle	45.63 $\pm$ 5.0	42.89 $\pm$ 6.3	0.02	49.13 $\pm$ 6.2	50.02 $\pm$ 6.4	0.50
High	43.07 $\pm$ 7.2	41.20 $\pm$ 6.0	0.42	49.85 $\pm$ 5.0	46.90 $\pm$ 3.2	0.04
p value***	0.32	0.01		0.29	0.01	
Marital status						
Married	45.17 $\pm$ 5.6	43.23 $\pm$ 6.5	0.04	49.89 $\pm$ 5.8	49.73 $\pm$ 5.7	0.86
Unmarried	44.33 $\pm$ 5.1	45.30 $\pm$ 5.2	0.56	51.05 $\pm$ 6.9	51.50 $\pm$ 7.6	0.85
p value**	0.40	0.29		0.68	0.50	
Systemic disease						
Yes	44.71 $\pm$ 5.7	43.17 $\pm$ 6.7	0.19	50.81 $\pm$ 6.1	50.90 $\pm$ 6.6	0.94
No	45.46 $\pm$ 5.1	44.16 $\pm$ 5.9	0.28	49.07 $\pm$ 5.9	49.20 $\pm$ 5.6	0.91
p value**	0.41	0.42		0.11	0.14	
Living status						
Alone	45.21 $\pm$ 5.2	47.33 $\pm$ 6.8	0.44	50.64 $\pm$ 6.8	56.00 $\pm$ 6.9	0.12
Family	45.00 $\pm$ 5.6	43.41 $\pm$ 6.2	0.07	50.01 $\pm$ 5.9	49.71 $\pm$ 6.0	0.73
p value**	0.95	0.20		0.90	0.02	

STAI-S: State-Trait Anxiety Inventory-State, STAI-T: State-Trait Anxiety Inventory-Trait

* independent t test, **Mann Whitney U test, ***one way ANOVA

Table 6. Mean State-Trait Anxiety Inventory scores (mean $\pm$ SD) in first and second eye cataract surgery groups according to sociodemographic characteristics.

	STAI-S			STAI-T		
	First eye group (n=50)	Second eye group (n=50)	p value*	First eye group (n=50)	Second eye group (n=50)	p value*
Age (years)						
>50	45.88 $\pm$ 5.2	44.04 $\pm$ 5.5	0.11	48.71 $\pm$ 4.5	50.95 $\pm$ 6.1	0.13
<50	47.40 $\pm$ 5.4	43.66 $\pm$ 7.2	0.05	51.20 $\pm$ 4.2	51.83 $\pm$ 11.4	0.99
p value**	0.63	0.91		0.25	0.98	
Sex						
Female	46.78 $\pm$ 4.6	43.36 $\pm$ 6.3	0.04	49.91 $\pm$ 4.9	53.27 $\pm$ 6.6	0.06
Male	45.40 $\pm$ 5.6	44.50 $\pm$ 5.2	0.54	48.14 $\pm$ 4.2	49.64 $\pm$ 7.1	0.35
p value**	0.54	0.61		0.27	0.06	
Education						
Low	45.56 $\pm$ 5.6	44.82 $\pm$ 5.7	0.69	49.94 $\pm$ 4.0	52.1 $\pm$ 7.1	0.25
Middle	46.83 $\pm$ 4.2	44.37 $\pm$ 5.5	0.13	47.77 $\pm$ 5.1	50.58 $\pm$ 7.9	0.19
High	45.61 $\pm$ 5.8	41.44 $\pm$ 6.0	0.12	49.15 $\pm$ 4.4	51.2 $\pm$ 4.8	0.31
p value***	0.73	0.33		0.35	0.78	
Marital status						
Married	46.44 $\pm$ 4.9	44.35 $\pm$ 5.7	0.08	49.06 $\pm$ 4.7	51.61 $\pm$ 7.4	0.07
Unmarried	43.57 $\pm$ 6.2	42.72 $\pm$ 5.9	0.77	48.28 $\pm$ 3.4	49.9 $\pm$ 5.7	0.51
p value**	0.51	0.46		0.97	0.51	
Systemic disease						
Yes	47.83 $\pm$ 4,2	43.28 $\pm$ 6,2	0,04	49.12 $\pm$ 4,5	50.94 $\pm$ 6,1	0.11
No	46.46 $\pm$ 5,6	45.66 $\pm$ 3,9	0.97	48.80 $\pm$ 4,6	49.53 $\pm$ 7.7	0.84
p value**	0.61	0.19		0.70	0.96	
Living status						
Alone	48.87 $\pm$ 2.6	44.16 $\pm$ 5,6	0.06	48.62 $\pm$ 4.4	50.16 $\pm$ 9.1	0.68
Family	45.58 $\pm$ 5.4	43.90 $\pm$ 5.8	0.21	49.02 $\pm$ 4.6	51.53 $\pm$ 6.9	0.07
p value**	0.04	0.87		0.33	0.92	
Information about cataract surgery						
Yes	47.93 $\pm$ 4.1	44.58 $\pm$ 5.4	0.06	50.18 $\pm$ 4.8	50.35 $\pm$ 6.7	0.72
No	45.14 $\pm$ 5.4	42.75 $\pm$ 6.2	0.15	49.38 $\pm$ 4.3	51.56 $\pm$ 6.9	0.07
p value**	0.07	0.20		0.35	0.81	
History of cataract surgery in family						
Yes	46.75 $\pm$ 7.6	43.33 $\pm$ 6.3	0.26	46.87 $\pm$ 4.7	52.06 $\pm$ 7.2	0.08
No	45.90 $\pm$ 4.7	44.28 $\pm$ 5.5	0.17	49.35 $\pm$ 4.4	50.88 $\pm$ 7.1	0.25
p value**	0.56	0.58		0.16	0.56	

STAI-S: State-Trait Anxiety Inventory-State, STAI-T: State-Trait Anxiety Inventory-Trait

* independent t test, **Mann Whitney U test, ***one way ANOVA

The mean state and trait anxiety scores for the first and second eye cataract surgery group by age, sex, education, marital status, systemic diseases, living status, having information about cataract surgery, and history of cataract surgery in family are listed in Table-6. Female patients in the first eye cataract surgery group demonstrated higher state anxiety scores compared to the second eye cataract surgery group ($p=0.04$). The mean state anxiety scores in patients with systemic diseases in the first eye cataract

surgery group were higher than the patients with systemic diseases in the second eye cataract surgery group ($p=0.04$). In the first

eye cataract surgery group, the patients living alone had higher state anxiety scores than the patients living with family ($p=0.04$). For the others, no significant differences in state and trait anxiety scores were found.

There was no correlation between state and trait anxiety scores in the study group ($r=0.03$,

$p=0.75$) but state anxiety scores were correlated with trait anxiety scores in control group ($r=0.21$, $p=0.03$). In both first and second eye cataract surgery groups, state anxiety scores did not correlate with trait anxiety scores ($r=0.09$, $p=0.50$; $r=0.08$, $p=0.55$, respectively).

DISCUSSION

It is known that patients experience increasing levels of anxiety before invasive medical and surgical procedures. Domar et al. (14) reported that patients undergoing minor surgery had equivalent anxiety scores to patients undergoing major surgery. Endocapsular phacoemulsification cataract surgery has become an increasingly popular technique (15). Recently, cataract surgery is performed on an outpatient basis using only local anesthesia and does not require an overnight hospital stay. There have been several studies investigating anxiety level of patients undergoing cataract surgery in preoperative, intraoperative and postoperative periods (7,9,16). Nijkamp et al. reported that patients experienced little anxiety related to cataract surgery and patients reported highest levels of anxiety preoperatively (2). Foggitt et al. found the preassessment stage to be more anxiety provoking than the operation day or the postoperative visit (7). In this study, we measured preoperative anxiety scores in the day before surgery. We detected that mean state anxiety score in cataract patients was higher than control group whereas trait anxiety scores did not change between groups.

It has been reported that second eye cataract surgery is mostly performed within 1 year of their first eye cataract surgery, and more than half within 2 years (17,18). Castell et al. detected that worse visual acuity in the second eye and younger ages are strongly associated with both eyes cataract surgery (6). Mitsonis et al. reported that preoperatively, first-eye patients showed significantly higher anxiety than second-eye patients (19). First eye cataract patients rated peak anxiety on the day of the surgery, while patients scheduled for second eye cataract surgery presented no fluctuations in rated anxiety. We demonstrated that state anxiety score in first eye cataract surgery group was higher than second eye cataract surgery group

but the difference was not statistically significant between groups. Foggitt et al. also reported that different anxiety trends were found between the first and second cataract surgery groups (7). In this study we measured preoperative anxiety level of patients with cataract surgery. Because we did not measure the anxiety level in intraoperative and postoperative periods we did not detect the anxiety trends of first and second eye cataract surgery. Fagerstrom reported that a good result in the first eye surgery reduced the fear of the cataract operation on the second eye (20).

Demographic variables including age, sex, and education may also influence anxiety (2,12). Younger patients indicated significantly more situational anxiety than older patients (21). However, it is likely that older patients would have had more experience with surgical procedures than the younger patients. In this study, we found that age did not affect the both state and trait anxiety scores in all groups. It has been reported that women experienced higher state anxiety levels than men (14). Nijkamp et al. detected that women were more likely to experience higher levels of state anxiety (2). In our study, female patients in the first eye cataract surgery group reported significantly more preoperative anxiety than in second eye cataract surgery. There were no significant differences in preoperative state anxiety between female and male patients. We also detected that sex did not affect the trait anxiety scores in all groups.

In this study the cataract patients with middle education experienced higher state anxiety scores compared to control groups whereas the patients with high education in study group had higher trait anxiety compared to control group. A possible explanation is that patients with high education level may be more expressive on self-report assessment of anxiety. Domar et al. reported that there is a trend for patients with higher educational levels to express more anxiety than patients with less education (14).

Having a preoperative visit, having cancer surgery, having major surgery, and having previous experience with surgery may also effect preoperative anxiety. It has been reported that patients who had had the same procedure

previously had scores equivalent to those of patients who had not (14). Patients who had had prior surgery had equivalent anxiety scores compared to patients who had never had surgery. We also found that history of cataract surgery in family has no effect on state and trait anxiety scores in addition to previous experience with cataract surgery.

The decision to have surgery and waiting time for surgery in most patients caused an increase in preoperative anxiety levels (22). Various factors such as preoperative visit by doctor, the given information about surgery, the use of premedicant drugs are shown to affect preoperative anxiety levels (23). In our study, the information about surgery was given to all patients by the same doctors (TK, GY) and premedication drugs were not used. With respect to situational factors, it seems that a good doctor-patient relationship, social support, and preoperative education can decrease anxiety among patients. Morrell (24) showed that structured preoperative teaching reduces anxiety in cataract patients, especially information regarding safety of cataract surgery. In our study, having information about cataract surgery had no effect on state and trait anxiety scores. Pager demonstrates that a simple, inexpensive videotape showing patients what to expect from cataract surgery results in significant increases in patient understanding of and satisfaction with the cataract surgery, as well as a decrease in anxiety. He reported that preoperative education is essential not only to patient satisfaction but also for informed consent (25). The informed consent which includes the basic information concerning the procedure or its complications was given to all patients.

In our study, demographic variables including marital status, the presence of a systemic disease, and living status were evaluated. Marital status was found to have effect on state anxiety scores in study group. Besides, state anxiety levels of patients living alone was higher than patients living with family in first eye cataract surgery group. Domar et al. reported that presence of a support person during the preoperative period leads to increased anxiety (14). The presence of a systemic disease in patients with cataract may influence preoperative anxiety levels. The state anxiety levels of cataract patients with systemic diseases in first eye cataract surgery group was higher than second eye cataract surgery group. No difference between cataract and control groups was found.

Corresponding with literature on STAI studies, trait anxiety also seemed to be an important determinant of state anxiety among cataract patients (26). Specifically, patients with higher trait anxiety levels showed increased state anxiety levels (2), although we did not detect correlation between state and trait anxiety level in preoperative period.

In conclusion, this study has shown that cataract patients express more anxiety before surgery than control patients. The previous experience with cataract surgery does not seem to affect preoperative anxiety level in second operation. Preoperative anxiety level is affected by several demographic features including sex, living alone or presence of a systemic disease, especially in patients with first eye cataract surgery. Each specialist on the surgical team, whether surgeon, anesthesiologist or nurse, should not only focus on surgical procedures, but should also help to reduce preoperative anxiety which can be done if an individual approach is used.

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